

Harvest Report 2004 – Tree Fruit

Note on Plot Consolidations

Toward the end of the season in 2004 it became clear that due to budget and staffing considerations, we would have to concentrate our research primarily on new varieties that we are evaluating. Under these guidelines, recommended varieties that have already been evaluated for a number of years and proven their quality would be transferred to the WWFRF Demonstration Fruit Garden where they would become part of the permanent inventory.

Over the past winter we have consolidated several blocks and removed others to make spraying, pruning and other maintenance more efficient. In some cases trees were transplanted to other blocks, and in the case of mature, fully evaluated trees, many were moved into the Demo Garden. In future years we will continue to bring in new fruit varieties to the research trial plots for evaluation and sampling. Those that perform well over time will be made available to transfer into the Demonstration Garden as needed.

Cherry

Fruit set was very good in 2004 in most varieties. There were a few brief periods of rain during the harvest season but overall the crop was excellent. A visit in June by Bob Anderson, the stone fruit breeder from Geneva, NY was very informative and helpful, as he was able to bring us up to speed on the status of the selections we have in the trial plot.

Lapins on Gisela 5 was very productive, while **Sweetheart** on Gisela 6 was moderately productive but would probably perform better on Gisela 5. Both are self-fruitful. **Bing** is still top rated for quality, and performs well here when grafted on Gisela 5. **Rainier** is considered a prime quality white fleshed variety, and has been productive on Gisela 5 rootstock in most years when compared with standard rootstocks which often see a lot of fruit drop. Recent introductions **Hartland**, **Black Gold** and **White Gold** were moderately productive as well.

Glacier, recently introduced from WSU, is a dark, sweet cherry somewhat softer in texture than Bing. **Tehravivee** and **Vandalay** are new self fruitful dark sweet cherry introductions from Canada that have done very well in their first evaluations. They are heavily productive, needing thinning for best size and quality, ripening in the late season with **Lapins** and **Sweetheart**. The thinning method recommended by Bob Anderson of the Geneva, NY fruit research station is as follows: when the young cherries are about the size of peas, go along the branch where fruit is densely clustered and strip off the fruits that are on the top and bottom of the branch, leaving just the fruit growing out to the side. This gives room for the remaining fruits to size well and prevents dense clusters of fruit where rot can easily develop.

Sour cherries generally bloom and fruit later than sweet cherries. They are softer and more resistant to cracking and to diseases like bacterial canker. **Surefire**, a newly introduced pie cherry, again produced a good crop. It has dark red juice (unlike **Montmorency** which has clear juice), which is very attractive when used for jam and pie. **Almaden Duke** set well in 2004 and is another pie cherry with good productivity. We look forward to seeing its performance in 2005.

New: Several new selections from Geneva look promising and we hope to have samples from them in 2005: **NY 205**, **NY 242**, **NY 5288** and **NY 7855**

Discard

- **Coe's Transparent** – disease susceptible
- **Hudson/Giesela 6** – too large, replace with trees on Gisela 5
- **NY 213 (410213)** – unproductive, inferior to Lapins, not likely to be introduced
- **NY 252** – susceptible to bacterial canker
- **NY 304** – susceptible to bacterial canker
- **NY 9295** – late ripening, lacks sweetness

Apricot

The 2004 season was an improvement over 2003. Trees of **Puget Gold** produced a good crop this year, as in 2003. **Patterson** was moderately productive. **Westley** looked particularly good as the trees are healthy, it is productive and also ripens about 10 days to 2 weeks after **Puget Gold**. A number of unproductive varieties and selections were tagged for discard. No apricot variety we have tested has shown any commercial potential because of inconsistent productivity. We continue to look for new apricot varieties that might have better potential.

New: Several new varieties and selections from both Geneva and Rutgers breeding programs are on trial in the new block planted in 2002: **Jersecot**, **NJA 43**, **NJA 97**, **NJA 105**, **NY 525**, **NY 592**, **NY 605** and **NY 609**.

Discard

- **Afghanistan** – unproductive
- **Harogem** – unproductive
- **Helene** – unproductive
- **HW 436** – unproductive

- HW 462 – unproductive
- NY 604 – unproductive

Peach

In 2004 we enjoyed a benchmark year for productivity in peaches. Fruit set was good to excellent in nearly all varieties. Thanks to the generous work of our special harvest volunteers, we were able to collect data on all of the varieties that produced fruit, and the results are summarized below (Complete data including fruit count and soluble solids readings are available on request.) It was especially good to have information on the many introductions in the new stone fruit block planted in 2002. This was the first evaluation for these varieties and several of them show promise for future production. Positive characteristics that rate high are **consistent productivity, high quality and low rate of splits**. Some of the flat, doughnut-shaped "peentao" types with both white and yellow flesh were very interesting. We look forward to seeing what they will do in 2005.

Established varieties (several years on trial)

CULTIVAR	HARVEST	% SPLITS	COMMENTS
Harrow Diamond	July 9	21	Yellow, semi cling, v. large pit, astringent skin
Early Redhaven	July 15	12	Yellow, cling, good flavor, acceptable color
Harbelle	July 21	5	Yellow, free stone, standard reliable producer, quality fair-good
Harken	July 28	1	Yellow, free, very good flavor, attractive, uniform, small pits
Redhaven	July 28	11	Yellow, semi free, standard commercial, good flavor
HW 272	July 28	3	Yellow, free stone, productive, excellent flavor, worth naming
Starfire	July 30	21	Yellow, free, consistently productive, good flavor, attractive color
Redstar	August 6	17	Yellow, semi free, good flavor & color, highly rated
Harrow Beauty	August 13	0	Yellow, semi free, good flavor, fair color

Promising Varieties & Selections (new high rated introductions & selections)

CULTIVAR	HARVEST	% SPLITS	COMMENTS
Scarlet Pearl	July 9	29	White, semi cling, very sweet, juicy
Junegold	July 9	6	Yellow, semi free, internal splits, very good flavor
Sunbright (Biringer)	July 9	10	Yellow, semi cling, good flavor & texture
Summer Prince	July 15	6	Yellow, very free stone, melting flesh, excellent color
Juneprince	July 15	0	Yellow, free stone, good flavor, tough skin, NO splits
D 88-147	July 15	4	White, semi cling, aromatic, v. juicy, good flavor & color
H 4-44	July 21	11	White, free stone, crunchy firm, sweet, excellent flavor
K 22-42	July 21	0	White, peentao type, red foliage, sweet firm fruit
Risingstar	July 21	20	Yellow, semi cling, very good flavor, highly rated
Blazingstar	July 30	4	Yellow, free to semi free, ex. color & flavor, highly rated
Early Loring	July 30	3	Yellow, free, non-astringent, good flavor, highly rated
L 7-176	July 30	16	White, free, firm, crisp, nice color, mild, sweet
Vivid	August 6	4	Yellow, semi free, ex. bright color, large, good flavor
H 11-73	August 11	3	White, free, very large, crunchy, ex. flavor, highly rated
H 14-126	August 11	2	Yellow, free, ex. color, medium size, very good flavor
Ernie's Choice	August 11	8	Yellow, very free, firm, good flavor, attractive, highly rated
Contender	August 13	0	Yellow, free, very productive, good flavor, highly rated
D 101-162	August 17	23	Yellow, semi cling, ex. color, good flavor, highly rated

Not recommended at this time

CULTIVAR	HARVEST	% SPLITS	COMMENTS
Flamin Fury PF 5B	July 9	14	Yellow, semi cling, good color, flavor mediocre , thin skin
D 88-1	July 9	68	White, cling, excellent flavor, floral aroma, too many splits
Saturn	July 21	0.1	White, peentao type, sweet, dry cracks at blossom end
Summer Serenade	July 21	7.5	Yellow, semi free, some internal splits
D 91-184	July 28	41	Yellow, cling, excellent color but mediocre flavor, splits
Flamin Fury PF 12B	July 30	12	Yellow, cling, color & flavor less than best
Carolina Belle	August 6	13	White, semi free, ex. flavor, fair color, lot of fruit drop
Coralstar	August 11	14	Yellow, semi free, large, uniform, variable flavor good-fair
Black Alexander	August 11	4	White, free, good flavor, attr dappled color, size uneven
HW 273	August 17	36	Yellow, free, attractive, good flavor, some internal splits
NJ 318	August 17	30	White, cling, very sweet flavor, large, some internal splits

Discard

- **D 88-1** - white flesh, excellent flavor and floral aroma but too many split pits, cling stone
- **Early Scarlet** - astringent, poor color, some off flavor
- **Fireprince** - too late, fruit still green in late September
- **Flamin Fury PF 5B** - mediocre quality, others are better
- **Harrow Dawn** - internal split pits, poor color, flavor not outstanding
- **Harrow Fair** - flavor bland, mediocre

Nectarine

Bloom conditions for the nectarines were the same as for the peaches, and most varieties also had a very productive year. **Hardired**, a yellow fleshed nectarine ripe about 10 days after **Redhaven**, is still the most reliable producer from year to year.

Promising Varieties & Selections

CULTIVAR	HARVEST	% SPLITS	COMMENTS
K 56-4	July 15	10	White, semi cling, ex color, rather small, astringent skin
HW 110	July 28	4	Yellow, semi free, good color, rather tart
HW 108	July 28	22	Yellow, semi free, ex flavor, productive, worth naming
Hardired	August 6	2	Yellow, semi free, very productive - still the best
K 54-25	August 6	2	White, semi free, small, ex color & flavor - best rated white
HW 111	August 17	2	Yellow, semi free, good flavor, ex color, slightly astringent
HW 112	August 17	1	Yellow, semi free, bicolor, rather tart flavor, astringent

Not recommended at this time

CULTIVAR	HARVEST	% SPLITS	COMMENTS
Sunsplash	July 9	--	Yellow, all fruit cracked, severe rot - Discard
Nectired	July 21	5	Yellow, semi free, many surface cracks , astringent
HW 109	July 28	18	Yellow, semi free, flavor inferior to 108 in same season
Roseprincess	July 30	14	White, cling, rather small, attractive color, flavor not best
SunGlo	August 11	12	Yellow, free stone, good flavor, low acid, lot of skin scars

Discard

- **HW 109** - inferior to HW 108 in same season
- **Sunsplash** - earliest ripening nectarine, moderately productive, severe cracking and rot

Plum

Plum production was very good in 2004, most varieties yielded a full crop and the quality was excellent. **Early Laxton** and **Hollywood** had a better crop than 2003. **Obilnaja**, from eastern Europe, produced a good yield of flavorful fruit, small to medium in size. Also in the early-mid season, young trees of **Shiro** were very productive. **Imperial Epineuse**, **Victory** and **Seneca** are all proving to be reliable varieties producing ample crops of high quality fruit. **Queen Victoria**, a classic English variety ripe in mid season, was somewhat overcropped, but quality was still very good, and it is a consistent producer.

Purple Gage, one of the newer varieties, set a good crop of fruit, purple-blue in color with greenish yellow flesh, rather small but very sweet and juicy. Among the newer varieties that looked good again in 2004 were **Silver Prune**, ripe in mid September, and three Italian prune types from the Vineland, Ontario breeding program. **Vanette** (ripe in mid-August), **Veeblue** (late August) and **Vision** (late September) each produced attractive oval fruit, dark purple-blue with dense sweet flesh. All will be further evaluated in 2005.

Several selections from Geneva, NY that have been on trial here have now been officially named and introduced. The longtime favorite **Mirabelle 858** is now called **Geneva Mirabelle**; it is a small, yellow freestone plum, very sweet, excellent for fresh eating and for culinary use. **Rosy Gage** (NY 101) is a medium-size plum with unusual pinkish-purple skin and very sweet yellow flesh; trees are moderately productive. **Blues Jam**, tested as NY 58.904.1, is a late ripening blue plum, small and round like a Damson but much sweeter, and very productive

Discard

- **Angelena** - unproductive, no fruit in 4 years
- **Bill's Plumcot** - unproductive
- **Castleton** - fully evaluated, inferior to others in same season, tendency to rot
- **Ente 652** - fully evaluated, small French prune type, only moderately productive

- **Fermariene** - fully evaluated, small French prune type, only moderately productive
- **Goldridge plumcot** - unproductive
- **Inca** - unproductive
- **Kirke's Blue** - excellent flavor, only moderately productive, trees disease susceptible, fail to thrive
- **Neber #1** - selection not likely to be introduced, only moderately productive
- **Polly** - fully evaluated, late ripening, very productive but only mediocre quality
- **2P** - selection not likely to be introduced
- **7K** - selection not likely to be introduced
- **8C** - selection not likely to be introduced

Pear

In 2004 all of the mature pear trees were very productive. Early ripening varieties such as **Clapp's Favorite** (including the **Bennett** strain and **Red Clapp's** Kalle strain), **Rescue** and **Bartlett** are best used within 2-4 weeks of harvest. Most of these varieties are good for canning as well. **Rescue** will keep a bit longer to about 6-8 weeks. An interesting little pear ripening very early (mid August) is the **Stutgarter Gieshirtle**. Trees begin bearing young and are very productive. The small sweet pears can be eaten ripe right off the tree.

Yields for **Concorde** and **Conference** were very good. Trees of standard Comice were not as productive as in 2003; however, the russet sport **Taylor's Gold Comice** yielded good crops of very attractive, uniform fruit. This variety appears to have excellent potential for commercial production in cool maritime climates like ours. Trees of **Scarlet Comice**, a red-skinned sport of standard **Comice**, also produced a good crop. Of the several red-skinned **Comice** sports we have tested, this one appears to be the most vigorous and productive. In the late season, **Abbe Fetel** and **Packham's Triumph** both had a heavy set of good sized fruit.

Discard - None

Asian Pear (Nashi)

Mature trees of most varieties set well in 2004 and some were thinned to improve fruit size. Young trees of **Hamese #1** (yellow skin) ripened earlier than usual in August. **Mishirasu** produced some very large fruit. Although the fruit is heavily russeted and unattractive, the excellent flavor and firm crisp texture make it a good choice for home gardens.

Discard

- **Shin Li** - too late, unproductive

Unusual Fruit

In 1997 a planting of unusual fruit was established with additions in 2000-02. 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.

In 2004 there was a very good crop on all the kiwis but particularly the hardy kiwi varieties. **Ananasnaja**, **Hardy Red** and **Ken's Red** all produced significant crops of good quality. Hardy kiwis have very good potential for commercial production, including organic culture as they are effectively disease resistant.

Two plants of aronia (**A. melanocarpa**) planted in 1998, have produced consistently heavy yields since 2001, sometimes over 25 pounds per bush. Netting is essential to keep birds away, as the berries do not reach full ripeness (20-22 brix) until mid October. Fruit will continue to ripen on the bushes turning to "raisins." Horticulturally, aronia has potential in our area for an alternative fruit crop in commercial production; in practical terms, however, it is questionable whether it can produce sufficient returns to growers. Its home garden use is mostly for juice and jelly.

Trees of quince **Aromataya** (planted 1999) and **Van Deman** (planted 2000) both produced large crops of fruit in 2004. Quinces are primarily used in cooking, as they are very hard and rather inedible direct from the tree. There is a small, specialized commercial market supplying ethnic Mediterranean restaurants with culinary quinces. Varieties of mountain ash **Ivan's Beauty**, **Ivan's Belle** and **Nevezhinskaya** all produced a crop of fruit in 2004. Here again culinary preparation is needed as the fruits direct from the tree are not appealing in texture (rather mealy) and quite astringent in flavor. The trees are very ornamental with attractive deep green leaves, white clustered flowers, and bright red or orange fruit.

Varieties of Cornelian cherry (**Cornus mas**) **Red Star**, **Pioneer** and **Elegant** planted in 1998 produced well in 2004. The fruits are red, about 1" long and narrowly oval in shape with a single large seed. They can be eaten off the bush but are somewhat strongly flavored so might more commonly be used in cooking for jelly or jam. The flowers, opening very early in spring (February-March) are a showy bright yellow and cover the bushes before the leaves emerge, making this a spectacular ornamental shrub.

Apple

In 2004 the fruit set was very good in nearly all 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.

This year we have changed the format for our apple evaluations in the hope of providing more user-friendly information about the varieties we are testing. Since individual tastes in apples vary widely, the new format includes a rating for sweetness, tartness or acidity, and complex flavor. Some apples, such as **Karmijn de Sonnaville**, combine high levels of acid with high levels of sugar, while others are primarily sweet or primarily tart. Complexity in flavor indicates the presence of subsidiary flavors beyond "basic apple," for example some varieties have a hint of anise, citrus or banana, others are spicy or aromatic. Ratings are subjective to some degree, though sugar and acid can be specifically measured. In the table below, the rating scale follows this system:

- **Sweetness (SW)** 5=very sweet, 3=moderately sweet, 1=low sweetness
- **Tartness/Acidity (TR)** 5=very acid, 3=moderately acid, 1=low acid
- **Complexity (CX)** 5=highly complex subsidiary flavors, 3= some subsidiary flavors, 1=no subsidiary flavors

Established varieties (several years on trial)

CULTIVAR	HARVEST	SW	TR	CX	COMMENTS
Sunrise	Aug 11-Sep 2	4	2	2	Attractive bicolor, multi-pick, holds well, remains crisp
Roxbury Russet	Aug 20	3	4	5	Old American classic, used for cider as well as dessert
Sansa	Aug 23	4-5	2	3	Excellent red color, attractive finish, productive
Akane	Aug 23-Sep 3	3	4	4	Attractive red lunch box apple, holds very well on tree
Gravenstein	Aug 27	2	4	3	Standard sauce & pie apple, bicolor stripe
Gravenstein, Red	Aug 27	2	4	3	Excellent culinary, identical to standard except more red
Aroma	Aug 30-Sep 11	3	3-4	4	Highly aromatic, fruits ripen over extended period
Alkmene	Sep 2-7	3	4	5	Very productive, reliable Cox type, uniform size, bicolor
Tsugaru, Homei	Sep 2-8	4	1	2	Attractive red color, productive, multi-pick
Hatsuaki	Sep 2-10	3	2	3	Attractive bicolor, productive moderately vigorous trees
Redmax	Sep 2-11	3	4	2	Red McIntosh sport, productive, stores well for early season
Improved McIntosh	Sep 2-11	3	4	2	Very good Mac type, uniform, attractive, picks easily
Marshall Mac	Sep 2-11	3	4	2	Productive reliable Mac type
Honeycrisp	Sep 6-10	4	3	2	Large, bicolor, very crisp, selective color pick
Mott Pink	Sep 6-12	2	5	2	Yellow blushed pink with pink flesh, productive novelty
Jonamac	Sep 8-11	3	4	3	Mac cross well adapted to our area, uniform, productive
Morspur Mac	Sep 8-14	3	4	2	Very attractive, excellent color & finish, good Mac flavor
Pioneer Mac	Sep 8-14	3	4	2	Productive, reliable Mac type
Gala, Pacific	Sep 8-16	4-5	2	4	Productive, excellent color, fruit smaller than Regal Gala
Beni Shogun	Sep 8-21	5	1	3	Early Fuji type, some russet
Gala, Regal	Sep 11-21	4-5	2	3-4	Reliable, productive, fruits size better than other Gala types
Rogers Red Mac	Sep 11	3	4	2	Productive, excellent color & finish
Gala, Ultrared	Sep 11	4-5	2	4	Darker red color than most Gala types
Elista (Daliest)	Sep 16	2	5	4-5	Red sport of Elstar, excellent flavor, attractive, productive
Empire, Thome	Sep 16	4	4	2	Distinctive dark wine red, excellent quality, stores well, trees non-vigorous on M9 rootstock, probably better on M26
RubINETTE	Sep 16-24	4	5	5	Productive, uniform, size below medium, excellent quality, used also for cider
Royal Court	Sep 20-24	3	3	4	Red sport of Cortland, excellent color, large, moderately productive
Spartan	Sep 21	4	3	3	Mac cross well adapted here, productive, recommended
Jonagold , King	Sep 21	4	3	4	Blush red sport of Jonagold, attractive, good quality
Jonagold, Jomured	Sep 21	4	3	4	Blush red sport of Jonagold, non-patented, good quality
Empire, Royal	Sep 21	4	4	2	Good color, not as dark as Thome cv, productive, stores well
Melrouge	Sep 21	4	3	3	Sport of Melrose, identical to standard in our trial, good dual purpose, stores very well
Sonata (Pinova. Corail)	Sep 21-30	4	2	3	Golden type with Cox parentage, attractive, excellent flavor, stores well, some used for hard cider trial
Jonagold, Rubinstar	Sep 21-Oct 12	4	3	4	Blush red sport of Jonagold, up to 100% red color, good quality
Karmijn de Sonnaville	Sep 24	5	5	5-4	Gourmet quality, unattractive dull red, frequent russet, some water core, very tart at harvest, mellows out in storage
Gala, Brookfield	Sep 26	4	2	4	Productive, excellent color, later ripening than other Gala types
Fuji, September Wonder	Sep 29	5	1	3	Productive, excellent color & quality, little russet, stores very well
Ashmead's Kernel	Sep 29-Oct 8	3	4	4	Classic russet type, excellent quality, stores well, used also for hard and sweet cider blends
Shizuka	Sep 29-Oct 11	4	3	3	Golden type, large, productive, more attractive than Mutsu, ripens earlier, very good quality, stores well
Redcort	Oct 12	3	3	3	Productive, fruit large, good quality, sprawling tree habit
Mutsu	Oct 12-16	4	4	3	Golden type, large, productive, excellent late keeper, high quality
					Red sport of Braeburn, earlier & better color than standard, productive, high quality,

Braeburn, Hillwell	Oct 12-20	3	5	3	excellent late keeper
Boskoop, Red	Oct 16	2	5	3	Classic culinary apple, large, trees vigorous, productive
Braeburn, standard	Oct 16-20	3	5	3	Productive, excellent late keeper, very firm, red sports are better

Recent Introductions & Selections

CULTIVAR	HARVEST	SW	TR	CX	COMMENTS
Monark	July 30-Aug 6	3	4	2	Bicolor, good in early season, refreshing, softens if left on tree for long
Arkcharm	Aug 2-6	4	3	3	Attractive bicolor, very good flavor, not for long storage
Zestar	Aug 11-18	4	3	2	Good color, very good flavor, holds well on tree
Silken	Aug 11-Sep 2	5	2	3	Attractive clear yellow, medium or below in size, holds very well on tree and retains firmness, good quality
Ellison's Orange	Aug 20-27	3	4	4	Bicolor, some russet, very good quality, also used in cider
NYB 298	Aug 23	4	3	2	Very productive, attractive bicolor, size medium to large
BC 11W-19-18	Aug 30-Sep 3	4	2	3	Excellent allover red color, attractive, uniform, good quality, firm; potential niche market if named
Mikki Life	Sep 2-8	4	4	4	Bicolor, moderately productive, juicy, may be good cider blender
Greensleeves	Sep 2-8	3	5	4	Attractive green apple, crisp, nice tartness just off tree
Compact Mac	Sep 2-8	3	4	2	Very productive, columnar tree habit, fruit typical McIntosh
Saturn	Sep 11	4	3	2	Attractive carmine red, crisp, white flesh
Gala, Gale	Sep 11	4	2	3	Good red color, typical Gala, fruit tends to be small
Jonagold, Crimson	Sep 21	4	3	4	Good red color, productive, similar to other red Jonagold strains
AA 59	Sep 21	4	2	2	Golden type, nice copper blush, productive
NY 486	Sep 21	5	4	4	Golden russet, excellent quality, gourmet potential, also cider - worth naming
Crimson Spire	Sep 29-Oct 11	3	4	2	Columnar tree habit, very productive, fruit attractive wine red, below medium, uniform, nice subacid quality
Princess Russet	Oct 12	3	4	4	Golden russet, dense flesh, used in hard cider blend
Millennium (NY 460)	Oct 12-16	4	3	3	Attractive dark red, some russet patches, excellent late keeper with McIntosh characteristics
Ambrosia	Oct 12-16	5	2	3	Productive, size & color variable, very good quality, stores well
Braeburn, Joburn	Oct 16	3	4	3	Red sport of Braeburn, similar to Hillwell, not yet fully evaluated
Braeburn, Lochbuie	Oct 16	3	4	3	Red sport of Braeburn, similar to Hillwell, not yet fully evaluated
NY 489	Oct 16-20	4	3	2	Late Golden type, very productive, good quality, some russet

Not Recommended at this time

CULTIVAR	HARVEST	SW	TR	CX	COMMENTS
Rosy Glow (B101)	Aug 11-18	3	3	1	Excellent red color to 100%, attractive, uniform, quality inferior to Zestar, softens quickly if left on tree
Golden Sentinel	Aug 27-Sep 3	3	2	2	Gold-green color attractive, productive, fruit size small, columnar tree habit, flavor less than best
Pink Sparkle	Aug 31	2	4	1	Productive, fruit small, bright red skin turns greasy, pink flesh, acidic and bland, softens quickly
Emerald Spire	Sep 8-14	2	5	3	Green, dull orange blush, some russet, columnar tree habit, very productive, flavor less than best
Northpole	Sep 23	4	3	3	Bicolor, nice finish, columnar tree habit, productive, flavor better than most columnar types tested, still not great
NY 428	Oct 11-16	3	4	2	Late keeper, McIntosh type, Millennium is better in same season
Scarlet Sentinel	Oct 16	4-5	2	1	Columnar tree habit, red bicolor, sweet, bland, could do better in warmer area
Canada Grise	Oct 20	2	5	4	Old classic culinary russet, moderately productive, fruit large, very acidic, useful only as gourmet culinary
Cameo	Oct 20	4	2	1	Red color late to develop, needs warmer conditions than are available in most years to attain good quality

Evaluation of various strains of **Jonagold** and **Gala** were completed in 2003-04. Red strains of **Jonagold** are either "blush color" (**King**, **Rubinstar**, **Jomured**) or "stripe color" (**DeCoster**, **Jonagored**) and preference depends mainly on the target markets. All strains of **Jonagold** that we have tested here will produce good

quality fruit with proper attention to their cultural needs.

Many strains of **Gala** have been evaluated over the years, but in our trials **Regal (Fulford) Gala** has been outstanding due to its larger size fruit and good overall red color. **Ultradred** has somewhat darker color than most. **Brookfield Gala** ripens 8-10 days later than other strains with good color and productivity. **Gala** and its strains are noted for sweet flavor. In general they do well here, if treated for prevention of apple scab.

Trees of **Honeycrisp** were very productive in 2004 and were sampled for both early and late harvest. Careful timing of harvest is needed to avoid scald, which is often a problem with this variety. Early ripening strains of **Fuji**, **Beni Shogun** and **September Wonder (Jubilee)** are very promising for our area. The latter seems to have a slight edge in appearance as it is not as prone to russetting. **Braeburn** and **Hillwell (red) strain** produced well with little russet. **Hillwell** is definitely preferable to standard **Braeburn**, and we are still evaluating the new strains **Joburn** and **Lochbuie**. **Ambrosia** is a good quality sweet apple in the late season that is increasing in commercial production. **Cameo** did well this year but in a cooler season may not fully ripen

Among the varieties of Japanese origin that we have tested over the years, the ones best suited to our conditions have proven to be **Akane**, **Sansa** and **Tsugaru Homei** in the early season, in the mid season **Hatsuaki**, and in the late season the strains of **Fuji** mentioned above, **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.

Most of the Japanese introductions are sweet apples. Other good choices in this category include Zestar (Zesta!), a Minnesota introduction ripe in the early season, and **Sunrise** and **Silken** from Summerland, B.C., are reliable producers of good quality fruit. **Aroma** from Sweden is less productive, and tends to ripen over a long period. One of the newer varieties in the late season is **Ambrosia** mentioned above which in our conditions is usually a bicolor apple with most fruit appearing yellow striped with orange red.

Cox types, derived from the English **Cox's Orange Pippin**, are noted for complex flavor blending sweet and tart. **Alkmene**, **Elstar** and its sport **Elista (Daliest)**, **RubINETTE** and **Karmijn de Sonnaville** have all proven their worth as high quality dessert apples. The latter, while no beauty contest winner, has intense flavor that makes it a very popular gourmet item. **Sonata (Pinova, Corail)** is a promising introduction from Germany with both home garden and commercial potential.

The **McIntosh** variety is very popular in the eastern United States, resulting in many Mac strains and crosses. In previous trials **Jonamac**, **Spartan**, and **Empire** have all proven to be well adapted to our area. **Royal Empire**, a red sport of **Empire**, has done very well here. **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. A McIntosh cross from Geneva, NY that has just been named is **Millennium** (NY 460). Ripe in the late season, it has good flavor and stores very well.

Russet in apples can range from a light netting of tan skin to thick, lumpy and brown. Several of the Cox types, such as **RubINETTE**, typically have russet streaks over the base color. Often russet apples have denser flesh than non-russet types, and many show good storage quality. **Roxbury Russet** is one of the earliest known American apples, dating to 1639. It has good reported disease resistance and is used producing both sweet and hard cider. **Ashmead's Kernel** is a classic late keeping russet variety of very good quality, also used in cider. **Golden Russet** is now primarily known as a cider apple but it has a long culinary history as well. **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 and has been rated high both for fresh eating and for cider.

Disease Resistant Cultivars & Selections

CULTIVAR	HARVEST	SW	TR	CX	COMMENTS
Pristine	July 25	3	3	2	Yellow, crisp, holds well on tree and retains firmness
Wynooche	Aug 11	3	3-4	2	Bicolor, uneven ripening, tends to drop before fully colored
HWR-19T-18	Sep 7	4	2	3	Firm, excellent red color, crisp, holds well on tree, productive
Princess	Sep 7	2	4	2	Attractive yellow, holds well on tree, flavor less than best
Releika	Sep 8	4	2	3	Ripe with Gala, attractive red, firm, crisp, holds well on tree
Resi	Sep 8	4	2	4	Ripe with Gala, attractive red, oblong shape, holds well on tree
CLR-20T-60	Sep 20	3	4	2	Large, bicolor yellow/red, flavor good, firm texture
Vanderhoek	Sep 21	2	4	2-1	Large bicolor sim to Gravenstein, flavor less than best
Rajka	Sep 21	4	3	3	Very firm, bright red, uniform, holds well, good flavor
NY 75414-1	Sep 21	3	3	3	Distinctive wine red color, very good flavor, productive - worth naming
NY 79507-72	Sep 26	3	4	2	Dark red, flavor good to fair, firm
NY 65707-19	Sep 29	4	2	3	Attractive bicolor, similar to Gala, excellent finish, good flavor
Belmac	Sep 29	2	4	4	Allover dark red, excellent late Mac type, good flavor & storage
Scarlett O'Hara	Oct 1	3	2	2	Bicolor, very productive, firm, flavor less than best
Goldstar	Oct 1	2	4	3	Green/yellow, late, very firm, good flavor
Juliet	Oct 10	2	3-4	2	Dull bicolor, russets, unattractive, too late, discard

With its clean, crisp tartness and bright yellow color, **Pristine** is an outstanding early variety. Flavor is good on **Wynooche** but its tendency to drop and uneven ripening requires careful watching and multiple picks. New introductions from eastern Europe, **Releika**, **Resi** and **Rajka**, all produced a good yield of fruit in 2004 and look very promising at this point. They are an attractive bright red, and though a bit on the small side are just the right size for eating out of hand. **Releika**, ripe in late September, hangs on the tree without softening until November. **Belmac**, a recent scab immune Mac type from eastern Canada, ripens in mid to late October. It looks like it could be very promising as a late keeper. **Scarlett O'Hara** (Coop 25) is very productive, and the fruit is an attractive red, firm and crisp in texture, with fair to good flavor. **Goldstar**, a green-yellow apple from eastern Europe of rather tart flavor, fruited for the first time in 2004. It ripens in late October and may be the answer for those who like a Granny Smith type. We look forward to seeing how it will do in 2005.

This year as part of our consolidation, we moved the disease resistant selections in with the main test plot. Only the best were kept, including the Geneva selection **NY 75414-1** which has rated consistently well for flavor and appearance. We will be inquiring to see if it is going to be named.

A number of new selections that were added to the disease resistant test plot in 2003 were also moved to the new area: **AK 49-191-95**, **AK 51-19-95**, **AKR 52-151-95**, **AKR 53-44-95**, **UEB 2420-3**, **UEB 2439-1**, **UEB 2489-1**, **UEB 3148-1**, **UEB 3241-3**, **UEB 3262-2**, **UEB 3264-2**, **UEB 3267-1**, **UEB 3277-1**, **UEB 3285-2**, and **UEB 3290-1**.

Fully Evaluated (some transferred to Demonstration Fruit Garden)

- **BC 11W-19-18** - Very good early season, crisp, flavorful, attractive uniform red color
- **Canadian Grise** - late ripening russet type, very tart, culinary use only
- **Compact Mac** (Wijcik strain) - one of the earliest columnar upright types, good McIntosh character, productive
- **Crimson Spire** - columnar upright type, dark wine red, very productive, fruit firm, crisp with nice sweet-tart flavor
- **Fiesta** - cross of Cox's Orange Pippin, similar to parent but larger fruit, tree vigorous but only moderately productive, rich complex flavor
- **Gala, Imperial** - small trees, productive but fruit small
- **Gala, Pacific** - good productivity and excellent color
- **Gala, Regal** (Fulford) - best overall sport of Gala we have tested, particularly noted for larger fruit than most, excellent red color, productive, good vigor
- **Gala, Ultrared** - excellent color, very productive but fruits tend to be small
- **Hatsuaki** - cross of Jonathan x Golden Delicious from Japan, bicolor red stripe over yellow, very productive, uniform medium-size fruit, good flavor, sweet to sweet-tart
- **Jomured** - red sport of Jonagold, good color, productive
- **Jonagold, Crimson** - red sport of Jonagold, not particularly colorful compared to Rubinstar or Jonagored
- **Jonagold, King** - red sport of Jonagold, not as colorful as some but attractive for a bicolor type
- **Jonagold, Rubinstar** - red sport of Jonagold, one of the best for overall color, productive
- **Jonamac** - recommended, McIntosh cross does very well in our area, productive, good flavor
- **Melrouge** - sport of Melrose from France, identical to parent in our trials
- **Mutsu** - late ripening yellow apple, excellent keeper, very good sweet-tart flavor, large and productive, may be too late on cooler sites
- **Shizuka** - same cross as Mutsu (Golden Delicious x Indo) but about 7-10 days earlier, more uniform in appearance, productive, stores very well, excellent flavor
- **Spartan** - recommended, one of the best for western WA conditions, productive, good flavor, also good for medium-term storage, some natural resistance to scab and mildew

Discard

- **BC-8S-29-18** - not likely to be named, flavor less than best, needs warmer conditions
- **Cameo** - attractive and flavorful in warm seasons but too late in most years
- **Juliet** (Coop 43) -dull color, russets, too late in most years
- **Pink Delight** - very early, pink flesh, softens quickly
- **Pink Sparkle** - pink flesh, dark red skin is greasy, flesh bland, quickly turns to mush
- **Princess** (CQR-12T-50) -flavor less than best
- **Scarlet Sentinel** - columnar type, flavor less than best
- **Wynooche** - scab immune, good flavor but uneven ripening, tends to drop

Cider Apples

Trees in a replicated plot of cider apples -selected for hard (fermented) cider production- were harvested for cider in 2004, again with the cooperation of Drew Zimmerman and the Northwest Cider Society. The varieties **Brown Snout**, **Foxwhelp**, **Muscadet de Dieppe**, **Vilberie** and **Yarlington Mill** (planted 1995) and **Brown's Apple**, **Chisel Jersey**, **Dabinett**, **Harry Masters' Jersey**, **Kingston Black** and **Michelin**, (planted 1999) all produced fruit for cider this year.

Varieties added to the replicated plot in 2002 were **Breakwell Seedling**, **Bulmer's Norman**, **Frequin Rouge**, **Golden Russet**, **Medaille D'Or**, **Reine des Hatives**, **Reine des Pommes**, **Redstreak**, **Tom Putt** and **Tremlett's Bitter**. Fruit was produced on most of these trees in 2004 and some were included in blends although there was not enough for a single-varietal evaluation.

One tree each of a number of cider apple varieties, some European and some old American cider apples was added to the trial in 2004. They will not have fruit for evaluation until 2006 or later. A new collection of pears especially selected for making perry (pear cider) was also added this year. Varietal ciders were made for evaluation as well as blends from cider and standard varieties. The 2004 ciders will be evaluated in 2005. Ciders made in 2003 were evaluated in 2004 and the results included in the 2004 cider report online. . For anyone who is interested in hard cider making, see the [2004 Cider Report](#).

Crabapple

In 2004 data were taken on trees in the crabapple trial, including bloom dates in spring (April-May) and a rating in late fall (November) of scab, mildew, and general tree health. Overall ornamental quality at that time was rated also. Photographs documented the appearance and qualities of promising varieties for use in publications. In 2004 a new ornamental tree fruit trial was initiated with funding from WSDA, which includes the existing ornamental crabapples and adds stone fruit (ornamental cherry, plum, peach and other Prunus spp.) and ornamental pear cultivars and selections.

Best rated ornamental crabapples include **'Evereste'**, **'Golden Raindrops'** and **'Red Jewel'** which show excellent overall ornamental quality and high disease resistance. Both **'Evereste'** and **'Red Jewel'** have abundant bright red fruit that persists well into the winter. Fruit of **'Golden Raindrops'** is also persistent but yellow, small and less conspicuous. Other white-flowering crabapples with good appearance and disease resistance are **'Adirondack'**, **'Christmas Holly'**, **'Lancelot'**, **'Silver Moon'** and **'White Angel'**. All of these will fit well to the backyard and urban landscape. **'Silver Moon'** is large and vigorous, a fine candidate for public open spaces such as parks.

The best rated pink-flowering crabapple varieties remain **'American Spirit'**, **'Louisa'**, **'Candy mint Sargent'**, **'Prairifire'** and **'Prairie Maid.'** **'Louisa'** is an excellent specimen tree, with a strongly weeping habit and pale rose-pink flowers. Field resistance to scab and mildew is also very good. Some "micro-minis" have been on trial, with very dwarf tree habit, almost bonsai-sized. **'Guinevere'** is a tree of horizontal spreading habit, with greenish bronze leaves and medium pink buds opening to pinkish white flowers. **'Lollipop'** and **'Cinderella'** have abundant white flowers and clean, small leaves of an attractive light green. The fruit is tiny and pearl-like; **'Cinderella'** is yellow and **'Lollipop'** is red. Any of these will fit well into a patio pot.

A 2002 introduction originating in the Puget Sound, **'Marilee'** is patented by Marvin Jarmin of Mount Vernon. It has pink and white semi-double flowers and a narrowly upright growth habit which would be suitable for street side ornamental planting, especially as it sets no fruit to drop and make a mess. A WSU cross of Alkmene X Prima with white single flowers is immune to scab and produces attractive yellow fruit that hangs on the tree well into winter if not harvested. The fruit is 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. **'Pink Cloud'** seedling has highly ornamental pink double flowers, bronze leaves, and large, tart red fruit.

In 2004 a number of crabapples came to us through the National Crabapple Evaluation Project, which has issued a new round of promising introductions. They are: **Canary**, **Firebird**, **Holiday Gold**, **May's Delight**, **Orange Crush**, **Prairie Rose**, **Pumpkin Pie**, **Scarlet Brandywine** and **Spring Sensation**, also a tree of the new red-leaf sport **Royal Raindrops**. We look forward to seeing how they perform in our climate conditions.

Discard

- **Red Jade** - nice weeping habit but scab susceptible

Acknowledgments

The assistance and support in our tree fruit projects provided by the members and board of the Western Washington Fruit Research Foundation, Western Cascade Fruit Society, Seattle Tree Fruit Society, Home Orchard Society, and those at the Northwest Agricultural Research Foundation, the Washington State Nursery and Landscape Association and local fruit growers are most gratefully acknowledged. The contribution of nurseries that have donated trees and materials, and the many individual volunteers who have given their time and help are also very much appreciated, and recognized with our thanks.