

MALUS

**International
Ornamental Crabapple Society
Bulletin**

Winter 1990

Vol. 4 No. 2



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MALUS

is the official publication of the International Ornamental Crabapple Society.
Volume 4, Number 2. Published twice-annually.

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INTERNATIONAL
ORNAMENTAL CRABAPPLE SOCIETY
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MALUS

is published by
Plantsmen's Publications
P.O. Box 1, Flossmoor, IL 60422-0001
(708) 758-0600
Subscriptions and memberships are available
through the publisher at \$15.00 per year.

Letters to the Editor

Dear Tom:

Fully appreciate the quality, both material and picture color reproduction, of "Malus".

'Perfecting the Crab' by Keith Warren is part of a necessary study that requires our all-out attention if the public is ever to give 'Malus' select CV's their rightful place in our future landscaping. People like Simpson have introduced marvelous persistent [fruited] crabs, but by the same token, his rootstock selection often leaves much to be desired. There is no variety of ornamental or shade tree I feel more safe with recommending to a client relative to unknown soil type, drouth tolerance, soil pH, etc., than choice Malus CV's. They fit!

Maybe you should reproduce Bob Bickelhaupt's paper on sucker control employing polypropaline landscape cloth. I also successfully use this cloth as a rabbit and beaver barrier around the trunk (another Malus negative).

Stop in sometime,

Gerry Kopf
Bald Eagle Nursery

Dear Dr. Green:

Dr. Norton and I are preparing a revised bulletin on the best crabapples for commercial landscape and home garden use, based on their performance to date at Mount Vernon. The bulletin is intended primarily as a guide for planting in our specific Puget sound climate. In checking with our field observations, we have turned up some questions that we would like your help in answering.

1. 'Jewelberry' - All three of our trees are very small and stunted, and the bark of the trunks is scaly and cracking. Is the very small tree size (3-4 ft.) typical of this cultivar at other sites, or is it possibly due to the effects of some disease or virus?

2. 'David' - This past February our area suffered from unusually severe freeze conditions. The mean temperature for the entire month was only 33° F. Temperatures reached as low as 9° F, and during the coldest 3-day period even the daytime high did not rise above 20° F. A second cold spell a month later (March 1-3) again saw a low of 9° F. It was much shorter but by coming later into the spring may have done equal damage. 'David' was the only cultivar noticeably affected, but the damage sustained by all 3 trees was severe. The entire tops were killed, and both major and lateral limbs died back.

As a result, we are wondering whether to qualify our recommendation with the warning that 'David' is not cold hardy. Can you tell us anything about the performance of this cultivar in cold-winter areas like Minnesota or Colorado?

Thank you for your attention.

Sincerely,

Jacqueline King

Dear Jacqueline:

I have placed your letter to me in Malus so that others may respond to your questions. I have no idea what is causing the bark cracking on 'Jewelberry'. There are viruses that cause bark problems. However, I believe the experts on virus diseases of Malus are located in Washington.

It is my belief that your warm temperature preceding the February deep freeze "broke" the hardiness of 'David'. 'David' is very hardy to cold winters.

Dr. Tom Green, Executive Director

Very often when a cold climate tree experiences a mild winter, such as you have had, the cell structure never fully acclimates to the cold; i.e., extra-cellular freezing and viscous binding are left incomplete, leaving the tree open to damage at a fairly warm temperature. 'David' has withstood tremendous cold snaps to -28° F. and horrendous prairie winds of 65 mph and flowered normally with no damage whatever.

John Sabuco, Editor

Dear Dr. Green:

In March of 1987, you answered my request for advice on trying to stop the setting of fruit on my flowering crabapple (23 years old, type unknown, red fruit 1-1 1/2 inches). I had mentioned an olive stop product; you suggested I might try it cautiously. This spring I did so, and thought you might like to know the results.

I used Olive Control from California Liquid Fertilizer Co., Pasadena, CA. The active ingredient at 4.00% is alpha-naphthalene acetic acid. It was recommended for use at the concentration of 5 oz. per 10 gallons. I used it at 2 tablespoons per gallon in a hose-end sprayer. I made several applications as the buds came into bloom, spraying the whole tree.

This was very effective, completely stopping the setting of fruit. I could see no toxicity to bark or foliage. This tree is also subject to powdery mildew, so I sprayed it between applications of Olive Control with Benomyl suspended in water at the rate of 2 oz. per 12 1/2 gallons of water.

I have a weeping flowering peach, which reverted to fruit and develops large yellow fruit with a bland taste; they go from green to over-ripe in a few days. This tree is also 23 years old.

I sprayed several branches with the Olive Control solution as above as the buds were opening. This stopped the setting of fruit, but had a very harmful effect on the tree. The blossoms died but did not drop. Those branches never developed any leaves, and I eventually had to prune them off. The rest of the tree leafed out as usual, and developed a heavy crop of fruit.

Both these trees had appropriate applications of lime-sulfur dormant spray November through January.

I am sending a copy of this letter to Bert Bertolero, Certified California Nurseryman, because he is often asked, on his radio call-in show, about the use of bud control materials on flowering fruit trees.

Sincerely,

John S. Sheahan

Dear Tom:

Was looking thru some old records. Thought the following might be worth while for the next "Malus".

'Prairie Maid', our 8-29 (row 8 tree 29) was from a cross made spring 1954, x zumi calocarpa seed parent, Van Eseltine pollen parent. Seed was planted fall 1954, grown one year (1955) in shade beds, and set in the field spring 1956.

Our #8-36 was a sister seedling. Was released to Mr. Cole along with a few others he wished to test with option to purchase. Royal Ruby was in the group. Several years later 8-36 was released back to us. We sent out plants for trial, to Morton I believe. It is semi-double, pale pink to white, with as nice golden yellow fruits as any I know; fine long after the leaves have dropped. I have never seen scab, blight, or rust on the foliage or fruit. Foliage is a good dark green, the tree vigorous. Leaves are quite similar in shape to 8-29, 'Prairie Maid'.

'Jewelberry' (7-26) It came from a group of seedlings from University of Illinois. Dan Dayton asked if I would like them. We were not aware of the importance of scab resistance at that time and were selecting for attractive fruits and bloom, so probably passed up other worthwhile seedlings as time went by.

This selection was received spring 1955, carried in a pot under shade for one season and set in the field spring 1956. It was one of 32 seedlings all IL. #656 (floribunda 821 X purpurea).

Forty-nine other seedlings were #657 and 658 - floribunda 821 X self. From what I now know, we should have made other selections for our secondary trial blocks.

Professor Dayton asked only that he or U. of IL be given credit. This I failed to do, so I wanted this on record. Thought "Malus" would be the best medium. It has received very favorable recognition as a landscape plant for disease resistance, small attractive fruits, and a dwarf compact tree.

Sincerely,

Robert C. Simpson

CRABS YOU SHOULD KNOW

Malus 'Professor Sprenger'

by Tom Green

During my recent evaluation of five of the National Crabapple Evaluation Plots, I was impressed by the performance of Malus 'Professor Sprenger' at each of the plots. Its bright orange-red fruit made it the most noticeable tree in each collection. Mike Yanny, a IOCS Director and propagator at Johnson Nursery, Menomonee Falls, WI, helped me evaluate the Boerner Botanic Garden/Whitnall Park crabapple collection. His comment to me about the 'Professor Sprenger' was "as good as this tree performs annually, it does not sell well at our nursery." I also have heard similar comments for other nurserymen. Bill Hendricks, of Klyn Nursery, Perry, OH and an original IOCS Director, says that the best way to sell a crabapple is give it a good name. No offense to Professor Sprenger, but I agree, the Professor's name is not a good one for a crabapple. It is unfortunate that we have so many poorer crabapples in the trade with better names.



Well, we have a good crabapple that has a name problem. I cannot see where the name 'Professor Sprenger' is any worse than 'James MacFarlane' (lilac) or 'Toyo-Nishiki' (flowering quince) or 'Moerheimii' (blue spruce). Talk about a bad name, look at how many 'Oekonomierat Echtermeyer' crabapples have been sold; a very inferior crabapple with a very difficult name.

Perhaps the solution in this case is promotion. A spectacular plant will sell, good name or bad. Plants with name problems just need more exposure. It is time that more nurserymen, landscape architects, landscape contractors, horticulturists, propagators, and crabapple fanciers become familiar with 'Professor Sprenger'.

According to J. Belder, Department of Plant Taxonomy & Plant Geography at Wageningen, Holland:

"Malus 'Professor Sprenger' is a seedling from Malus toringo (syn = M. x zumi), which Mr. S.G.A. Doorenbos picked up in the experimental gardens of the Department of Horticulture in Wageningen. Professor Sprenger was the director there at that time (circa 1950)... In the Netherlands it is a healthy tree, which is often seen in both private and public gardens."



'Professor Sprenger' grows to a height of 25 feet or more. It is upright-spreading but develops a nearly global shape if lower branches are not removed. It is dense in texture and would be ideal - for a fence-line screen - beneath power lines - and as a specimen landscape tree. It annually produces profuse quantities of flowers. The pink buds open to pure white blossoms. The fruits are spectacular. They begin to turn orange-yellow in late summer and later a bright shiny orange-red. They range from 1/2" to 5/8" and persist into midwinter. The dried fruits are known to be used in floral displays. Birds do not seem to like the fruit. The leaves are a glossy green, turning to yellow in autumn. This tree is very disease-resistant. Frog-eye leaf spot is usually the most serious disease of the leaves, but I have never seen this disease lower the tree's aesthetic rating.



The orange-fruited crabapples tend to be more noticeable in the fall. There are relatively few good orange-fruited crabapples; 'Professor Sprenger' is one. I think it needs to be used more widely. It is definitely a crabapple everyone should know.

A final note: When a crabapple is worthy of being added to the already saturated commercial marketplace, there are two important things to remember. The tree must (1) demonstrate disease resistance, not produce a fruit mess, and have ornamental fruit; and (2) have a name that will help it sell.

We are interested in receiving suggestions for future "Crabs You Should Know".

MALUS OBSCURUS

Malus coronaria var. dasycalyx

The Great Lakes Crab

Dr. Thomas L. Green

"Coronaria" is Latin meaning suitable for a wreath. "Dasy" is a Greek adjective meaning hairy or shaggy. Therefore, *M. coronaria* var. *dasycalyx* resembles *M. coronaria* but has a hairy calyx. The same can be said about *M. ioensis*. However, *M. c.* var. *dasycalyx* differs from both *M. ioensis* and *M. coronaria*. To understand *dasycalyx* better it is necessary to know the differences between *M. ioensis* and *M. coronaria*.

The best time to distinguish the two species from each other is by comparing their pedicels, hypanthia, and abaxial leaf pubescence when they flower. The pedicel is the stem of one flower in a cluster. The pedicel of *M. ioensis* is very shaggy or woolly, usually described as villous, tomentose, or tomentulose. The pedicel of *M. coronaria* is glabrous (not hairy). The hypanthium (beneath the flower) of a crabapple is the cup-shaped receptacle between the flower petals and flower stalk (pedicel). The hypanthium of *M. ioensis* is described as floccose, villous, tomentose, or tomentulose. It is usually so pubescent that it has a silver or whitish color. *M. coronaria* is described as glabrous, glabrate (becoming glabrous), or slightly or sparingly villous or pubescent. The young branches of both species are pubescent. This pubescence is retained on *M. ioensis* but not on *M. coronaria*. However, this is not a great feature for separation of the two species. Both species will appear similar in the spring. Some *M. ioensis*, not all, will retain pubescence on second-year branches. Most keys separate the two species by the pubescence on the lower (abaxial) leaf surface. The newly emerging leaves of both species are pubescent. *M. coronaria* leaves quickly lose this pubescence and can be described as glabrate and glabrous. *M. ioensis* leaves will become glabrate by late summer. However, the midrib usually remains pubescent.

M. coronaria var. *dasycalyx* can be truly described as an intermediate. Rehder (1)
"leaves paler beneath (than *coronaria*), those on shoots sometimes pubescent on the veins: calyx villous. Ont. to Ohio and Ind..."

Gray's Manual of Botany, 8th Ed. (2)

"Hypanthium sparingly pilose outside; the sepals (calyx) glabrate. S. Ont. to Minn., s. to O., Ind., and Kans. Perhaps partly a hybrid of *Pyrus coronaria* and *Pyrus ioensis*."

In Krussmann (3)

"Leaves lighter on the underside, venation pubescent beneath on long shoots; flowers only 3.5 cm wide, pink, very fragrant, calyx pubescent (!); fruits 4 cm thick, yellow-green. North America, Ontario to Indiana."

The best description is in Rehder (4)

"This variety seems to be restricted to the southwestern part of the Great Lakes region, its range extending from southern Ontario to central Ohio and to middle and northwestern Indiana and probably to northeastern Illinois.

The flowering specimens show some resemblance to *M. glaucescens* Rehd., which is an Alleghenian species ranging from northwestern New York to northern Alabama, but they differ in the more or less villous calyx, while the pedicels are glabrate, and in the narrower and longer leaves less deeply lobed and less glaucescent; the adult leaves of vigorous shoots differ still more, being less deeply lobed, green or only slightly glaucescent beneath and particularly toward the end of the shoots, pubescent on the midrib beneath and borne on short, pubescent petioles; such leaves occur in *M. coronaria* but not in *M. glaucescens*."

Rehder collected specimens in Lucas, Lorain, Hardin, Franklin, and Clark Counties in Ohio; Porter, Noble, Allen, Wells, Whitley, Warren, Randolph, and Wayne Counties in Indiana; and Niagara, Amherstburg, and Fort St. Detroit in Ontario. (More specific site information is given in the reference).

It would seem logical that the glabrous *M. coronaria* of the east and the woolly, more drought resistant *M. ioensis* of the west would have an intermediate where the two species ranges overlap. Dr. Rehder's guess that *M. c.* var. *dasycalyx* probably could be found in northeastern Illinois was correct. We have found this variety in Will County, within a mile of Cook County. It would be my guess that its range also extends into southern Michigan and southeastern Wisconsin. I have serious doubts that its range extends west beyond eastern Illinois. I wonder where the reference to Minnesota and Kansas comes from in Gray's Manual (2).

Rehder also recognized a double-flowering form *M. c.* var. *dasycalyx*, cultivar 'Charlottae' (4). Other taxonomic texts simply refer to this cultivar as *M. coronaria* 'Charlottae', without indicating it is variety *dasycalyx*. I have always had trouble with this plant fitting the description as a *M. coronaria*. The hypanthium of 'Charlottae' is pubescent (actually glabrate), suggesting it belongs in *M. ioensis*. It was also discovered growing wild in Waukegan, Lake County, IL in 1902. Yet, no true wild *M. coronaria* has ever been recorded in Cook or Lake County, Illinois. Therefore, how could a double-flowering form of *M. coronaria* arise spontaneously. A double-flowering *M. c.* var. *dasycalyx* is the answer.

There are a number of taxonomic lumpers that combine (without scientific documentation) *M. glabrata*, *M. glaucenscens*, *M. lancifolia*, *M. bracteata*, and *M. coronaria* var. *dasycalyx* under an umbrella *M. coronaria*. Yet, in my opinion each of these taxa is as different from *M. coronaria* as *M. ioensis* is. If there is a bona fide *M. bracteata*, then there is a bona fide *M. dasycalyx*. If *dasycalyx* should be a variety of *coronaria*, then so should *glabrata*, *glaucenscens*, *lancifolia*, *bracteata*, and *ioensis*. Subtle differences separate them all from each other. The taxonomists have caused confusion by some calling them species, some calling them varieties, and some ignoring the differences and lumping them together. Hopefully, someday someone will shed some light on this dilemma.

References Cited:

- (1) Rehder, A. 1940. Manual of Cultivated Trees and Shrubs, 2nd ed. The Macmillan Company. New York.
- (2) Fernald, M. L. 1970. Gray's Manual of Botany, 8th ed. D. Van Nostrand Company. New York.
- (3) Krussmann, G. 1985. Manual of Cultivated Broad-leaved Trees & Shrubs. Vol. II. Timber Press, Portland, OR.
- (4) Rehder, A. 1920. New Species, Varieties and Combinations. J. Arnold Arboretum 2:52-53.

Words To Enrich Your Malus Vocabulary:

calyx	The outer perianth of the flower.
floccose	Clothed with flocks of soft hair or wool.
glabrate	Nearly glabrous or becoming glabrous with age.
glabrous	Not hairy.
hypanthium	The cup-shaped or tubular receptacle on which the perianth and the stamens are inserted.
perianth	The floral envelope, consisting of the calyx and corolla (when present), whatever their form.
pilose	With soft long straight hairs.
pubescent	Covered with hairs, particularly if short and soft.
tomentose	With dense wooly pubescence.
villous	Bearing long and soft, usually curved or curly, hairs.

ORNAMENTAL CRABAPPLE TRIALS

WASHINGTON STATE UNIVERSITY

Research & Extension Unit
Mount Vernon, Washington 98273

R. A. Norton and J. King

In connection with a National Crabapple Evaluation Program (NCEP) coordinated by Dr. Tom Green at the Morton Arboretum in Lisle, Illinois, we are growing over 60 varieties (cultivars) of ornamental crabapples at Mount Vernon. The primary purpose of this test is evaluate their disease resistance and aesthetic qualities for the Northwest.

Listed below are the cultivars on trial at Mount Vernon. Most of these were planted in 1984 and 1985, although about 10 of them have been growing here for more than 10 years.

We have attempted to describe 20 of the ornamental crabapple cultivars which appear to have the greatest promise for this area. In addition, we have listed some which are satisfactory for processing or even fresh eating. Finally, and most important, we have listed 16 cultivars which have serious drawbacks, usually susceptibility to apple scab, which often results in premature defoliation in the more humid climate of western Washington.

Crabapple Cultivars on Trial at WSU - Mount Vernon

'Adams'	'Liset'	sargentii
baccata v. jackii	Manchurian	x scheideckeri
'Beverly'	'Martha Dolgo'	'Selkirk'
'Bob White'	'Mary Potter'	'Sentinel'
'Centennial'	x micromalus	'Silver Moon'
'Centurion'	'Molten Lava'	'Simpson'
'Chestnut'	'Ormiston Roy'	'Snowdrift'
'Christmas Holly'	'Pink Perfection'	'Strawberry Parfait'
'David'	'Pioneer Scarlet'	'Sugar Tyme'
'Dolgo'	'Prairifire'	'Sundog'
'Donald Wyman'	'Professor Sprenger'	tschonokii
'Dorothea'	'Profusion'	'Van Eseltine'
'Eleyi'	'Radiant'	'Velvet Pillar'
'Evereste'	'Ralph Shay'	'Weeping Candied Apple'
floribunda	'Red Barron'	'White Angel'
'German'	'Red Flesh'	'Winter Gold'
halliana Parkmanii	'Red Jade'	yunnanensis v. veitchii
'Harvest Gold'	'Red Splendor'	x zumi v. calocarpa
'Hopa'	'Robinson'	
hupehensis	'Rosedale'	
'Indian Magic'	'Royal Ruby'	
'Indian Summer'	'Royalty'	
'Jewelberry'	'Ruby Luster'	

Promising Ornamental Crabapples for the Pacific Northwest

* Patented or Patent Applied for

1. * 'Christmas Holly' - small bright red buds, white flowers, moderately fragrant; tree low, spreading, green small leaves remaining green to late fall; numerous small bright red fruits, persistent through winter. Disease resistant.
2. 'David' - showy pink buds, white flowers, moderately fragrant; tree compact, rounded, green glossy leaves; large, numerous, bright red fruit, persistent. Questionable hardiness for mild climates. Scab slight.
3. 'Donald Wyman' - red buds, dense brilliant white flowers, mildly fragrant; tree rounded, green attractive leaves; fruits numerous, small, bright red, persist until spring, annual bearer. Scab moderate.
4. M. floribunda - large showy bright buds, pink-and-white flowers, moderately fragrant; tree densely branched, semi-weeping habit, green small leaves; fruits yellow blushed red, non-persistent. Scab slight.
5. 'Indian Magic' - maroon buds, pink flowers, very profuse massed bloom, petal color fades gradually but remains attractive, slightly fragrant; tree spreading, leaves copper shading to purple-brown; fruits bright red, numerous, colorful, persistent. Scab moderate to low.
6. 'Indian Summer' - maroon buds, pink flowers, petal color fades gradually but remains attractive, slightly fragrant; tree spreading, leaves copper shading to purple-brown; fruits bright red, numerous, colorful, persistent. Scab moderate to low.
7. 'Jewelberry' - very small bright red buds, small white flowers, slightly fragrant; tree low, shrubby, non-vigorous, small bright green leaves; fruits small, red, non-persistent. Suitable for miniature gardens, bonsai. Scab slight.
8. 'Mary Potter' - red buds, large showy white flowers, very fragrant, tree low spreading, leaves green; fruits dark red, very numerous, persistent. Excellent for smaller yards. Scab variable, usually moderate.
9. * 'Molten Lava' - pink buds, large white flowers, abundant, mildly fragrant bloom cascades attractively. Tree vigorous, excellent weeping habit, green leaves; small, persistent red-orange fruit. Disease resistant.
10. 'Ormiston Roy' - pink buds, pink-and-white flowers, profuse bloom, mildly fragrant; tree spreading, rounded, leaves green; fruits small, very numerous, yellow blushed pink, persist until spring. Scab slight.
11. 'Prairifire' - maroon buds, vivid rose-pink flowers, very profuse bloom lacks fragrance; spectacular late-season display; tree shrubby, dense, leaves bright coppery purple; fruits non-persistent. Observed scab low to moderate.
12. 'Professor Sprenger' - red buds, pink-and-white flowers, very fragrant; tree upright spreading, leaves green; fruits bright yellow-orange, very numerous, large and attractive, persistent. Disease resistant.
13. 'Ralph Shay' - pink buds, white flowers, moderately fragrant; trees upright spreading, green leaves; fruits very large, bright red, numerous and colorful, persist until spring. Scab moderate, appears tolerant (Mount Vernon observations).
14. sargentii - pale pink buds, intense pure white flowers; abundant, very fragrant bloom covers low, broadly spreading tree. Bright green leaves tend to drop in early winter; dark red fruit is non-persistent. Scab slight.

15. 'Silver Moon' - large pale pink buds, white pendent flowers, moderately fragrant, blooms very late, profuse; tree upright, columnar, small green leaves; fruits small, dark red, profuse, somewhat persistent. Scab moderate to low.
16. 'Snowdrift' - deep pink buds, white flowers, dense clustered bloom, mildly fragrant; tree compact, rounded, well balanced, green leaves; orange-red fruits tend to drop. Scab moderate.
17. * 'Sugar Tyme' - bright pink buds, white flowers, dense attractive bloom, moderately fragrant; tree upright, oval, leaves green; fruits small, very numerous, attractive bright red, persist until spring. Scab moderate.
18. * 'Weeping Candied Apple' - carmine buds, large showy deep pink flowers, slightly fragrant; tree weeping, leaves dark green tinged brownish-red; fruits small, bright red, attractive, may persist till spring. Scab moderate.
19. 'White Angel' - pink buds, white flowers, dense, precocious bloom habit, very fragrant; tree upright spreading, glossy dark green leaves; fruits very numerous, orange-red, attractive, persistent. Scab slight.
20. zumi cv. calocarpa - large bright pinkish red buds, white, very fragrant flowers; tree attractive, dense, spreading, leaves green; fruits bright red-orange, small, numerous, persistent. Scab moderate.

Edible Crabapples

1. 'Centennial' - pale pink buds, white flowers, mildly fragrant; tree spreading, leaves green. Fruit yellow blushed bright red, sweet, edible fresh from tree or use for culinary purposes. Size 1" to 1 1/2" diameter, elongated. Low scab.
2. 'Chestnut' - red buds, white flowers, moderately fragrant, tree low spreading, leaves green. Fruit dull yellow, blushed and striped orange, sweet nut-like flavor, edible fresh from tree. Size 1 1/2" to 2" diameter, roundish-oblate. Low to moderate scab.
3. 'Dolgo' and 'Martha Dolgo' - red buds, white flowers moderately fragrant, early bloom; tree upright spreading, open, leaves glossy green. Fruit red, edible but tart, culinary use. Size 1 1/2" diameter, elongated. Somewhat scab susceptible.
4. 'German' - red buds, white flowers, mildly fragrant; tree upright spreading, leaves green, very productive. Fruit red blushed over yellow, good for jelly. Size 1" to 1 1/4", long ovate. Scab moderate to low.
5. 'Ralph Shay' (see previous description) - 1" to 1 1/4" red fruits very tart and astringent, not yet evaluated for culinary purposes.
6. 'Whitney' - red buds, white flowers, moderately fragrant; tree upright spreading, vigorous, heavy producer. Fruit yellow blushed red and striped, edible from tree, thought somewhat tart. Size very large for crab, 2" to 2 1/4" diameter, roundish-conic. Scab low to moderate.

Cultivars with Serious Limitations

1. 'Almey' - extreme disease susceptibility.
2. 'Bechtel' - (Klehm's Improved) - scab susceptible.
3. 'Dorothea' - scab susceptible, unattractive tree habit.
4. 'Eleyi' - scab susceptible.
5. 'Oekonomierat Echtermeyer' - scab susceptible.
6. 'Hopa' - extreme disease susceptibility.
7. * 'Pink Perfection' - extreme disease susceptibility.
8. 'Radiant' - scab.
9. 'Red Barron' - scab.
10. * 'Red Jade' - scab.
11. 'Red Silver' - scab.
12. * 'Robusta' - scab.
13. * 'Royal Ruby' - scab.
14. 'Royalty' - scab, flowers don't show against red leaves.
15. x. sheideckeri - scab.
16. 'Van Eseltine' - scab, unattractive tree habit.

The Rosybloom Story

by Roger Vick

Who can resist pausing to admire a rosybloom crabapple tree in full bloom? For fifty-one weeks of the year the tree is virtually invisible as it blends with the landscape. It then explodes in a riot of pink to gladden the winter-weary, and dissolves again in a shower of pink petals until the following year.

Before rosyblooms existed the white-flowered crabapples were admired for their early spring blossoms, but were generally selected for their fruits rather than their flowers. An occasional experiment was made with using apple trees as ornamentals for sidewalk planting, but these had their disadvantages. It was not necessarily the problem of broken branches as youngsters of all ages grabbed the fruit, but rather the laborious cleanup operation as the fruit littered the streets and sidewalks. Nowadays apple trees are not often planted as ornamentals, unless the fruit can be used for jelly or canning, or the fruit is small enough that it is likely to be cleaned up by the birds.

In 1920, the coming of the pink-flowered crabapple brought new excitement to the realm of ornamental trees. Professor Niels Hansen, director of the State Agriculture Experiment Station at Brookings, South Dakota, produced and introduced the hybrid of his new ornamental tree from Asia.

On his 1897 journey through Turkestan, Russia and west China, in search of plants suitable for the Northern Great Plains, Hansen had visited a Mr. Niedzwetzky. This gentleman had located a red-fleshed apple in the Tian-Shan Mountains which separate Turkestan and China.

This find is described in HORTUS THIRD (1976) as a shrub to 12 feet, with reddish bark and wood, leaves tinged red on veins, (providing the common name, Redvein crabapple), flowers deep red, and fruit purple-red inside and out. Hansen noted that the fruit would measure more than two inches, and described it as a "good juicy subacid eating apple." He named this find *Pyrus malus niedzwetzkyana*, after Mr. Niedzwetzky. Since that time, however, taxonomists have decreed that the name *Pyrus* be reserved for pears, and that this particular selection is best considered a variation of *Malus pumila* Miller. Today, therefore, the correct name according to HORTUS THIRD, is *Malus pumila* 'Niedzwetzkyana'.

Hansen also gave the new apple a cultivar name, 'Almata,' after the city of Alma Ata in that region. Today, however, with 'Niedzwetzkyana' accepted as a cultivar name, 'Almata' should be considered a synonym.

Not content with this new introduction, Hansen grew open-pollinated seed from the tree (probably crossed with the hardy Siberian crabapple, *Malus baccata*) and started selecting specimens for hardiness and attractive flowering. One of these selections was introduced through the South Dakota Agricultural Experimental Station at Brookings, South Dakota in 1920. It had been known as 'Hansen's Red Leaf Crab' but was officially named 'Hopa,' meaning "beautiful" in the Sioux Indian language. Since then this crabapple has been officially called 'Hoppi', 'Sunburst', and 'Pink Sunburst', but is widely grown today under the original name, 'Hopa'.

This original rosybloom is still found growing in many Alberta gardens, propagated by nurserymen, and commonly offered in garden centers north and south of the international border. The tree has a dense habit, round head, and grows to 30 feet in optimum locations. The foliage emerges deep maroon, and changes to dark green. The prolific flowers, mauve-pink with a white center, appear all along the branches, fading before the petals fall. The apples are about one inch in diameter, orange-red, and suitable for making jelly.

The term "rosybloom crabapple" was introduced by the dominion horticulturist, Wm. T. Macoun, before 1920. After World War I, a decision was made in Ottawa to work on a program of ornamental plant improvement, and to develop plants suitable for all regions of Canada. Miss Isabella Preston was appointed to work at the Arboretum and Botanic Garden of the Central Experimental Farm at Ottawa. Macoun suggested that she concentrate on six ornamental flowering genera, including flowering crabapples. Consequently, Miss Preston worked to improve the rosyblooms, and used *Malus* 'Niedzwetzkyana' as the seed parent.

Again with reference to a Cole publication, four other rosyblooms have achieved widespread acceptance: 'Radiant', 'Royalty', 'Almey', and 'Thunderchild'.

'Almey' is the oldest of these, introduced by the C.D.A. Experimental Station at Morden in 1945. Flowering soft-red with a white centre, the blossoms are fragrant and resist fading. 'Almey' was originated by Dr. William R. Leslie, for 35 years the superintendent at Morden. The tree was named for J.R. Almey, horticulturist with the Canadian Pacific Railway.

'Radiant' was introduced in 1958 by the University of Minnesota. The tree is compact and round-headed, making it suitable for street planting. The flowers are deep pink; the foliage is green, but turns reddish in the fall.

'Royalty', a Sutherland, Saskatchewan introduction of 1955, has become extremely popular across the prairies as a small accent tree valued for its deep purple-green foliage. The flowers are insignificant against the dark foliage.

'Thunderchild', selected and introduced by the Saskatchewan plantsman Percy Wright in 1978, is similar to 'Royalty', but with the foliage green at first, soon turning dark. 'Thunderchild' is considered less subject to fire blight than 'Royalty'.

The search continues for the ultimate rosybloom. Within the last couple of years, Sherwood Park horticulturist, Tom Machin, registered a new rosybloom with the Canadian Ornamental Plant Foundation. The name is 'Sherwood Park', and it is being tested at the Devonian Botanic garden and at C.D.A., Morden.

The Research Station at Morden has numerous rosyblooms on test, and will have even more, once virus-free stock can be shipped from the USA to Canada.

Here follows a list of the hardy rosybloom crabapples in approximate order of popularity.

Rosybloom Crabapples for the Prairies
Currently in Commerce

Cultivar	1	2
Hopa	20+	Brookings (1920)
Makamik	20+	Ottawa (1933)
Radiant	20+	U of Minn. (1958)
Royalty	20+	PFRA (1962)
Almey	16	Morden (1945)
Thunderchild	13	Wright (1978)
Rudolph	9	Skinner (1954)
Kelsey	7	Morden (1969)
Selkirk	5	Morden (1962)
Red Splendor	4	Bergeson (1948)
Albright	1	Beaverlodge (1964)
Baskatong	1	Ottawa (before 1950)
Dauphin	1	Ottawa (1930)
Sutherland	1	PFRA (1955)

Legend

Column 1. The number of nurseries offering the plant *.
2. Place and date of introduction.

* Based on WOODY PLANT SOURCE LIST (1987) by Trevor J. Cole, Plant Research Centre, Agriculture Canada, Ottawa.

Alphabetical Order

Albright
Almey
Baskatong
Dauphin
Hopa
Kelsey
Makamik
Radiant
Red Splendor
Royalty
Rudolph
Selkirk
Sutherland
Thunderchild

Rosybloom Cultivars Listed in Chronological Order

** Hopa	1920
* Dauphin	1930
Scugog	1930
** Makamik	1933
ob Alred	1937
ob Jubilee	1937
* Strathmore	1941
** Almey	1945
Leslie	1945
* Sundog	1947
* Baskatong	1950
** Red Splendor	1948
Arctic Dawn	1952
** Big River	1954
** Rudolph	1954
* White Fox River	1954
ob Midnight	1955
* Sutherland	1955
ob Glow	1957
** Radiant	1958
Garry	1962
** Royalty	1962
* Selkirk	1962
* Albright	1964
* Kelsey	1969
McDonald	1975
ob Shelley	1978
** Thunderchild	1978
ob Torch River	1978
* Jan Kuperus	1985
Sherwood Park	1987

	Cultivar	P	Int.	Flowers & Comments
**	Albright	1	BL64	larger/pinker Arctic Dawn. FB
**	Almey	3	MO45	5-7, soft red with white centre. SC
ob	Alred		BR37	large, red. Bark dk. metallic grey.
*	Arctic Dawn	1	BL52	pale, ruffled edges. Semi-weeping.
*	Baskatong		OT50	purple-red, fading dull pink.
**	Big River		WR54	deep rose. Pyramidal habit.
*	Dauphin	2	OT30	purple-red.
	Garry	2	MO62	rose, fading. Br. slender, arching.
ob	Glow		MO57	mauve-purple.
**	Hopa		HA20	rose/mauve, fading; all along br. SC
*	Jan Kuperus		BY85	soft red. Like Almey but hardier.
ob	Jubilee		BR37	deepest red. Hardier Alred/Hopa.
*	Kelsey	1	MO69	semi-double, ppl-red, white center.
	Leslie	1	NO45	deep purple. Copper foliage. SC
**	Makamik	3	OT33	purple-red, fading. Upright habit.
ob	Midnight		WR55	pink, small. Deep purple foliage.
**	Radiant		MN58	red-pink. Upright, compact habit. SC
**	Red Splendor	3	BE51	dull pink, fading, profuse. Hardy.
**	Royalty	6	SU62	purple-pink. Lustrous purple. FB
**	Rudolph	1	SK54	deep rose, little fading. SC
	Scugog		OT30	purple-red, white claw. FB
*	Selkirk	2	MO62	br. rose, large flat-faced, br. ends.
ob	Shelley		WR78	deep pink.
	Sherwood Park	1	MA87	cupped, clustered. Sm. dk. shiny lvs.
	Sparkler	1	MN ?	bright rosy red. Flat topped tree.
*	Strathmore	1	BR41	deep rose/little fade. Upright tree. SC
	Sundog		MO47	pink, soon fading. Upright/fanning.
*	Sutherland		SU55	small, purple-red. Dark foliage.
**	Thunderchild	12	WR78	small. Similar to Royalty. No FB?
ob	Torch River		WR78	rich pink.
	White Fox River		WR54	deep rose. (Syn. 'White River').

LEGEND

- * = In Canadian commerce
 ** = Most commonly available
 P = Number of plants at DBG, 1988
 ob = Probably obsolete
 FB = Susceptible to fire blight
 SC = Susceptible to scab
 INT = Introduced by (followed by the year of introduction)

- BE = Bergeson Nursery, Fertile, Minnesota USA
 BL = C.D.A. Beaverlodge, Alberta
 BR = Alberta Horticultural Research Stn, Brooks, Alta.
 BY = Byland's Nursery, Kelowna, BC
 HA = N.E. Hansen, Brookings SD, USA
 MA = T. Machin, Sherwood Park, Alberta
 MN = U. of Minnesota Landscape Arb., St. Paul, Minn.
 MO = C.D.A. Morden, Manitoba
 NO = Northwest Nursery, Valley City, ND
 OT = Central Experimental Farm, C.D.A. Ottawa, Ontario
 SK = F.L. Skinner, Dropmore, Manitoba
 SU = C.D.A. Sutherland, Sask.
 WR = P. Wright, Saskatoon, Sask.

The Ornamental Crabapple: A Tree With An Image Problem

by Michael Yanny
 Johnson Nursery

As members of the IOCS, surely we have all felt some of the animosity that has been directed towards our beloved ornamental crabapple trees. Some not uncommon responses by members of the general public when approached on the subject of crabapples are: "My grandmother used to make jelly out of crabapples." or, "We sure used to have fun pegging those little apples at cars." or, "Aren't those the trees with those sour little apples?"

People who are relatively unfamiliar with the tree generally think of the fruit when the word crabapple is mentioned. And most of the time, it is not thought of in the beautiful ornamental way that many of us would like. I often wonder what people who are not very familiar with the tree think when they hear someone refer to it as a "crab". It can't be good!

The name is many times the first impression people have when becoming familiar with a tree. We should work to make it a positive one.

We cannot change the basic name, "crabapple", but we can color it up a bit. Let's call it, "the ornamental crabapple tree" or, "the flowering crabapple tree". In this way we are de-emphasizing the CRABapple and are accentuating the importance of the "ornamental tree" or, the "flowering tree", which happens to be a crabapple. For heavens sake, never call them "crabs" in public. We can also place more emphasis on some of the colorful cultivar names, such as 'Profusion', 'Molten Lava', or 'Red Splendor'. These have no negative connotations.

Besides coloring up the name to impress those people who are unfamiliar with the ornamental crabapple tree, we must also address that portion of the general public who have had an unpleasant experience with the plant. There are people who might respond like this when approached on the subject of crabapples: "We used to have one of those trees in our yard, but we cut it down. It was such a mess!" or, "I don't like crabapples; they make too much work." The source of this type of response can be traced through the lives of my mother-in-law and father-in-law.

About twenty-five years ago, their neighbor planted two large-fruited, apple scab-susceptible crabapple trees. The trees overhang my in-laws' concrete driveway. Each spring after they flower, they drop their petals all over the drive. When combined with rain, the petals create a surface similar to an oil slick. It can be quite a hazard. In the summer, due to the apple scab disease, the leaves fall prematurely, giving my in-laws a chance to get the rakes loosened up for fall. Come autumn, the marble-sized fruits cover the drive and quickly turn to a mush-brown consistency. Snow shovels are usually used to scrape these up. It should be noted that the more times cars maneuver up and down the drive, the more difficult the removal job becomes. Not surprisingly, my in-laws have a hard time understanding what is good about crabapple trees.

People who have experienced these types of situations will always have a bad image of the ornamental crabapple in their minds--at least until they have seen differently. How can we respond to them?

First of all, we must make them aware that we do understand what their problems are. We know about the early leaf drop from trees with apple scab disease. We know all about messy fruits. Yes, we know the amount of work it takes to remove sucker shoots from the base of a tree. We know that having a bad crabapple tree sited improperly can be a nightmare. We know and can sympathize with the awful situations that they have experienced.

Next, we must undertake the unpleasant task of informing people that there is no quick, easy way to fix a bad crabapple tree. We could advise spraying for the

disease problems. We could suggest hiring someone to tend to the tree's droppings and trimming needs. However, in the long run, the best advice is to get rid of the 'bad apples' and plant anew. Saw the old dogs down! As long as bad crabapples are around, the bad image will linger.

Finally, we must inform people of a fact that overwhelms all the bad done by crabapples of the past. That fact is: we have many fabulous ornamental crabapple trees today without the problems of old -- those without all of the disease problems -- those with fruit that is an asset. The best of today's crabapple trees have fruit that can be more colorful for a longer period of time than most any temperate zone tree. The fruit can hang on the tree until it is devoured by birds. We have ornamental crabapple trees that come in a wide variety of sizes and shapes. We have trees that will require much less maintenance since the recent use of non-suckering understocks and own-root plants.

To go along with these wonderful improvements, the finest crabapples today have the same glorious flower displays as those of old. Most still have that irresistibly sweet fragrance and are as durable and urban-tolerant as ever. They are easy to grow and can be used in many different design situations.

Misinformation or victimized homeowners are not the only people with misconceptions of the genus *Malus*. Many landscape and horticulture professionals view the ornamental crabapples as a huge group of trees with many non-distinguishable cultivars. Several times, I've heard comments such as these: "There are too many crabapple cultivars. Give me one good red, one good pink, and one good white flowering type and I'm set." or, "I don't know why people continue to introduce more new crabapple cultivars. We have too many already." It is disheartening to hear such remarks.

The large number of cultivars should not be looked upon as a detriment to the genus but rather as a compliment. There is a reason why so many people have selected so many cultivars over the years. They are beautiful!

Unfortunately things have changed since many of the ornamental crabapples were selected. Disease has plagued many types, and our requirements for low maintenance have rendered many obsolete. For these reasons, of the total number of cultivars that have been named (over one thousand), only a small percentage can be deemed worthy of consideration for use in modern landscaping.

A list of fifty to one hundred good cultivars can be made for the southeastern Wisconsin area. It is the opinion of many that the list of good cultivars should be short and sweet to reduce confusion and make things simple. In some cases, such as making a sale to an impatient customer, this may be necessary. However, in general, it may be more advantageous to have a large list of good ornamental crabapples from which to choose.

For an illustration, let's look at one small grouping of crabapples--the weeping and pendulous types. Three cultivars that have performed well in southeastern Wisconsin are 'Weeping Candied Apple', 'White Cascade', and 'Anne E' (formerly known as 'Manbeck Weeper'). These three trees, though all have been classified as weeping or pendulous, are all worthy of being known and used by the landscape designer. They have characteristics that distinguish themselves from each other and give the designer a unique set of design elements.

The 'Weeping Candied Apple' has a stiff pendulous habit. Its flowers are an attractive carmine-pink. The fruit is a dark red in the fall, but doesn't remain showy in the winter, as it quickly browns and shrivels. It does remain on the tree until it is eaten by birds.

'White Cascade' has a graceful, pendulous habit with pure white flowers. Its yellow fruit is small and quite plentiful but is seldom showy. In Wisconsin, it browns and is taken by birds before the tree defoliates in the fall.

'Anne E' has a spreading, weeping habit. It also has white flowers. Its fruit is small and cherry red and usually persists with good color through the entire winter. In the spring, the fruit is eaten by birds. 'Anne E' has a distinctive reddish bark that is quite attractive.

So why should one know about all three of these cultivars, rather than making it simple and learning just one? The reason is because none of these three trees presents the same combination of design elements. They are useful for their specific set of characteristics at different times of the year. If an area calls for a splash of carmine-pink spring color, the 'Weeping Candied Apple' would be the choice. A design may be required to attract fall bird life. In this case, the 'White Cascade' crabapple would be best. For winter color, the red-fruited 'Anne E' would be the choice.

A designer with three weeping or pendulous crabapple cultivars in his or her repertoire can accomplish much more than a designer with a single weeper. With the proper crabapple informational lists and sales tools, twenty-five to fifty crabapple cultivars are not hard to become acquainted with and use. Furthermore, speaking as a true 'crabapple-o-phile', there are not enough good crabapple cultivars for all landscape situations.

We have few good small crabapple trees that mature to a size less than eight to twelve feet high and wide. A better selection of narrow, upright crabapples that maintain their shape with age is needed. These types of trees are necessary for the smaller city and suburban landscapes.

Disease-resistant, clear pink-flowered crabapples with no trace of magenta are rare. This delicate pink flower color, similar to that of *Prunus triloba*, is very popular with the public.

We have few good disease-resistant double-flowered crabapple trees. Usually double-flowered types have an extended flowering period.

There is room for improvement in some of the crabapples that we have placed at the top of their group. For instance, 'Weeping Candied Apple', regarded by many to be the best dark flowered pendulous type, can be improved. We need a tree like it that does not have its unappealing characteristic of leaf curling. We need more cultivars, but better cultivars. There is always room for improvement.

Besides addressing the negative criticism directed towards the ornamental crabapple tree, what can we do to foster a new positive image?

We must get the word out to the general public. We must tell them the true complete story of how crabapple trees have been "bad apples" in the past but have been improved and are now some of the very best of ornamental trees. If you would like to become involved, you might try some of the following:

1. You could submit good, basic articles to popular gardening magazines and the garden section of your local newspaper. If you don't have a penchant for writing, many members of the IOCS would be willing to provide an article or tell you who could.
2. You can give educational presentations to schools, gardening groups, and professional organizations to tell people the virtues of ornamental crabapple trees. The IOCS has a slide collection that is available for use or purchase by members.
3. You could help your local arboretum create crabapple walks and tours. Annual guided tours at peak bloom time could be a wonderful promotion for crabapples as well as for the arboretum itself. It is important to synchronize activities with spring bloom, because this is the one time of

year when most everyone agrees that flowering crabapple trees are truly beautiful.

4. Arboreta can evaluate and compile lists of the best crabapples for their area of the country. They can distribute these to nurserymen and landscape professionals to help them become familiar with the best of the ornamental crabapples.
5. Nurserymen and landscape professionals can improve the image of the crabapple tree by keeping up-to-date with the best varieties for their area. Also, they can promote our favorite tree and their own sales by acquiring or developing promotional flyers on each variety. A good flyer would have colored pictures and information concerning dimensions and disease resistance, as well as the different seasonal characteristics.
6. The crabapple breeders and selectors of new cultivars must continue to improve the genus. They should be aware of what we have already so as to avoid duplication. The new cultivars should be distinctive, with new or better characteristics to increase the selection of landscape design traits.

An important aspect of the selection process that was brought to my attention by the renowned crabapple breeder, Robert Simpson, and is often slighted by introducers is--the choosing of a marketable cultivar name. A good plant with a bad name is often harder to sell than a bad plant with a good name. This is unfortunate, but it's true. 'Ormiston Roy' by any other name would be a top seller. This is sad because it's such an excellent cultivar. We need fewer names like 'Professor Sprenger' and 'Mary Potter' and more names that are descriptive and appeal to the average person, such as 'Red Jewel' and 'Indian Magic'.

The ornamental crabapple tree has its flaws, as do all trees. However, its good points greatly outweigh the bad. Furthermore, its past is haunting its future by presenting an image that is derogatory and clouds the good that has been done with the genus in recent years. We as crabapple promoters must realize this dilemma and work to improve the image of the ornamental crabapple tree in order that it may gain the respect and admiration it truly deserves.

Research Activities

by Harold Pellett and Ken Vogel

In the October issue we gave some information on scab resistance and fruit size and color of flowering crabapples. One very important quality of crabapples is the persistence of showy fruit. The fruits are much more noticeable in the landscape after the foliage has dropped. There is considerable difference in the persistence of fruit from variety to variety. Even on varieties that hold their fruit well, there is a big difference on attractiveness of the fruit. Fruit of some varieties will shrivel and/or turn brown, while fruit of other varieties will remain plump and maintain an excellent color even after hard freezes. Table 1 gives data on persistence and quality of fruit on varieties of crabapples in our plantings. Data presented were collected on October.

In a quick walk through our plantings on November 20, at the time of writing this article, the following varieties caught our attention as they were still loaded with fruit and were very attractive:

'Adams'; 'Beverly'; 'Bob White'; 'Centurion'; 'David'; 'Donald Wyman'; 'floribunda'; 'Harvest Gold'; 'Indian Magic'; 'Ormiston Roy'; 'Professor Sprenger'; 'Ralph Shay'; 'Red Splendor'; 'Robinson'; 'Rosseau'; and x. zumi calocarpa.

Many of the other cultivars may hold their fruit just as well but perhaps just didn't have many fruit this year and thus weren't as noticeable. This would be especially true of many of the newer cultivars, for which we only have small trees. One cultivar that has especially caught our attention is 'Harvest Gold'. It has very bright yellow fruit that remains very hard and keeps its color even after hard-freezing weather, at least up until mid-November. Other yellow-fruited cultivars tend to darken more after some hard freezes. The yellow-fruited cultivars are more noticeable from a distance than are the red-fruited cultivars. Where space permits a mass planting, combining "Harvest Gold" with its bright yellow fruits with a red-fruited cultivar such as "Red Splendor" would provide a nice contrast.

Table 1: Fruit Persistence of Crabapple Varieties. Ratings on 10/30/85

	Persistence ¹	Quality ²		Persistence ¹	Quality ²
'Adams'	4	4	'Hopa'	1	
'Albright'	3	2	'Indian Magic'	4	3
'Beverly'	4	3	'Indian Summer'	4	2
'Bob White'	4	4	'Kibele'	4	3
brevipes	4	3	'Liset'	2	3
'Cardinal'	1		'Makamik'	3	3
'Cashmere'	2	3	'Manbeck Weeper'	4	2
'Centurion'	4	3	'Mary Potter'	4	3
'Cheal's Crimson'	2	3	'Namew'	1	
'Clausen'	4	4	'Nicolene'	2	1
'Coralburst'	2	3	'Ormiston Roy'	4	4
'Dainty'	4	3	'Pink Cascade'	4	1
'David'	4	4	'Pink Splendor'	2	2
'Donald Wyman'	4	4	'Pink Weeper'	3	2
'Ellwangeriana'	4	3	'Professor Sprenger'	4	3
'Flame'	4	4	'Profusion'	2	1
floribunda	4	4	'prunifolia'	2	1
'Garry'	2	2	x. purpurea 'Lemoinei'	2	4
'Harriman'	1		'Radiant'	1	
'Harvest Gold'	4	4	'Ralph Shay'	4	4
'Henry F. duPont'	2	3	'Red Barron'	4	3

Persistence ¹	Quality ²		Persistence ¹	Quality ²	
'Red Globe'	2	3	x. soulardii	4	3
'Red Heat'	3	2	'Sparkler'	1	
'Red Jade'	4	3	'Strathmore'	3	1
'Red Jewel'	4	4	X sublobata'	2	3
'Red Splendor'	4	4	'Sundog'	1	
'Robinson'	4	4	'Tops in Bloom'	2	2
'Royalty'	1		'Tures'	4	2
'Rosseau'	4	4	'Vanguard'	2	2
'Rudolph'	2	1	'Weeping		
sargentii	4	2	Candied Apple'	4	3
sargentii 'Rosea'	2	2	'Wynema'	2	3
'Scugog'	1		yunnanensis veitchii	4	4
'Selkirk'	2	2	x. zumi calocarpa	4	4
'Simcoe'	3	4			
'Sissipuk'	1				

1. 3/4 to all fruit fallen
 2. 1/2 to 3/4 fallen
 3. 1/4 to 1/2 fallen
 4. Less than 1/4 fallen

2. 1. 75% to all fruit shriveled or discolored
 2. 50 to 75% fruit shriveled or discolored
 3. 10 to 50% fruit shriveled or discolored
 4. Less than 10% fruit shriveled or discolored

Ratings In Early September For Scab Resistance and Fruit Characteristics of Crabapple Varieties

Variety	Scab Ratings ^z	Fruit Color	Fruit Size	Fruit Quality ^y
'Adams'	2	dark red	1/2"	3
'Albright'	2	purple	3/4"	3
'Almey'	5	red	5/8"	2
'Arctic Dawn'	3	dark red	3/8"	4
'Athabasca'	4	no fruit		
'Barbara Ann'	3	purple	7/8"	2
'Baskatong'	3	purple	1"	2
'Beverly'	2	dark red	1/2"	5
'Bob White'	1	yellow green	1/2"	immature
'Brandywine' ^x	2	yellow/red	1 1/2"	
'Brier'	3	red	1 1/2"	2
'Candied Apple'	2	dark red	3/8"	5
'Cardinal'	3	dark red	1 1/2"	2
'Cashmere'	3	yellow	5/8"	4
'Centurion'	2	bright red	1/2"	5
'Cheal's Crimson'	2	bright red	3/4"	5
'Christmas Holly'	1	dark red	3/8"	5
'Clausen'	4	orange	3/8"	4
'Coralburst'	2	yellow-green	1/4"	immature
'Cowichan'	4	dark red	1"	1
'Dainty'	2	purple	3/8"	2

Variety	Scab Ratings ^z	Fruit Color	Fruit Size	Fruit Quality ^y
'David'	2	bright red	1/2"	5
'Donald Wyman'	2	bright red	3/8"	5
'Ellen Gerhart'	2	no fruit		
'Ellwangeriana'	2	red	1/2"	4
'Flame'	3	red	3/4"	4
floribunda	2	yellow-green	3/8"	immature
'Garry'	2	dark red	3/4"	4
'Harvest Gold'	1	yellow green	3/8"	immature
'Henningi'	2	no fruit		
'Henry F. duPont'	3	dark red	1/2"	3
'Hopa'	4	red	3/4"	3
'Indian Magic'	2	bright red	3/8"	5
'Indian Summer'	2	red	3/8"	5
'Jewelberry'	2	not fruiting		
'John Downie'	2	red	1"	2
'Jubilee'	4	dark red	5/8"	1
'Kelsey'	5	dark red	3/4"	2
'Kibele'	2	purple	1/2"	4
'Klehm's Improved Bechtel' ^x	3	green	1"	immature
'Liset'	2	purple	1/2"	4
'Louise'	3	red	3"	2
'Makamik'	2	red	7/8"	4
'Manbeck Weeper'	2	red	1/4"	4
'Martha Dolgo'	3	red	1"	1
'Mary Potter'	2	dark red	3/8"	5
'Molten Lava'	2	red	1/4"	5
'Namew'	4	light red	1"	1
'Nicolene'	3	dark red	1/2"	4
'Oekonomierat Echtermeyer'	3	red	3/4"	1
'Ormiston Roy'	2	red	3/8"	5
'Patricia'	3	red	1 1/4"	1
'Pink Cascade'	5	dark red	5/8"	3
'Pink Spires'	3	dark red	5/8"	5
'Pink Splendor'	2	dark red	3/4"	4
'Pioneer Scarlet'	3	red	1"	1
'Pixie'	4	dark red	1 1/4"	2
'Prairifire'	2	purple	3/8"	3
'Prairie Maid'	2	no fruit		
'Prairie Rose' ^x	2	no fruit		
'Prince George's' ^x	2	no fruit		
'Professor Sprenger'	1	orange	1/2"	5
'Profusion'	2	dark red	3/8"	3
x. purpurea 'Aldenhagensis'	4	bright red	5/8"	3
x. purpurea 'Lemoinei'	2	dark red	3/4"	3
'Purple Wave'	5	purple	3/4"	2
'Radiant'	4	red	5/8"	4
'Ralph Shay'	2	red	1"	4
'Red Barron'	2	deep red	1/2"	4
'Red Globe'	4	dark red	3/4"	4
'Red Flesh'	4	dark red	2"	2
'Red Heart'	2	purple	1"	3
'Red Jade'	2	bright red	1/2"	5
'Red Jewel'	2	green-red	3/8"	immature
'Red Splendor'	2	red	1/2"	5
'Robinson'	2	dark red	1/2"	3
'Royalty'	3	purple	1/2"	3
'Rosseau'	2	dark red	3/4"	3
'Ruby Lustre'	2	no fruit		
'Rudolph'	2	bright red	1/2"	5

Variety	Scab Ratings ^z	Fruit Color	Fruit Size	Fruit Quality ^y
'Ruth Ann'	2	dark red	1/2"	5
'Scugog'	2	dark red	1 3/4"	2
'Selkirk'	2	bright red	7/8"	5
'Sentinel'	2	bright red	3/8"	5
'Silver Moon'	2	no fruit		
'Simcoe'	2	dark red	1 1/4"	2
'Sissipuk'	2	red yellow	1"	2
'Snowcap'	3	red	3/8"	5
'Snowcloud'	5	no fruit		
'Snowdrift'	2	orange	3/8"	4
'Sparkler'	4	dark red	1/2"	3
'Spring Snow'	2	no fruit		
'Strawberry Parfait'	3	no fruit		
'Strathmore'	3	dark red	3/4"	3
'Sugar Tyme'	2	green-red	1/2"	immature
'Sundog'	2	red	7/8"	3
'Sutherland'	4	purple	1/2"	2
'Tanner'	4	bright red	1/2"	3
'Tops in Bloom'	2	dark red	1 1/2"	2
tschonoskii	2	no fruit		
'Tures'	4	light orange	3/8"	3
'Vanguard'	5	dark red	1/2"	3
'Velvet Pillar'	2	dark red	1/2"	3
'Wabiskaw'	3	red	1"	2
'White Candle'	2	no fruit		
'White Cascade'	2	no fruit		
'Wynema'	3	green	1 1/4"	1
yunnanensis veitchii	2	no fruit		
x. zumi calocarpa	2	red	1/4"	5

^z Scab Ratings:

1. No lesions
2. < 10% defoliation or discolored foliage
3. 10-30% defoliation
4. 30-70% defoliation
5. > 70% defoliation

^y Since varieties differed greatly in age, abundance of fruit could not be compared. Fruit quality ratings reported are based on attractiveness of individual fruit.

1. Poor
3. Average
5. Excellent

^x Extremely susceptible to cedar apple rust.

Crabapples at Hollyhedge Nursery, Farmingdale, NJ

Although we have a variety of crabs in our little nursery, we are phasing out many and looking at new ones. This year we listed only our eight favorites. Two years ago was a "test year" for fire blight, and this year has been a test for scab. No fungicides were used except Bayleton for mildew on understock.

The eight on our 1989 list, our reasons for growing them, and problems we've had are:

Rounded Trees

1. Donald Wyman - Very symmetrical, easy to train, bright red fruit attractive until spring. Had some scab defoliation in the nursery early. Looks good now. No scab in the landscape. Have not had blight on it here.
2. Ralph Shay - Grows somewhat like an apple tree. Brilliant red fruit hangs until spring, when birds peck the seeds out. In past years spots appeared on the foliage in the nursery that we call frog eye. Now we think these were walled-off scab lesions because they lost some foliage from scab in the nursery this year, but not in the landscape. They look good now.
3. Indian Magic - We like it for its bright rose-colored flowers, spectacular persistent fruit, and excellent orange-red fall color, but we have had trouble growing it. Two years ago most of our 1-year trees blighted to the ground, and this year we have had terrible, persistent scab. Trees in the landscape have been unaffected.

Upright Growth

4. Sentinel - The small brilliant red fruits stand out on stiff stems and last until new spring growth in good condition. Less symmetrical than Donald Wyman, but not hard to train. Has been completely free of disease.
5. Red Barron - Brilliant red flowers. Fruit and fall color good but not spectacular. We lost some 1-year trees to blight and have some scab defoliation in the nursery. Usually clean in the landscape.

Weeping Forms

6. Anne E - Excellent bright red fruit which is loved by birds, which strip it when it softens in midwinter. Has some kind of leaf scorch in the nursery every year, but is clean on the job.
7. Janis - Our selection from a batch of Selkirk seedlings. Purple foliage, big early magenta flowers, excellent orange and red fall color. Fruit not as shiny as Selkirk. Would be outstanding if fruit persisted in better condition. Disease free.

Shrub Form

8. sargentii - Has been excellent and free of disease, but we don't think that it is as ornamental as some viburnums of its size class and are phasing it out.

Trees that we have grown and are dropping:

'Adams'	Excellent except for persistent fruit mummies.
'American Beauty'	Scabby. Lacks good fruit.
x. atrosanguinea	Lacks showy fruit.
'Centurion'	Good disease resistance. Fruit not persistent enough. Registered. See Sugar Tyme.
floribunda	Lacks good fruit.
'Harvest Gold'	Some 1-year trees blighted to the ground. Clean on the job. Registered. See Sugar Tyme.
hupehensis	
'Strawberry Parfait'	Fruit not very ornamental.
'Hyslop'	Little call for dual purpose trees. Fruit messy for landscaping.
'Indian Summer'	Excellent fruit, but not persistent enough. Some blighting of terminals and scab in nursery. Clean in the landscape. Pink flowers compete with Red Splendor.
'Jewelberry'	Excellent, disease-free. See earlier comments for sargentii.
'Mary Potter'	Excellent disease-free all-around beauty, but fruit not spectacular enough for us.
'Ormiston Roy'	Excellent tree. We hope Canary will be showier.
'Pink Perfection'	Scabby. Lacks good fruit.
'Prairie Maid'	Somewhat scabby and hard to train. Fruit not very showy.
'Profusion'	Some scab and blight in nursery. Fruit not showy enough.
'Red Jade'	Alternate. We like Anne E better.
'Selkirk'	Disease-free here, but fruit not persistent.
sieboldi zumi calocarpa	Excellent tree, but fruit not as persistent as 'Donald Wyman'.
'Snow Cloud'	Lacks good fruit.
'Snow Magic'	Excellent form and foliage, but lacks persistent fruit.
'Spring Snow'	Very scabby. Lacks fruit.
'Snowdrift'	Excellent tree, but fruit orange-red and not as persistent as 'Donald Wyman'.
'Sugar Tyme'	Excellent fruit, flowers, form, foliage, but the paperwork and embarrassment of losing 40 2-year trees to voles makes complying with patents a nuisance for a small nursery.
tschonoskii	Excellent form and interesting foliage, but has not flowered or fruited.
'Weeping Candied Apple'	Very vigorous, scabby in the nursery. Some scab in the landscape. A good tree, but registered. See Sugar Tyme.
'White Angel'	Diseases minimal, but fruits messy.
'White Cascade'	Disease-free. Excellent pendulous form, but fruits not very showy.

Previously dropped, but now propagating again:

'Prairifire'	Moderate scab in the nursery, and some blight. Clean on the job. Very late red flowers extends impulse buying for garden centers. Good fall color.
'Red Splendor'	Very asymmetrical and hard to train, but has been free of disease in our nursery. Pink flowers and excellent, persistent fruit. Good fall color.

Presently adding:

'Canary'
'Liset'

Trees planted this spring have been clean in the nursery. Have been clean in the nursery for two years.

We are especially interested in trying:

'Adirondack'
'Louisa'
'Molten Lava'
'Naragansett'
'Prairie Maid'

If Adirondack and Naragansett are like the viburnums released by the National Arboretum they will be outstanding.

We are not familiar with Red Jewel or many other new and old varieties, and would like to know how others feel they compare with the varieties we like.

In longevity, pest resistance, and ornamental assets, we think that the new crabs have more to offer than the flowering pears, cherries, peaches, and other small trees. Some white cultivars are almost perfect, lacking only brilliant fall foliage. A lot of selection remains to be done in the pink and red class.

We go for the spectacular trees more than the clean, refined, cultivars because we think it brings more attention to crabs. Some people who never notice any trees notice these.

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