



Classification of Explorer roses

A. Mackenzie

- Samuel Holland
- Cramplain
- Charles Albonel
- David Thompson
- De Montarville
- Frenzenac
- George Vancouver
- Henry Kelsey
- J. P. Connell
- Jens Munk
- John Cabel
- John Davis
- John Franklin
- Lambert Cosse
- Louis Jelliet
- Marie Victorin
- Martin Frobisher
- Nicolas
- Quadea
- Reyel Edwards
- Simon Fraser
- William Biffin
- William Booth

R. Lyket. (no class)

R. Lykesida (no class)

H Rg Hybrid Rugosa

H Rg

Landscape Rose

" "

" "

K ~~H Rg~~ ~~R. Lykesida~~ ~~Hybrid Rugosa~~ ~~(no class)~~

not Koedeni, K

R. Lykesida

H Rg

K

? K

R. Lyket. Shrub

Landscape Rose

" "

" "

H Rg

Landscape Rose

" "

" "

" "

K

Landscape Rose



Articles publ. in Can Rose J. F. Svejda

1968. Breeding hardy roses for Canadian gardens 68: 95-101  
Can

1969. Germination of rose seeds 69: 59-61

1970. Martin Frebichler, & New hybrid Rugosa 70: 59-61

1974. Canadian hybridized roses. 74: 29-34

1977. Breeding new Rosa rugosa hybrids. 77: 29-33.

1983. Charles Albanel and Champaign roses combine  
winterhardiness with recurrent bloom. 83: 20-21

(1995. Rose capades 85 thru essay Can. Rose J. p 25)

1985 Hybridizer's Paul Drummen - Chairman Uetke  
Lover: 38-48. Svejda p 40-41; 95. (No time available  
for lecture 2.)

1989 article reprinted in 75th Annivers. Ed. 1913-1988  
-1988 p. 80-81

1988 Jan S. Djilovic: The Agr. Can. Rose Breeding  
Programme at L'Annapolis, Quebec

---

Articles publ. in Am. Rose J.

1967. Improvement of hardy roses. 52: 132-3

1976. Breeding winterhardy and everblooming roses  
61: 16-22

reprint 1978 Breeding for improvement of flowering attributes  
in winterhardy Rosa laedeani Wneff hybrids.  
63: 83-90. Reprinted from Euphytica

reprint 1979. Banarista, Elmira, London and Sydney  
Rosa rugosa x dissecta hybrids. The Amer. Rose  
Magazine March: 34-35. Reprinted from Euphytica

reprint 1980. Researcher examines hardiness levels. The Amer.  
Rose. Dec. 4-6. Reprinted from Euphytica

1984. Canadian Explorer Roses. 69: 70-82



Canadian Explorer Roses  
Lecture in Stittsville, Apr. 19, 94

① Introductory remarks

~~Hoody~~

The quest for improved winter hardiness in roses in general, Explorer Roses in particular

② Aim of the breeding program - combination of hardiness with recurrent flowering and resistance to important diseases as blackspot and mildew

③ Slide Plant hardiness zones in Canada

<sup>of Fredericton</sup>  
Ottawa 5a, Kapuskasing 2a, Montreal 5b, Kentville 6a  
Hamilton 6b, Sidney 8b, Morden 3b, Quebec City 4b  
Kalebelea Falls, Swift Current, Brooks, Prince George  
3a

④ ~~Classification of roses~~ Flowering habit of Chamyplain rose

⑤ Classification of roses

⑥ History of garden roses

⑦ General Problems encountered in the development of hardy, recurrent flowering and disease resistant roses.

~~Section of~~

Origin and development of parent roses

Source of hardiness and recurrent flowering

Rugosa lupicida Schneebuech (Martin Frobisher, Henry Hudson, Schneebuech x Frau Degussa Keetopp (Jens Munk, David Thompson) Souvenir de Peillemon Codet (Charles Albeanel)

R. kordesii Wulff a new species which arose in cultivation as a result of chromosome doubling of Rex Graf (R. rugosa x R. schwanara) int. 1952 G49, L83 (G49 = 61200001) L83 (K01649)

Simonet lupicida comb. with R. kordesii Kordesii <sup>seed.</sup> Clarke

542 ① Masquerade x R. laxa Peto (John Cabot

545 ② Red Dawn x Supreme seedlings (William Boppie, John Davis, Captain Samuel Holland, Louis Jolliet K. shrub Chamyplain



② ~~Red P.~~ William Baffin L48000 L48 = K01 D15 D15 = D07000  
 John Davis L49000 L49 = K01 D08 D08 = S45000  
 Captain Samuel Holland E18 = L48 U11 D07 = S45000  
 U11 = L25 D25  
 D25 = D07000  
 L25 = K01 D07  
D15

Louis Jolie P03 = L83 E12 L83 = K01 G49  
 E12 = U15 U04 <sup>change</sup>

Alex. Mackenzie A22 = T18 D15 D15 see above  
 U04 = L02 D08  
 L02 = K01 G49

Champlain U04 = L02 D08 see above

③ Red Pinocchio (Farnsworth Hill x R. spin-alt) = S44  
 Henry Kelsey L57 = K01 x D24 D24 = D09000 D09 = S44000  
 John Franklin Lilli Keelene x D10 D10 = S44000

other more complex hybrids

Frontenac N02 N02 = B08 U11 A15 = T18 T11  
 B08 = A15 B36 D36 = S67 <sup>Vaucl.</sup> S53  
 U11 = L25 D25 L25 = K01 D07  
 D25 = D07000  
 S67 = No. 10 dbl. bred

Simon Fraser optic rel. B04 U04 (CHAMPLAIN)  
 B04 = T27 A23 T27 = Bonanza  
 A23 = T11 D15 T11 = Arthur Bell  
 E05 = L43 U04 U04 = Champlain  
 L43 = K01 D08

J.P. Cornell A51 = T11 D17 T11 = Arthur Bell  
 D17 = S53000 S53 = Von Schwanhorst

## R. RUGOSA HYBR.

Slides: Martin Frohman Hedge

Henry Hudson

Jess Munk

David Thompson

Charles Albanel

## CORDESI CLIMBERS

John Coker

William Boffin

John Davis

~~1883~~ → Henry Kelsey

## COMPLEX HYBRIDS

Champlain

John Franklin

Alexander Mackenzie

J. P. Connell

1883

## New Releases (no slides)

Keordenii Climbers

Captain Samuel Holland 1990. (E18)

~~Has been~~

Trailing growth habit. Branches reach 1.8 m in air at Assumption. Flowers freely and recurrently when in full sun and is resistant to mildew and blackspot. Fls. med red, 7 cm across, 23 petals & clusters of 1-10. Tested 5 yrs at Ottawa and another 5 yrs at Assumption and in different parts of Canada. Only slight winter injury as observed and minimal pruning was required in Ottawa and Assumption. Hardy in zone 3.

Originated from a cross between 2 breeding lines, both of which are derived from R. keordenii, Red Danu and Suzanne.



Louis Joliet P03

mt. 1990. Winter hardy climber with trailing growth habit and branches free to 1.2 m in L'Assomption. Flowers almost continuously from June to the end of September when grown in full sun and is resistant to powdery mildew and blackspot.

Fls. med. pink borne in clusters of 3-10, 7cm across 38 petals. Spicy fragrance.

Was tested 2 yrs at Ottawa and another 3 yrs at L'Assomption survived the winters with no protection other than natural snow cover and has shown little or no winter injury. Hardy in zone 3

Originated from a cross between R. hardeni breeding line L83 and a hardy seedling derived from R. hardeni, Red Dawn, Supreme, and Champlain as pollen parent.

Fontenac No2

Upright shrub about 1 m at L'Assomption. mt. in 1992. Extremely floriferous; it is almost completely covered with blossoms during peak bloom in June and continues to flower until the end of September. Resistant to powdery mildew and blackspot.

Fls. deep pink in clusters of up to 8, 8.4 cm across 20 petals.

Tested 5 yrs at Ottawa and a further 5 yrs at L'Assomption survived the winters with natural snow cover and requires only min. pruning of dead wood in Spring. Hardy in zone 3.

Originated from a cross between a breeding line derived from Queen Elizabeth, Anne Bell, and Von Scheenhorst as seed parent and R. hardeni Red Dawn and Supreme as pollen parent

Simon Fraser BOY E05 (offspring, no Ottawa rel. No)  
 into in 1992. Winter-hardy low shrub, upright growth.  
 Height about 0.6 m at St. Anthonie. Blooms  
 continuously from June until the end of  
 September when frost in full sun.

Fls. med. pink, 5 cm across, produced in clusters  
 of 1-4. Single flowers with 5 petals are first produced  
 but later flowers are semidouble with about 22 petals.

Tested 5 years at St. Anthonie and, during that  
 time, needed little or no pruning of seedseed.

Hardy in zone 3.

Originated from a cross of a breeding line derived  
 from Benarosa, Silver Bell, Red Dawn and Anjou  
 and one derived from R. leandrii, Red Dawn, Anjou  
 and Anjouplain.



Sci. codes

- Off Alexander MacKenzie A22 explorer bush
- ✓ Ass Captain Samuel Hallenol E18 Xmover piller
- Off Champlain U04 explorer bush
- Off Charles Albanel G48 " H. my.
- Off Daniel Thomson F01 " "
- ✓ Ass De Montarville E25 St-Benoit-de-Montarville
- ✓ Ass Frontenac N05 X gouverneur sent out expl. parties bush
- ✓ Ass George Vancouver P01 X explorer piller
- Off Henry Hudson F62 " Hys. my.
- Off Henry Kelsey L57 " "
- Off (JP Council) A51 " deputy AC
- Off James Munk F36 explorer
- Off John Cabot L07 " "
- Off John Davis L94 " "
- Off John Franklin A21 " "
- ✓ Ass Lambert Clouet U33 X artist co-founder of ville Marie, foreman of Montreal
- ✓ Ass Denis Jolliet P03 X explorer
- late cell. ✓ Ass Marie Victoria U35 X botanist
- Off Martin Fréchet F06 explorer
- ✓ Ass Nicolas N06 artist
- July 83 ✓ Ass Quadra N01 X explorer
- July 83 ✓ Ass Royal Edwards E22 X naval vessel
- young ✓ Ass Simon Fraser B04 E05 X explorer
- needs in 86 Off William Baffin U05 X " "
- ✓ Ass William Booth E34 Salvation Army

CODES FOR: DE MONTARVILLE E25  
 NICOLAS N06  
 WILLIAM BOOTH E34



## CANADIAN EXPLORER ROSES

By Felicitas Svejda  
Research Station, Agriculture Canada  
Ottawa, Ontario K1A 0C6

*Editor's Note: Many rosarians here in the U. S. have been interested in and followed the progress of Dr. Svejda's breeding program up in Ottawa. There has been much progress and advancement since she started it in 1961 — even to the point where we will soon be able to purchase those hardy offspring. Bev Dobson in her Combined Rose List tells us that one nursery up in New Hampshire already has a listing for Martin Frobisher. There's a special excitement about the dedication of breeders and researchers like Dr. Svejda, our own Dr. Griffith Buck and others, including the amateur hybridizers. They will all continue to meet the challenge of the future, just as they have in the past. We're fortunate to be sharing some of it. Photographs are courtesy of Dr. Svejda.*

Winter hardy and repeatedly flowering roses, developed from the present breeding program at Ottawa, were named in honor of Canadian explorers. The aim of the breeding program is the combination of winter hardiness with free and recurrent flowering, resistance to important diseases, including blackspot and mildew and ornamental features of flowers and shrubs. The improvement of winter hardiness is essential because the present garden roses can be grown in Canada without coverage only in relatively small regions of the Niagara Peninsula and the coast of British Columbia. In all other regions they need coverage to survive. At the Central Experimental Farm in Ottawa only the hardiest garden roses survive in spite of coverage.

Generally, hardy species and cultivars have a short flowering season. The freely and repeatedly flowering garden roses are not hardy. In 1961, at the beginning of this program, it was uncertain if hardy and recurrent flowering roses were available, and also, if hardiness could be combined with the recurrent flowering habit. Since hardiness depends, among other things, on arrested growth, while recurrent flowering depends on continuous growth, it was not known if the two features were reconcilable in one organism. It is still not understood how this is accomplished by the plant organism, but a scrutiny of the list in *Modern Roses* showed that several cultivars combined hardiness with recurrent bloom. Most of these were hybrids of *Rosa rugosa*. The fact that several cultivars had the desired features indicated that the search for hardy and repeatedly flowering roses would not be in vain. Still, the list of suitable parental material was very limited, and therefore, new parent roses would have to be obtained from crosses of distantly related species and cultivars. Two approaches were contemplated. The first involved diploid species and cultivars from *R. rugosa* and *R. chinensis*. The second, tetraploid species and cultivars, including garden roses.

The first plan was followed for eight years and then discarded in favor of the second. The reason for this was two-fold. The first hybrid generation obtained from *R. rugosa* and *R. chinensis* cultivars was sterile. This precluded intercrossing of the new hybrids. They could be used as pollen parents, but the crosses with *chinensis* yielded tender offspring which did not survive the Winter, and the crosses with *rugosa* yielded inferior offspring compared to the ones directly from *rugosa*. In the meantime, hardy seedlings with a desirable character combination had been obtained from tetraploid hybrids. Several of these originated from complex hybrids kindly sent to us by Robert Simonet of South Edmonton, Atla. Others originated from unreduced gametes of the usually sterile *Max Graf*, a hybrid of *R. rugosa* x *wichuraina*. Since the tetraploid seedlings from *Max Graf* had the same origin as *R. kordesii* Wulff, fertile offspring could be expected from these crosses. The offspring from open pollination of the Simonet hybrids could be used as pollen parents with *R. kordesii* and garden roses. The reciprocal crosses were sterile, but there was no serious problem with hybrid sterility as was the case with the *rugosa* x *chinensis* hybrids.

The breeding program with diploid roses yielded five new hybrid



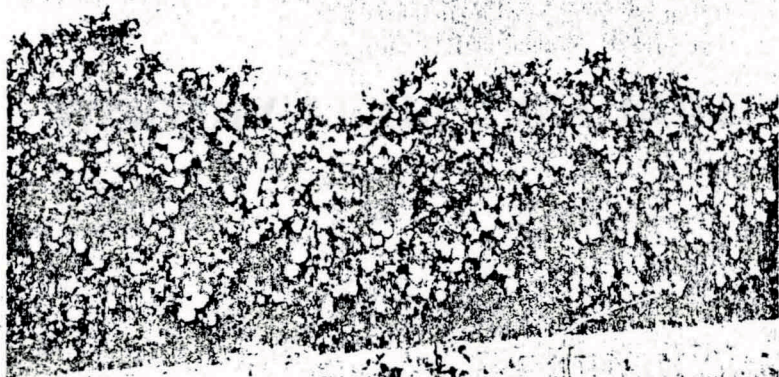
rugosas which were named in commemoration of the explorers: Martin Frobisher, Jens Munk, Henry Hudson, David Thompson and Charles Albnel. Four *rugosa x chinensis* hybrids were released as genetic stock and named *Bonavista*, *Moncton*, *Elmira* and *Sydney*. The *rugosa x chinensis* hybrids were described in *The American Rose Annual* of 1976 and in the March, 1979 issue of *The American Rose Magazine*.

The breeding program with tetraploid roses has produced four cultivars, so far. Two of these are climbers, obtained from *R. kordesii*, and named *John Cabot* and *William Baffin*. The other two were classified as shrub (for want of a better classification) and named *John Franklin* and *Champlain*. *Champlain* could also be classified as *kordesii*, but it is not a climber.

#### HYBRID RUGOSA

*Martin Frobisher* and *Henry Hudson* were obtained from open pollination of *Schneezweg* (*Iceberg*). *Jens Munk* and *David Thompson* were obtained from the cross *Schneezweg x Frau Dagmar Hartopp*. *Charles Albnel* was obtained from *Souvenir de Philemon Cochet* through three cycles of open pollination.

*Martin Frobisher* (Fig. 1) was the first rose named from this breeding program. It was registered in 1968. *Martin Frobisher* has a well-balanced,



The highly blackspot and mildew resistant explorer rose, *Martin Frobisher*.

upright and vigorous shrub with reddish brown bark and no spines on the upper part of the branches. It reaches a height of 1.5-2 m and diameter of 1.5 m in Ottawa. The flowers are soft pink (R.H.S. Color Chart 56A-56D), very fragrant, 4-6 cm across and have about 40 petals. They are borne in clusters of 6-12. *Martin Frobisher* is hardy, flowers freely throughout the Summer until frost and is highly resistant to blackspot and mildew. It can be grown in a border or as an informal hedge.

*Henry Hudson* (Fig. 2) was registered in 1976. It has a well-balanced

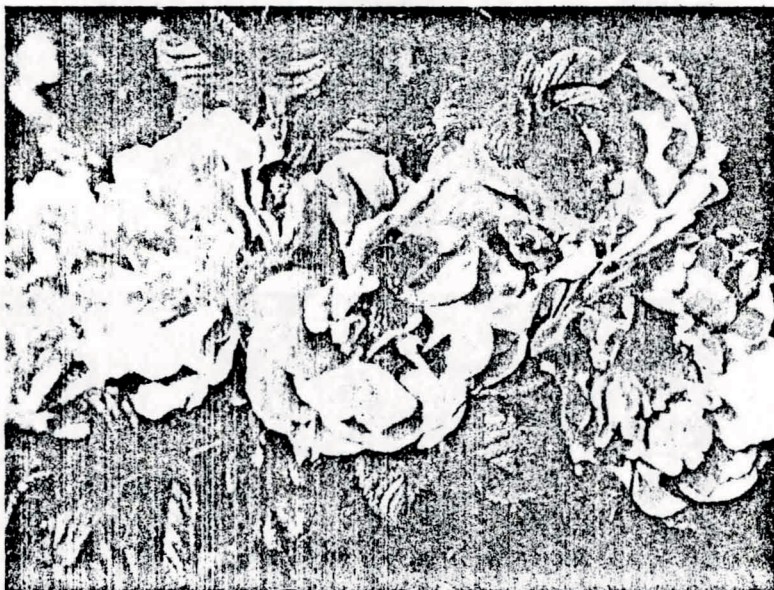


The pink rose, *Henry Hudson*, is resistant to blackspot and mildew.

dwarf shrub with excellent foliage cover, reaching a height of 0.5-0.7 m and a diameter of 1 m in Ottawa. The branches are bristly and prickly. The flowers are regularly formed and show the yellow stamens when open. They are very fragrant, 6-7 cm across and have about 25 petals. The color is white with a pink hue like apple blossoms. The bud is pink (55A). *Henry Hudson* is very hardy, flowers freely and repeatedly and is highly resistant to blackspot and mildew. It can be grown as a bedding plant, low hedge or solitary.



Jens Munk (Fig. 3) was registered in 1976. It has a vigorous shrub with excellent foliage, reaching a height of 1.5-2 m and a diameter of 1.5 m



The vigorous shrub, Jens Munk, with its medium pink blooms.

in Ottawa. The branches are bristly and prickly. The flowers are very fragrant, regularly formed and show the golden stamens when open. They are 6-7 cm across and have about 25 petals. The color is medium pink (73B-73C). *Jens Munk* is very hardy, flowers abundantly in June and July and again in August. In the Fall, it is adorned with flowers and attractive red hips. It is highly resistant to blackspot and mildew. *Jens Munk* can be grown in a border or as an informal hedge.

*David Thompson* (Fig. 4) was registered in 1979. The shrub is medium high with excellent foliage cover. It reaches a height and diameter of 1.2 m in Ottawa. The flowers are very fragrant, medium red (74A), regularly formed, 7 cm across and have about 25 petals. *David Thompson* flowers freely throughout the Summer, is very hardy and highly resistant to blackspot and mildew. It can be grown in a border, informal hedge or solitary.



The medium height shrub David Thompson with its medium red flowers.

*Charles Albanel* (Fig. 5) was registered in 1982. The shrub is spreading, dense and has excellent foliage cover. It reaches a height of 0.3-0.5 m and a diameter of 1 m in Ottawa. The flowers are fragrant, medium red (72B-C) above and a lighter shade (74C) below, 7-9 cm across with about 22 petals. *Charles Albanel* is very hardy, flowers recurrently and is highly resistant to blackspot and mildew. It can be grown as a ground cover.

#### KORDESHI HYBRIDS

*John Cabot* and *William Baffin* were obtained from *R. kordesii* and hardy seedlings of different hybrid origin.

*John Cabot* (Fig. 6) was registered in 1977. It is a climber with vigorous, arching branches, reaching 2.5-3 m in Ottawa. The flowers are medium red (66A-C), slightly fragrant, 7 cm across and have about 40 petals. They are borne in small clusters of 7-10. *John Cabot* flowers profusely in June and July and sporadically in August and September. It is hardy, and the branches can be left on the trellis over the Winter, but in certain years pruning of dead wood is required in Ottawa. It is highly resistant to mildew and has a good field resistance to blackspot.





Above, a closer look at the spreading shrub, Charles Albanel. And below, the medium red climber John Cabot.

*William Baffin* (Fig. 7) was registered in 1983. Like *John Cabot* it has strong arching branches, reaching 2.5-3 m in Ottawa. The flowers are medium red (66A), not fragrant, 6-7 cm across with about 20 petals. They are borne in clusters of up to 30. *William Baffin* showed less winterkill than *John Cabot*. It did not require pruning of dead wood even after ten winters. It is also slightly improved in blackspot resistance to *John Cabot*. Like *John Cabot* it flowers abundantly in June and July and sporadically in August and September.



*William Baffin* with its strong arching branches and medium red blooms.

#### SHRUB ROSES

*John Franklin* was obtained from the floribunda Lilli Marlene and a hardy seedling. Champlain was obtained from a hybrid of *R. kordesii* and a hardy seedling. *John Franklin* (Fig. 8) was registered in 1979. It has a vigorous bushy shrub with excellent foliage cover, reaching a height and diameter of 1.2 m in Ottawa. The flowers are fragrant, symmetrical, medium red (57A-57C), 6 cm across with about 25 petals. They are borne in compound clusters of up to 30. *John Franklin* survives the Winters without coverage but needs regular pruning in Spring. It flowers pro-





The vigorous bushy shrub rose John Franklin with its medium red blooms.

fusely throughout the Summer and early Fall and is resistant to mildew but not to blackspot. It looks good in a border or in mass plantation.

*Champlain* (Fig 9) was registered in 1982. The shrub is vigorous, bushy, with excellent foliage cover, reaching a height and diameter of 1 m in



Another vigorous, bushy shrub, Champlain, with dark red blooms.

Ottawa. The flowers are slightly fragrant, dark red, 5.5-6.5 cm across with about 30 petals. The color is shaded. The petal tip is dark red (53A), the center is medium red (57A), and the base is a lighter shade of medium red (57-D). *Champlain* survives the Winters without coverage but needs regular pruning of dead wood in Spring, like *John Franklin*. It flowers profusely throughout the Summer and Fall until frost. It has good field resistance to mildew but not to blackspot. In Ottawa, it is grown as a bedding rose.

#### TEST RESULTS

Each explorer rose was tested in Ottawa for four to six years and then for two years at locations in different plant hardiness zones across Canada and bordering states of the U.S.A., while the tests in Ottawa were continued. After six years of testing in one location, the mean values were determined and the test was complete, but registered roses remain in the Ottawa trials as standards. The test includes observations on winter-survival, flowering attributes, disease resistance and ratings of ornamental features of flower, foliage and shrub. In the accompanying table, the test results of the explorer roses and parent species or cultivars are shown for winterkill, flowering attributes and disease resistance.

The percentage of winterkill and of diseased foliage is rated on a progressive scale from 1-7, where 1 = 0, 2 = 1-5, 3 = 6-12, 4 = 13-25, 5 = 26-50, 6 = 51-75, and 7 = 76-100%. Winterkill is rated after bud-break in Spring, and diseases are rated four to five weeks after the last spray with fungicides during the last week in August or the first week in September. When necessary, the ratings of diseases are repeated. Flowering is rated in weekly intervals during a 16-week period from early June until the end of September. Flower production is rated similarly to winterkill but on a scale from 1-6, where 1 = 1-5% and 6 = 76-100% coverage with flowers.

The multiple range test indicates which means are statistically different, i. e., where the differences between means exceed the chance variation.

**Winter-survival:** The hardiest explorer roses were *Jens Munk*, *Charles Albanel*, *Henry Hudson* and *David Thompson*. These roses were comparable in the rate of winter-survival to *Frau Dagmar Hartopp*, the hardiest parent roses, from which *Jens Munk* and *David Thompson* were derived. *Charles Albanel* and *Henry Hudson* were improved in winter-survival to their parents, *Souvenir de Philemon Cochet* and *Schneezweg*.



*John Cabot* and *William Baffin* were hardier than their common parent *R. kordesii* and reached the hardiness level of the rugosa hybrids, *Souvenir de Philemon Cochet* and *Schneezweg*. *John Franklin* and *Champlain* were the least hardy among the explorer roses, but considerably improved over tender roses, such as the floribunda *Lilli Marlene*. The test results showed comparable hardiness levels for *John Franklin*, *Champlain* and *R. kordesii*, but the trailing growth of *R. kordesii* ensures a protective snow cover in most years, while the bushes of *John Franklin* and *Champlain* reach above the snow.

**Flowering Period.** *John Franklin*, *Champlain* and *Henry Hudson* had the longest flowering period with 14 out of a possible 16 weeks. *John Cabot* and *William Baffin* flowered 3.5 and 4.5 weeks longer than *R. kordesii*. *Martin Frobisher*, *Henry Hudson*, *Jens Munk* and *David Thompson* flowered one to two weeks longer than *Schneezweg*. *Charles Albnel* was comparable in this respect to its progenitor, *Souvenir de Philemon Cochet*.

**Flower Production.** *Champlain* exceeded every other rose in the test in flower production. The new rugosa hybrids flowered more freely than *Frau Dagmar Hartopp*, but they were comparable in this respect to *Schneezweg*. *John Cabot* and *William Baffin* were comparable to *R. kordesii* in flower production.

**Blackspot Resistance.** Most rugosa hybrids are highly resistant to blackspot, and the new additions are no exception. Laboratory tests indicated that *Jens Munk* was immune to disease. The spores of the pathogen germinated on the foliage but were unable to penetrate the cuticula. *Martin Frobisher* was not susceptible to isolates obtained from garden roses, and the isolates from *Martin Frobisher* failed to cause symptoms on garden roses. It was concluded, therefore, that the isolate from *Martin Frobisher* was a different race to the one which caused symptoms on garden roses. *John Cabot* and *William Baffin* showed less infection in the field trials than *R. kordesii*. *John Franklin* and *Champlain* had some field resistance but showed higher levels of infection than *R. kordesii*.

**Mildew Resistance.** All roses in the test were highly resistant to mildew, but *Frau Dagmar Hartopp* and *David Thompson* showed slightly higher levels of infection than the other roses.

#### SUMMARY

The explorer roses of the hybrid rugosa class combine high levels of

hardiness and disease resistance with repeated and free flowering. The climbing *Kordesii*, *John Cabot* and *William Baffin* are considerable improved in Winter survival, disease resistance and length of flowering over *R. kordesii*. The shrub roses *John Franklin* and *Champlain* excel in flower production over a long flowering period.

Each explorer rose has distinctive features. The low, spreading growth of *Charles Albnel* makes it suitable as a ground cover. *Henry Hudson* has an attractive dwarf shrub and white flowers with a pink hue. *David Thompson* has attractive red flowers and a medium high shrub. *Jens Munk* produces sparkling red hips and flowers in the Fall. *Martin Frobisher* is one of the few rugosa hybrids which has no spines on the upper part of the branches. *John Cabot* has attractive medium red flowers of a magenta shade and a vigorous growth which compensates soon for sustained injury. *William Baffin* produces large clusters of up to 30 flowers. *John Franklin* has regularly formed, medium red flowers which are produced freely throughout the Summer. *Champlain* has an attractive dark red flowers which are produced in profusion throughout the Summer and Fall. *John Franklin* and *Champlain* are comparable in flowering habit to the most productive floribunda, but they are considerably improved in hardiness. No floribunda rose survives the Ottawa winters without coverage, and even with coverage, many plants are lost each Winter and have to be replaced. *John Franklin* and *Champlain* survived even severe Winters without earth mounds.

All roses in the breeding program are grown on their own roots. Since the explorer roses were not selected from budded plants, they produce vigorous shoots from their own roots. This eliminates the extra labor for removing the shoots which grow from the understock. The explorer roses were also selected for easy propagation from softwood cuttings and root easily.

This method of propagation would greatly facilitate the commercial production of rosebushes. Saleable plants can be produced in one year from Spring plant cuttings. *Jens Munk* produced 95% of grade No. 1 plants. *John Franklin* produced 52% of grade No. 1 and 38% of grade No. 1½ plants. And a climber related to *John Cabot* and *William Baffin* produced 100% of grade No. 1 plants.

The explorer roses can be purchased from Canadian nurseries and will be available in two to three years in the U.S.A. Lists of nurseries which



sell these roses are available from Public Inquiries, Agriculture Canada, Central Exp. Farm, Ottawa, Ontario K1A 0C5 or from the author.

### TEST RESULTS FROM EXPLORER ROSES AND PARENT CULTIVARS

Cultivar or species	Years tested	Winterkill %	Flowering period June-Sept. weeks	Production % coverage	Infected Foliage	
					Blackspot %	Mildew %
<u>Hybrid Rugosa</u>						
Martin Frobisher	22	10 bc <sup>1)</sup>	13.0 b	15 cd	3 d	2 ab
Henry Hudson	14	5 cd	14.0 a	16 cd	0 d	2 ab
Jens Munk	17	3 d	13.0 b	13 cd	0 d	3 ab
David Thompson	13	7 cd	13.5 ab	16 cd	0 d	5 a
Charles Albanel	13	4 d	12.0 c	11 dc	1 d	0 b
Schncezwerg	12	9 bc	12.0 c	15 cd	0 d	0 b
Frau Dagmar Hartopp	5	4 d	9.5 e	8 e	0 d	6 a
Souv.Phil. Cochet	9	16 b	11.5 cd	11 de	0 d	4 ab
<u>Kordesii</u>						
John Cabot	14	16 b	11.0 d	19 bc	9 c	0 b
William Baffin	8	10 bc	12.0 c	19 bc	3 d	0 b
<i>R. kordesii</i> Wulff	17	30 a	7.5 f	22 b	16 b	3 ab
<u>Shrub</u>						
John Franklin	11	50 a	14.0 a	20 b	28 a	0 b
Champlain	10	48 a	14.0 a	35 a	25 a	2 ab
Lilli Marlene, <sup>2</sup>	6	-	12.0 c	-	-	-

1) Means in columns followed by the same letter(s) are not significantly different at P = 0.05, determined by Duncan's multiple range test.

2) The floribunda Lilli Marlene does not survive the winters in Ottawa without coverage. Notes were obtained from plants grown in the greenhouse.

## WITCHES' BROOM: A NEW OUTBREAK IN SEVERAL CENTRAL STATES

F.J. Crowe, Assistant Professor  
Extension Plant Pathologist  
Kansas State University, Manhattan 66506

*Editor's Note: Perhaps Witches' Broom is not a problem in your area, but certainly it is a problem in some. Will it spread? Dr. F.J. Crowe, Plant Pathologist at Kansas Agricultural Experiment Station in Manhattan, Kansas, gives us some of their findings in this piece published by the American Phytopathological Society in 1983.*

Rosette or witches' broom of rose (*Rosa* spp.) was reported from various wild rose species in 1941 from Manitoba (2), Wyoming and northeastern California (4), in 1961 from Nebraska (5), and again in 1970 from northeastern California (6). It was reported a second time from Manitoba and Nebraska in 1968 (1). Disease symptoms were extensive from 1957 through 1960 among cultivated rose hybrids and *Rosa multiflora* planted in a common breeding trial at North Platte, NE and in *R. multiflora* hedge plantings in rural areas near the Platte and Dismal rivers in Nebraska



ITEM

PUBLICATION The Fredericton Daily Gleaner  
DATE Friday July 3, 1998  
PAGE A12

HEADLINE: Explorer roses thrive in Maritime climate

The delicate beauty of roses makes it easy to believe that they might be difficult to grow, especially for a hobby gardener who is faced with the challenge of cultivating plants in a climate with short summers and long, harsh winters.

But luckily for Maritimers, there are many different types and varieties of hardy roses that survive and thrive in such conditions, without winter protection and with a minimum amount of maintenance during the growing season.

The best to choose from all belong to a popular new Canadian series called the "Explorer" roses.

These tough and rugged varieties have been named in honor of the hardy men who tackled the challenges of exploring Canada several centuries ago. The research and breeding work that has been done to \*\* produce them was carried out by rose experts at Agriculture Canada.

Nineteen varieties have been released to date and they include interesting forms that range from climbers to groundcover types and shrubs, all of which can survive winter temperatures as low as -40 degrees Celsius.

Climbing Explorers

There is nothing more striking than a rose climbing over an arbor or clinging to a trellis against the wall of a home or garden shed. "John Cabot" was the first climbing Explorer to be developed and was released in 1978. It has red flowers that appear as waves of fragrance all summer long.

The plant has excellent disease resistance and will produce canes that grow to 1.8 metres in height.

"Henry Kelsey" was released in 1984 and was named after an explorer who served the Hudson's Bay Company for 40 years, journeying across the Prairie Provinces between 1690 and 1692.

This rose produces a profusion of red blossoms in clusters along arching canes that can grow to heights of 2.4 metres.

A "Henry Kelsey" rose is highly resistant to powdery mildew (a fungal disease that

leaves unsightly circles of powdery white on the plant's leaves).

But it is not completely immune to blackspot (another fungal disease that first appears as small black spots on the leaves, but can be followed by leaf yellowing and eventual defoliation of the plant).

Both "John Cabot" and "Henry Kelsey" roses can be left on their trellises over the winter without serious damage, although it is a good idea to cover the base of the plants with evergreen boughs, late in the fall, to give a bit of protection to their roots.

A ground cover Explorer

A white rose is perfect for any spot in the garden so it's fortunate that there is a white Explorer to choose from.

"Henry Hudson" was introduced in 1976, taking the name of the European explorer who first sailed into Hudson's Bay in 1610, searching for the Northwest Passage.

Hudson and his crew perished, but a rose now carries his legend throughout the country.

The plant is a *Rosa rugosa* cultivar and has characteristic wrinkled leaves and large, double, richly scented white blossoms that continue to appear from early summer until frost.

It is a low grower, reaching heights of just 60 cm, making it a good ground cover choice for planting near a foundation or in front of another shrub that has a taller habit.

Finished flowers tend to cling to the plant, however, so they should be removed regularly to keep the bush neat and tidy. Shrub Explorers

"Jens Munk" is a pink Explorer and was the second rose in the series. It was released in 1974, named after the Norwegian explorer who also came to Canada searching, unsuccessfully, for the Northwest Passage in 1619. This rose is one of the hardiest ever created and produces flushes of bright pink, spicy scented blossoms in both the spring and fall.

The plant has tremendous resistance to blackspot and powdery mildew and will quickly grow to a height of 1.8 meters, making it a good choice for a hedge.

A compact rosebush that is suitable for planting in a bed with flowering annuals or perennials is the "John Franklin" Explorer. This attractive variety was released in 1980, named after a British naval officer who spent much of his career charting Canada's Arctic coast.

He died aboard his icebound ship, in 1847, while attempting to be yet another "first" to



sail the Northwest Passage. His namesake rose has large clusters of everblooming, raspberry red flowers that are lightly scented and fringed on their edges, much like a carnation.

Other red blooming Explorer roses that will flower from spring until fall, include "David Thompson" (a Canadian fur trader and mapmaker), "Champlain" (a cartographer and Father of New France), "Alexander MacKenzie" (discoverer of the MacKenzie River) and "William Baffin" (who discovered Lancaster Sound, the entrance to the Northwest Passage, in 1616).

Each of these roses represents not only a success in breeding for hardiness and vigor, but a celebration of Canadian heritage.

SEARCH TERMS AGRICULTURE; THE; CANADA;

\*\*\* END OF STORY\*\*\*