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Evaluation of the Performance of Heritage and Modern Roses

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Evaluation of the Performance of Heritage and Modern Roses

Introduction

The present research efforts on landscape roses began in June 1982, with the establishment of a small, eight-bed garden on the Mississippi State University campus. A patron of the University requested the research for the people of Mississippi because of the importance of the roses in home gardens (75% of all homes have roses), the commercial production of roses within the state, the volume of sales by garden and nursery centers, and the often devastating effects of the rose disease, blackspot. The patron's financial assistance encouraged the administration to include this research into the ongoing program on diseases of ornamental plants.

In June 1985, plans were developed to relocate the garden from the main campus to the Plant Science Research Center located north of the main campus. The increased size of the garden permitted establishment of 48 beds containing 1,330 plants. The planting included floribundas, grandifloras, hybrid teas, miniatures and old garden (heritage) roses.

Twenty-one classes of heritage roses have been grown there. The 13 beds accommodated 110-134 heritage rose plants at a given time.

Thirty-one beds (968 plants) were planted with floribundas, grandifloras and hybrid teas. Four beds were planted with miniature roses.

The performance of 185 modern roses and 121 heritage roses are presented in Tables 1 and 2, respectively.

Garden Development

The garden site was selected by an official of the Mississippi Agricultural and Forestry Experiment Station, and a landscape architect drew the overall design of the area. Unfortunately, we were unaware that the area contained calcium particle deposits, which contributed to very high pH values in many beds. The location provided a beautiful view of the garden and surrounding area, but it was on a hill exposed to all wind directions and without any shade.

These factors affected the performance of many plants. Soil chemicals were applied to help ameliorate the detrimental effects of the high pH values. Nothing could be done to protect the garden from the hot and cold winds and the intense sun effects of a long summer day.

Nearly all beds were constructed with internal drainage, structural perimeter limits, and were raised. The rooting medium consisted of a mixture of sand, soil, and either peat moss or ground pine bark (< %-inch). Automatic irrigation was installed in each bed and was controlled by two timing devices.

The first plants were set in the garden in February 1986. The last plantings were made in February 1990. Plants that died or performed poorly were replaced with other cultivars.

Culture

Plants were sprayed at irregular intervals for disease, insect, and mite control. Benlate® (benomyl), Daconil 2787® (chlorothalonil), and Funginex® (triforine) were alternately used for disease control. Sevin® (carbaryl) was used for chewing insects, and Orthene® (acephate) and Mavrik® (fluvalinate) were used for other insects. Kelthane® (dicofol), Avid® (avermectin), and Vendex® (hexakis) were used for mite control.

Nitrogen was applied as ammonium nitrate (NH₄NO₃) or ammonium sulphate ([NH₄]₂ SO₄) depending on the pH of the individual bed soil. Sul-Po-Mag and sulfur were occasionally applied to the high pH soils. Iron chelate was applied to the foliage of certain plants at irregular intervals to help ease the nutritional stress imposed by the high pH in some soils. Limestone (80-90% CaCo₃) was applied to soils of low pH to moderate that disadvantage. Applications of materials were based on recommendations obtained from regular soil tests.

All plants were "heeled-in" above the "bud-union" with bark as winter approached. The material was removed from the plants in early March. All necessary pruning of modern roses occurred in mid-February and the tallest plants were cut back moderately in the fall to reduce "wind-rock" effects. Heritage roses generally were pruned only to remove dead canes or to maintain them within the allotted growing space.

The automatic watering system was set only for beneficial effects under the prevailing weather system that dictated the needs of the plants.

Environmental temperatures during the life of many plants ranged from 38.9°C to -17.2°C .

Evaluation

Certain characteristics (class, color, and petal count) (2) of modern roses are given in Table 1 for the benefit of rosarians with less experience with roses than that of long-time rosarians. Class and color designations are also given for the heritage roses in Table 2. The classes of modern roses are abbreviated as: F = floribunda, GR = grandiflora, and HT = hybrid tea. Classes of heritage roses are spelled out as: Alba, Bourbon, Centifolia, etc. since they may be less familiar to many rose growers.

Designations for color follow that of the American Rose Society Color classification: W = white, near white, and white blend; LY = light yellow, MY = medium yellow, DY = deep yellow, and YB = yellow blend; AB = apricot and apricot blend; OB = orange and orange blend, O-P = orange-pink, and O-R = orange-red; LP = light pink, MP = medium pink, PB = pink blend, and DP = deep pink; DR = dark red, MR = medium red, and RB = red blend; and M = mauve and mauve blend.

The American Rose Society's National Rose Ratings (1) are given when available. The author's evaluation ratings (based on the National Rose Rating system) of the roses are given in the same table column for comparison. Site-influenced plant expressions may easily affect the rating. The beauty and performance scales are presented as they registered with the visual acumen of the author.

Modern roses that were All-American Rose Selections Winners are so designated by an asterisk in front of the cultivar name.

The degrees of fragrance are presented as they

registered with the olfactory sensitivity of the author. Designations for aroma are listed as f = slight fragrance, ff = moderate fragrance, and fff = strong fragrance.

The susceptibility of cultivars to blackspot disease caused by $Marssonina\ rosae\ (Lib.)$ Died. is presented as the approximate percentage of plant leaves affected: 0= no blackspot symptoms, 1=1-15% of plant leaves affected, 2=16-25%, 3=26-40%, and 4= over 40% of plant leaves affected. When information was not available in the resource information searched, the symbol, -, was used. The symbol, ?f, was used when data for fragrance were not determined by the author. The symbol, ?, was used when other data were not determined.

Generally, there were four replications of each cultivar of the modern roses. Some cultivars had 10 replications because of available plants and space. There was only one plant of each heritage rose due to plant size, space limitation and cost.

Ratings of rose cultivars were made at different seasons of the year and over an unspecified number of years.

Literature Cited

- 1. Handbook for Selecting Roses. 1992. The American Rose Society. P.O. Box 30000. Shreveport, LA 71130-0030.
- 2. Modern Roses 9. 1986. The American Rose Society. P.O. Box 30000. Shreveport, LA 71130-0030.

Table 1. Evaluation of 185 cultivars of modern roses at the MAFES Disease Research Rose Garden.

				Petal	B.S.	Garden	rating	i ·
Variety	~	Classa	$\mathbf{Color^b}$		rating ^c	RRS	JAS	General Commentse
Alabama Alec's Red		HT HT	PB MR	25 45	3.0	7.3 7.5	7.6 8.0	ff, great buds, nice flowers, nice color, sparse, died fff, great buds, great flowers,
								nice color, productive, vigorous, hardy, heat sensitive flowers
*Amber Queen		F	AB	40	2.5	7.5	7.5	?fg, nice buds, nice flowers, great color, productive, died
American Pride		HT	DR	33	3.0	6.5	6.5	?f, nice buds, fair flowers sparse, vigorous, discarded
American Spirit		HT	MR	30	3.0	7.4	7.0	f, small flowers, lacks form sparse, good repeat, vigorous mildews
Americana		НТ	MR	28	3.0	6.4	6.6	ff, nice bud, fair flowers, produc tive, fair repeat, vigorous
*Angel Face		F	M	30	3.0	8.2	8.1	fff, nice buds, great flowers great color, productive, good repeat, hardy, heat sensitive flowers, very nice plant
Anna Pavlova		НТ	LP	_h	2.5	_	7.7	ff, nice buds, great flowers, nic color, productive, heat sensitiv flowers
Antiqua		НТ	AB	40	3.0	6.6	6.4	f, nice buds, nice flowers, nice color, productive, nonhard plant
*Apricot Nectar		F	AB	70	3.0	8.0	7.6	ff, flowers are soon ragged, nic color, slow repeat, vigorou hardy, heat sensitive flowers
Arkansas		НТ	O-R	48	2.5	6.7	7.1	ff, great buds, nice flowers, nic color, good repeat, long stem vigorous, hardy
Asso di Cuori		HT	DR	30	2.0	7.6	7.6	ff, nice buds, nice flowers, nice color, productive, vigorous
Baby Talk		F	MP	26	2.5	7.5	7.2	ff, great buds, nice flowers, nic color, productive, weak plan died
Bambey		НТ	MR	60	2.5	-	7.4	ff, nice flowers, nice color, slo productivity, long sten vigorous
Betty Prior		F	MP	5	2.0	8.0	8.0	ff, great flowers, nice colo productive, good repea vigorous, hardy, heat toleras flowers, very nice plants
Bienvenu		GR	OB	70	2.5	_	6.9	fff, nice buds, flowers lose form sparse, weak stems, vigorou hardy

Table 1. continued

			Petal	B.S.	Garden	rating ^d	
Variety	Classa	$\mathbf{Color^b}$		rating ^c	RRS	JAS	General Comments ^e
Big Apple	HT	MR	40	3.0	6.5	6.3	ff, large flowers, poor produc- tion, poor repeat, poor perfor- mance, non-vigorous, heat sensitive flowers
*Bing Crosby	нт	OB	45	3.0	6.5	6.5	f, nice buds, nice flowers, poor production, non-vigorous, heat sensitive flowers
Blue Heaven	нт	M	-	3.0	6.5	6.5	fff, nice buds, nice color, poor production, non vigorous, heat sensitive flowers
Blue Moon	НТ	M	40	2.5	6.9	7.2	fff, great buds, nice flowers, sparse, vigorous, heat sensitive flowers
Blue Nile	HT	M	2 8	3.0	7.1	6.8	fff, nice flowers, nice color, fair repeat, vigorous, hardy, heat sensitive flowers
Blue Skies	НТ	M	30	2.0	6.5	6.0	ff, nice buds, poor development, poor productivity, heat sensi- tive, some died, others dis- carded
Bobby Charlton	HT	PB	38	_	7.0	?	ff, nice buds, nice flowers, poor productivity, non-vigorous, died
*Brandy	НТ	AB	28	3.0	7.1	7.4	f, great buds and flowers, fair production, fair repeat vigorous, fair hardiness, heat sensitive flowers
Bride's Dream	HT	LP	32	2.5	7.7	8.2	f, great buds and flowers productive, long stems vigorous, very nice plant
*Broadway	HT	YB	35	2.5	7.1	7.0	ff, nice buds, flowers soon ragged, fair repeat, hardy, heat sensitive flowers
Burgund	нт	DR	30	2.5	_	6.7	fff, nice buds, nice color, fair productivity, good vigor
*Camelot	GR	O-P	48	3.5	7.5	7.7	ff, good flowers, productive, fair repeat, vigorous, hardy, hear sensitive flowers
Canadian White Star	НТ	W	43	2.5	6.5	5.9	f, small buds and flowers sparse, unimpressive, fair repeat, vigorous
Captain Harry Stebbins	HT	DP	43	2.5	8.0	7.7	fff, nice buds and flowers productive, good repeat vigorous, hardy

Table 1. continued

			Petal	B.S.	Garden	rating ^d	
Variety	Classa	$\mathbf{Color^b}$		rating ^c	RRS	JAS	General Comments ^e
Caramel Creme	НТ	MY	30	2.5	6.3	6.3	?f, nice buds, great color, fair flowers, weak necks, short stems, slow repeat, not hardy
Carrousel	GR	MR	20	3.0	7.0	7.2	ff, good flowers, productive, fair repeat, vigorous, hardy, heat sensitive flowers
Celebrity	HT	DY	30-35	2.5	7.4	7.5	ff, nice buds, opens fast, nice color, fades, fair productivity, vigorous
Century Two	HT	MP		3.0	8.3	8.0	ff, great buds, nice blooms, great color, sparse, vigorous
Chablis	HT	W	40+	3.0	7.1	7.0	f, nice buds, high center, large flowers, weak color, fair stems, weak necks, vigorous
*Charisma	F	RB	40	4.0	7.6	6.7	f, nice buds, fair flowers, productive, vigorous, heat sensitive flowers
Cheshire Life	HT	OB	36	2.0	-	6.8	f, fair blooms, sparse, poor repeat, hardy, heat sensitive flowers
Chicago Peace	HT	'PB	50-60	3.0	8.2	8.0	f, great buds and flowers, fair productivity and repeat vigorous, hardy, heat sensitive flowers
*Christian Dior	HT	MR	55	2.0	7.0	7.0	f, nice buds and flowers, sparse slow repeat, vigorous, hardy
*Chrysler Imperial	НТ	DR	45	2.0	8.5	8.0	fff, great buds and flowers, fair productivity, vigorous, non hardy plant
City of Leeds	F	PB	19	2.0	7.5	7.0	f, great buds, productive, unim pressive otherwise, vigorous
*Command Performance	HT	OP	20	2.0	7.1	7.2	ff, nice buds, fair flowers and productivity, vigorous, hardy
Confidence	HT	PB	34	2.5	7.6	7.5	ff, nice buds, fair productivity vigorous, died
Coral Destiny	HT	MP	35	3.0	_	7.5	ff, nice buds and flowers, sparse vigorous, hardy, heat sensitive flowers
Corpus Christi	HT	DR	35	3.0	7.3	7.3	?f, nice buds, fair blooms, poo form, sparse, slow repeat, hea sensitive flowers

Table 1. continued

			Petal	B.S.	Garden	rating	d
Variety	Classa	$\mathbf{Color^b}$		rating ^c	RRS	JAS	General Commentse
Cynthia	НТ	DP	35	2.5	7.0	7.8	ff, great buds and flowers, productive, good repeat, vigorous, hardy, heat sensitive flowers
Dainty Bess	HT	LP	5	2.0	8.8	8.8	ff, great flowers, productive, good repeat, hardy, very nice plant
Deep Secret	НТ	DR	40	2.0	7.5	7.3	ff, nice buds, good flowers, fair productivity, good repeat, vigorous, hardy, heat sensitive flowers
Die Welt	НТ	OB	25	2.5	6.8	6.2	f, nice buds and flowers, sparse, poor repeat, vigorous, hardy, heat sensitive flowers
Dolly Parton	НТ	O-R	35	2.5	7.2	7.0	fff, great buds, nice flowers, fair productivity, weak necks, poor vigor, mildews
*Double Delight	HT	RB	40	2.5	8.8	9.0	ff, great buds and flowers, good productivity and repeat, vigorous, hardy, very nice plant
Double Talk	F	RB	48	2.5	7.6	7.3	f, nice buds, small flowers, productive, slow repeat, hardy
Dublin	HT	MR	35	3.0	7.4	7.2	ff, nice buds, nice color, sparse, slow repeat
*Duet	HT	MP	30	2.0	7.9	7.6	f, great buds and flowers, productive, good repeat, vigorous
*Electron	нт	DP	32	3.0	7.9	7.8	fff, great buds and flowers productive, good repeat, long stems, vigorous, hardy, heat sensitive flowers, very nice plant
Elina	HT	LY	35	2.0	8.2	8.5	ff, great buds and flowers productive, long stems, good repeat, vigorous, hardy, very nice plants
*Europeana	F	DR	_	2.5	9.0	8.5	f, great buds, nice flowers productive, fair repeat vigorous, hardy
Eutin	F	DR		2.5	6.7	6.4	f, nice buds and flowers, produc tive, fair repeat, vigorous, hardy
Evening Star	F	W	36	2.5	8.1	8.0	ff, great buds, nice flowers productive, good repeat vigorous, nonhardy plant, hea sensitive flowers

Table 1. continued

			Petal	B.S.	Garden	rating	1
Variety -	Classa	$\mathbf{Color^b}$		rating ^c	RRS	JAS	General Comments ^e
Eyepaint	F	RB	5-6	1.5	8.0	7.8	f, nice buds, attractive flowers, fair productivity, good repeat, vigorous, "leggy" plant
Fascination	нт	O-P	55	3.0	7.0	6.8	f, nice buds and color, fair flow- ers, fair productivity and repeat, heat sensitive flowers, may "ball" in cool weather
*First Edition	F	O-P	28	2.5	8.5	7.6	f, nice buds, poor productivity fair repeat, poor growth, heat sensitive flowers
*First Prize	HT	PB	30	2.0	8.9	8.3	ff, great buds, nice flowers, fair productivity, slow repeat, hear sensitive flowers
*Floradora	F	O-R	25	2.5	6.7	6.5	f, great buds, nice flowers, great color, fair productivity, died
Folklore	HT	ОВ	44	2.0	8.5	8.5	fff, great buds and flowers productive, good repeat, hardy very nice plant
Fragrant Cloud	HT	O-R	28	2.0	8.0	8.0	fff, great buds, nice flowers productive, vigorous, heat sensitive flowers
*French Lace	F	*W	30	2.0	7.6	7.4	ff, great buds, nice flowers sparse, good repeat, poor growth, nonhardy
*Friendship	HT	DP	28	2.0	7.0	7.0	fff, nice buds and flowers sparse, slow repeat, poor growt
Funkuhr	НТ	YB	35	3.0	7.3	7.6	?f, great buds and flowers, poo growth, died
*Garden Party	HT	W	28	3.0	8.5	8.5	ff, great buds and flowers productive, fair repeat vigorous, hardy, very nice plan
*Gene Boerner	F	MP	35	2.0	8.6	8.0	f, good buds and flowers, fai productivity and repeat vigorous, hardy
Ginger	F	O-R	28	3.0	7.8	7.8	ff, great bud and flower productive, good repea vigorous, hardy
Gingersnap	F	ОВ	35	3.0	7.7	7.0	f, great buds and flowers, di not adapt, died
Gitte	HT	AB	33	3.0	7.5	7.2	ff, nice buds and flowers, poor productivity, slow repeat, poor growth

Table 1. continued

			Petal	B.S.	Garden	rating	1
Variety	Classa	$\mathbf{Color^b}$	count	rating ^c	RRS	JAS	General Comments ^e
Gold Medal	GR	MY	38	3.0	8.0	8.2	f, great buds and flowers, fair productivity and repeat, good growth, hardy, heat sensitive flowers
Graceland	HT	MY	30-35	3.0	7.4	7.0	f, nice bud, poor flowers, weak productivity, weak stems, dis- carded
*Granada	НТ	RB	23	2.0	8.4	8.5	ff, great buds, nice flowers, productive, good repeat, vigorous, hardy, heat sensitive flowers, very nice plant
Grand Masterpiece	НТ	DR		2.0	7.0	6.7	f, great buds, nice flowers, very few flowers on long canes, poor repeat, hardy, discarded
Half Time	НТ	RB	40	2.5	6.5	6.5	ff, nice buds and flowers, sparse, slow repeat, lacks vigor, not adapted
Happy Talk	F	MR	35	2.5	7.5	7.8	f, great buds, nice flowers, very productive, fast repeat, vigorous, hardy, heat sensitive flowers
Houston	HT	DY	38	2.5	6.0	?	ff, nice buds and flowers, poor productivity, poor growth, died
Iceberg	F	W	30	3.0	8.7	8.7	f, great flowers, productive, good repeat, vigorous, hardy, very nice plant
*Impatient	F	O-R	35	3.0	7.8	8.0	f, nice flowers, great color productive, good repeat vigorous, hardy, heat sensitive flowers, very nice plant
Ingrid Bergman	НТ	DR	35	2.5	7.4	7.7	f, great buds, flowers and color productive, good repeat, fair growth, hardy
*Intrigue	F	M	20	2.5	7.1	6.3	ff, nice flowers, great color sparse, poor vigor, heat sensi tive flowers
Ivory Tower	HT	W	35	2.5	7.5	7.8	ff, great buds and flowers productive, good repeat vigorous, hardy, heat sensitive flowers, nice plant
Jadis	HT	MP	-	3.0	7.0	7.3	fff, nice buds and flowers, long stems, sparse, slow repeat vigorous
John Waterer	HT	DR	44	2.5	7.5	7.3	ff, nice buds, great color, sparse slow recycle, slow grower, hardy

Table 1. continued

			Petal	B.S.	Garden	rating	rd
Variety -	Classa	$\mathbf{Color^b}$	-	rating ^c	RRS	JAS	General Comments ^e
Just Joey	НТ	AB	30	3.0	8.0	7.8	ff, great buds, flowers and color, sparse, fair recycle, nonhardy plant
Keepsake	HT	PB	40	3.0	7.5	7.5	ff, great buds, flowers and color, poor productivity and repeat, poor growth, did not adapt, died
Kings Ransom	НТ	DY	38	2.5	6.5	6.5	ff, great buds and color, sparse, slow repeat, vigorous, hardy, discarded
Kölner Karneval	НТ	M	40	2.5	6.4	6.7	fff, great buds, flowers and color, sparse, slow repeat, hardy, heat sensitive flowers
Kordes Perfecta	НТ	PB	68	2.5	6.5	6.0	f, flowers open poorly, sparse, slow repeat, slow grower, dis- carded
Lady Rose	НТ	O-P	34	2.5	7.9	7.7	fff, great buds, nice flowers, productive, slow repeat, slow grower, hardy
Lady X	НТ	M	36	2.5	8.3	8.3	ff, great buds and flowers, sparse, slow repeat, vigorous, hardy, heat sensitive flowers
Las Vegas	HT	OB	26	2.0	7.5	7.7	f, nice buds and flowers, great color, sparse, slow repeat, nonhardy
Lemon Sherbert	HT	LY	35	2.5	7.9	7.5	f, nice buds and flowers, sparse, poor repeat, vigorous, hardy
Lemon Spice	HT	LY	_	2.5	6.7	6.7	fff, nice buds, fair flowers, sparse, slow repeat, vigorous
Little Darling	F	YB	27	2.5	9.0	8.0	f, nice small flowers, productive good repeat, vigorous, hardy
Liverpool Echo	F	O-P	23	2.0	8.0	7.5	f, great buds, flowers unimpres- sive, sparse, slow repeat, small plant, discarded
*Love	GR	RB	35	2.5	7.1	6.9	?f, nice buds and color, flowers open poorly, productive, slow repeat, hardy
Lover's Meeting	HT	OB	25	2.0	7.2	7.5	ff, great buds and color, produc tive, good repeat, vigorous hardy, nice plant
Macarom	HT	MY	26-40	3.0	_	7.3	fff, nice buds, fair flowers sparse, poor repeat, vigorous hardy
Maria Stern	HT	OB	43	2.5	7.8	7.5	ff, nice color, sparse, slow repeat, vigorous, hardy

Table 1. continued

			Petal	B.S.	Garden	rating ^d	
Variety	Classa	$\mathbf{Color^b}$		rating ^c	RRS	JAS	General Commentse
Marijke Koopman	НТ	MP	25	2.5	7.8	7.8	ff, great buds, flowers and color, productive, good repeat, long stems, vigorous, hardy, very nice plant
*Medallion	НТ	AB	65	3.0	7.1	7.5	ff, great buds and flower color, productive, fair repeat, vigorous, hardy, heat sensitive flowers
*Mikado	HT	RB	25	3.0	7.6	7.5	ff, great buds and flower color, sparse, slow repeat, short stems, did not adapt, died
Milestone	HT	RB	40+	2.5	7.9	7.8	f, great buds and color, nice flower, sparse, fair repeat, fair vigor, fair hardiness
Minuette	F	RB	29	2.5	_	?	?f, nice flowers, sparse, poor repeat, poor growth, weak, died
Miss All American Beauty	НТ	DP	55	2.5	8.3	8.5	ff, great buds and flowers, productive, good repeat, vigorous, hardy, very nice plant
Miss Liberte	HT	OB	35	3.0	_	7.0	?f, nice buds, small flowers, open quickly, sparse, fair repeat, hardy
*Mister Lincoln	HT	DR	35	2.5	8.9	8.0	fff, great buds, nice flowers and color, fair productivity, slow repeat, long stems, vigorous hardy, heat sensitive flowers
*Mon-Cheri	HT	RB	38	2.5	7.6	7.8	f, great buds and flower color sparse, fair repeat, long stems vigorous, heat sensitive flowers
Montezuma	GR	O-P	36	2.5	7.0	7.0	ff, nice buds and flowers, sparse poor repeat, vigorous, non hardy, heat sensitive flowers
Nantucket	НТ	AB	37-44	2.5	8.2	8.0	f, nice buds, flower color fades sparse, fair repeat, vigorous hardy
Nearly Wild	F	MP	5	2.0	6.7	6.7	f, nice flowers, productive, good repeat, vigorous, hardy
*New Year	GR	OB	20	3.0	7.7	7.5	ff, nice color, small flowers productive, poor growth, hardy heat sensitive flowers, died
Oklahoma	НТ	DR	48	2.0	6.0	6.0	fff, great buds, fair flowers productive, fair repeat, weal necks, vigorous, heat sensitive flowers

Table 1. continued

			Petal	B.S.	Garden	rating	d
Variety -	Classa	$\mathbf{Color^b}$		rating ^c	RRS	JAS	General Commentse
Old Smoothie	HT	MR	40	2.5	7.1	6.9	f, nice buds, poor productivity, poor repeat, thin plant, long stems, vigorous, hardy
*Olympiad	НТ	MR	35	2.5	8.3	7.9	f, great buds, nice flowers, sparse, slow repeat, vigorous, hardy
*Oregold	НТ	DY	-	3.0	7.3	7.3	f, great buds, nice flowers, sparse, slow repeat, long stems, vigorous, discarded
Orient Express	НТ	O-R	40	2.5	-	7.2	fff, great buds, nice flower color, flowers appear quartered at times, fair productivity and repeat, vigorous, died
*Paradise	HT	M	28	2.5	8.6	8.6	ff, great buds, flowers and color, fair productivity, good repeat, vigorous, hardy, heat sensitive flowers, very nice plant
*Pascali	HT	W	30	3.0	8.5	8.2	f, great buds, nice flowers, productive, slow repeat, long stems, vigorous, hardy
*Peace	HT	YB	43	3.0	8.7	8.0	f, great buds and flowers, sparse, fair repeat, died
*Perfume Delight	HT	MP	35-38	3.0	7.5	7.8	fff, great buds and flowers, productive, fair repeat vigorous, hardy
Pillow Talk	F	M	28	2.5	7.1	7.1	ff, great buds and flower color productive, fair repeat, slow grower, hardy
*Pink Parfait	GR	PB	23	2.5	8.6	8.0	f, nice flowers, sparse, fair repeat, did not adapt, died
Pink Peace	HT	MP	58	2.5	7.3	7.6	fff, great buds and flowers sparse, fair repeat, vigorous hardy
*Pleasure	F	MP	27-33	2.5	7.9	8.2	ff, great buds, flowers and color productive, good repeat vigorous, hardy, very nice plan
Polarstern	· HT	W	35	3.0	7.7	7.9	?f, great buds, small flowers sparse, slow repeat, long stems vigorous, hardy, heat sensitive flowers
*Portrait	НТ	PB	_	3.0	7.0	7.0	ff, nice buds, fair flowers, fai productivity, slow repeat, no adapted

Table 1. continued

			Petal	B.S.	Garden	rating ^d	
Variety	Classa	${\bf Color^b}$		rating ^c	RRS	JAS	General Comments ^e
Precious Platinum	HT	MR	60	3.0	7.9	7.4	f, ragged flowers, sparse, good repeat, heat sensitive flowers, discarded
*Prima Donna	GR	DP	27	3.0	7.7	7.8	f, nice buds, small flowers, great color, sparse, fair repeat, weak stems, mildew, heat sensitive flowers
Princess Alice	F	MY	24	2.5	-	8.0	f, great buds and flower color, productive, fair repeat, vigorous, hardy, very nice plant
Princesse de Monaco	НТ	PB	35	2.5	7.2	7.0	fff, great flowers, very short stems, fair productivity, fair repeat, leaves "cup" naturally, mildew, heat sensitive flowers
Pristine	HT	W	2 8	3.0	8.7	8.2	f, great buds and flowers, sparse, poor repeat, long stems, hardy, heat sensitive flowers
Promise	НТ	LP	35	3.5	5.8	6.3	f, nice buds and flowers, fair productivity and repeat, vigorous, hardy, heat sensitive flowers
Proud Land	НТ	DR	60	2.0	7.1	8.0	fff, great buds and flowers, productive, good repeat, long stems, vigorous, hardy, very good
*Queen Elizabeth	GR	MP	38	2.5	9.2	8.2	ff, great buds, nice flowers, productive, fair repeat, vigorous, hardy, heat sensitive flowers
Quinella	НТ	OB	35	3.0	-	7.8	?f, great buds and flower color good productivity and repeat vigorous, heat sensitive flowers died. Not registered with IRAR
Razzle Dazzle	F	RB	25	3.0	7.1	7.7	f, great buds and flower color productive, good repeat, small bush, discarded
Red Lion	HT	MR	38	2.5	7.1	6.9	f, nice buds and flowers, poor productivity and repeat vigorous, hardy
Red Masterpiece	HT	DR	<u></u>	2.5	6.4	6.2	fff, nice buds, fair productivity and repeat, vigorous, discarded
*Royal Highness	HT	LP	43	3.0	8.3	8.0	fff, great buds and flowers, fair productivity and repeat vigorous, hardy

Table 1. continued

			Petal	B.S.	Garden	rating	d
Variety -	Classa	$\mathbf{Color^b}$		rating ^c	RRS	JAS	General Comments ^e
Samantha	HT	MR	****	2.5		7.0	f, nice buds, nice flower color, sparse, slow repeat, hardy
Search For Life	HT	MR	26-40	2.5	_	6.8	f, flowers vary with individual plants, fair productivity and repeat, vigorous, hardy
*Seashell	НТ	O-P	48	3.0	7.3	7.3	f, great buds, great flower color, fair productivity and repeat, heat sensitive leaves, died
Selfridges	HT	DY	35	2.5	6.9	5.8	?f, small flowers at stem ends, very long stems, sparse, slow repeat, unimpressive, discarded
*Sheer Bliss	НТ	W	35	3.0	7.6	7.2	f, great buds, great flowers, very sparse, fair repeat, hardy, heat sensitive flowers, discarded
*Showbiz	F	MR	20	4.0	7.9	8.3	?f, great buds, great flowers and color, high productivity, repeats well, vigorous, hardy, much blackspot, very nice plant
*Shreveport	GR	OB	50+	3.0	7.3	7.0	?f, small flowers, sparse, slow repeat, fair vigor, died
Silver Spoon	HT	.M	35	2.5	6.5	6.2	?f, great buds, nice flowers, great color, sparse, slow repeat, weak necks, long stems, vigorous
Silver Star	НТ	M	_	2.5	6.1	6.0	ff, nice buds and flowers, fair productivity, slow repeat, slow growth, not well adapted
Simplicity	F	MP	18	2.5	8.0	7.8	f, nice flowers, productive, fair repeat, slow growth, hardy
Smooth Talk	F	W	28	2.5	7.8	7.8	f, great flower show, good productivity, good repeat, slow growth, hardy
Smooth Velvet	HT	DR	42	2.5	7.0	6.8	f, nice buds, few flowers, sparse, "leggy', vigorous, hardy
Snowfire	HT	RB	_	3.0	5.0	5.0	f, great color, sparse, slow repeat, many large thorns, dis- carded
Sonia	GR	PB	30	2.5	8.0	7.8	fff, nice buds, nice flowers, fair productivity, fair repeat, short stem, heat sensitive flowers
South Seas	НТ	O-P	48	3.0	7.2	7.0	ff, nice buds, nice flowers, fair productivity, fair repeat, vigorous, heat sensitive flowers

Table 1. continued

			Petal	B.S.	Garden	rating	l
Variety	Classa	${\bf Color^b}$		rating ^c	RRS	JAS	General Comments ^e
Spanish Sun	F	DY		3.0	6.3	6.5	f, nice color, productive, fair repeat, vigorous, hardy, heat sensitive flowers
Stephen's Big Purple	HT	M	35	2.5	7.1	8.2	fff, great color, nice flowers, productive, good repeat, vigorous, hardy, very nice plant
Suffolk	HT	W	40	2.5	7.4	7.5	f, great flowers, sparse, repeats well, poor vigor, not well adapted
Summer Dream	HT	AB	30	2.0	7.6	7.2	f, nice color, fair productivity, poor repeat, short stems, hardy, heat sensitive flowers
Summer Sunshine	HT	DY	25	3.0	6.9	6.5	f, great buds, nice flower color poor productivity, poor repeat vigorous, nonhardy
*Sun Flare	F	MY	30	2.5	7.7	7.4	ff, nice color, fair productivity fair repeat, poor vigor, hardy
Sunbright	HT	MY	28	3.0	7.4	7.4	f, nice color, productive, good repeat, good vigor, nonhardy
*Sundowner	GR	AB	35	3.0	6.8	6.5	fff, great buds, fair productivi ty, fair repeat, good vigor
Sunsprite	F	DY	28	2.5	8.8	7.8	ff, nice color, poor flower form productive, good repeat vigorous, hardy
*Sutter's Gold	HT	OB	33	3.0	6.5	6.5	fff, nice buds, nice flowers, fair productivity, fair repeat, dis carded
Swarthmore	. HT	PB	50	3.0	8.3	8.3	f, great buds, great flowers, fair productivity, fair repeat vigorous, mildews, heat sensi tive flowers
*Sweet Surrender	НТ	MP	40	2.5	6.9	7.1	fff, nice flowers, flat opened productive, good repeat, weal necks, hardy
*Tiffany	НТ	PB	28	3.0	8.4	8.6	ff, great buds, great flowers and color, productive, good repeat long stems, vigorous, hardy heat sensitive flowers, very nic plant
*Touch of Class	НТ	O-P	33	3.5	8.3	7.8	f, great buds, sparse, slow repeat, vigorous, hardy, mil- dews, well adapted
*Tournament of Roses	GR	MP	50-57	3.0	7.9	8.0	?f, nice flowers, good productive ty, hardy

Table 1. continued

		,	Petal	B.S.	Garden	ratingd	
Variety -	Classa	$\mathbf{Color^b}$		rating ^c	RRS	JAS	General Comments ^e
*Tropicana	НТ	O-R	33	3.0	8.3	7.5	ff, nice flowers, sparse, slow repeat, died out, heat sensitive flowers
Tuxedo	HT	DR	-	3.0	7.4	7.4	?f, great buds, small flowers, productive, good repeat, vigorous, thin plant
Uncle Joe	НТ	DR	60	2.0	7.7	7.5	f, great buds, tight flowers "ball," fair productivity, fair repeat, long stems, heat sensi- tive flowers
Viva	F	DR	32	2.5	7.4	7.4	f, nice flowers, good productivi- ty, good repeat, vigorous, heat sensitive flowers
*Voodoo	HT	OB	35	3.5	7.8	7.5	ff, great buds, flowers degrade quickly, vigorous, hardy, heat sensitive flowers
Whiskey Mac	НТ	YB	30	3.0	6.2	6.2	ff, nice buds, great flower color, fair productivity, good repeat, poor vigor, dies out, heat sensi- tive flowers
White Delight	НТ	, W	40-48	2.5	7.7	8.0	ff, nice buds, nice flowers, great productivity, good repeat, vigorous, hardy
*White Lightnin'	GR	W	30	2.5	7.2	7.0	ff, small flowers, fair productivi- ty, fair repeat, poor vigor, non- hardy, not adapted
White Masterpiece	HT	W	30	3.0	7.1	7.0	f, nice flowers, fair productivity, fair repeat, poor vigor, non- hardy, dies
*Yankee Doodle	HT	YB	75	3.0	7.0	7.3	f, great buds, nice flowers and flower color, productive, good repeat, vigorous

^a Classification of roses: F = Floribunda, GR = Grandiflora, and HT = Hybrid Tea.

^b American Rose Society Color Classification: W = white, near white and white blend, LY = light yellow, MY = medium yellow, DY = deep yellow, YB = yellow blend, AB = apricot and apricot blend, OB = orange and orange blend, O-P = orange-pink, O-R = orange-red, LP = light pink, MP = medium pink, PB = pink blend, DP = deep pink, DR = dark red, MR = medium red, RB = red blend, and M = mauve and mauve blend. ^c 0 = no blackspot symptoms, 1 = 1-15% of plant leaves affected, 2 = 16-25%, 3 = 26-40%, and 4 = over 40%

of plant leaves affected. 1 = 1.15% of plant leaves affected, 2 = 16.25%, 3 = 26.40%, and 4 = 0 of plant leaves affected.

^d National Rose Ratings (NRR): 10 = perfect, 9.0-9.9 = outstanding, 8.0-8.9 = excellent, 7.0-7.9 = good, 6.0-6.9 = fair, and 5.9 and lower = of questionable value. JAS rating = researcher's evaluation of the plant at this site. ^e f = slight fragrance, ff = moderate fragrance, and fff = strong fragrance.

f * = All-America Rose Selections Winner.

g? and ?f = value was not determined.

h information not available.

Table 2. Evaluation of 121 cultivars of heritage roses at the MAFES Disease Research Rose Garden.

			Garden	rating ^b	Height ^c		
Class	Cultivar	Colora	NRR	JAS	feet	Blackspot	t ^d Comments ^e
Alba	Alba Suaveolens	W	f	8.0	3.5	2.5	fff, excellent flowers, good productivity, lax plant, very nice, hardy
Alba	Belle Amour	LP	7.5	7.7	5.0	3.0	fff, nice flowers, productive, hardy
Alba	Celestial	LP	7.5	7.3	5.0	2.0	ff, nice flowers, productive, thin plant, lax canes, hardy
Alba	Chloris	LP	. -	7.2	4.5	3.0	fff, nice flowers, productive, hardy
Alba	Felicite Parmentier	LP	7.8	8.2	4.0	3.0	fff, great flowers, productive, thin plant, scraggly, vigorous, hardy
Alba	Great Maiden's Blush	W	_	7.0	4.0	3.0	fff, nice flowers, fair productivity, thin plant, arched canes, died
Alba	Königin von Dänemark	MP	7.9	7.8	3.5	2.0	ff, great flowers, fair productivity, thin plant, weak canes, vigorous, hardy
Alba	Mme. Legras de St. Germain	W	8.4	8.5	6.0	2.0	fff, great flowers, productive, lax plant, hardy
Alba	White Rose of York	W	-	7.9	6.0	3.0	fff, nice flowers, productive, hardy
Bourbon	Boule de Neige	W		8.0	3.5	3.0	fff, great flowers, productive, upright plant, winter killed
Bourbon	Commandant Beaurepaire	PB	8.0	7.7	4.0	2.0	fff, very nice flowers, productive, sparse repeat
Bourbon	Honorine de Brabant	PB	7.7	8.0	5.0	3.0	fff, nice cupped- quartered flowers, good productivity, repeats, arched canes, hardy, mildews
Bourbon	Louise Odier	DP	7.8	8.0	5.0	3.0	ff, great flowers, productive, good repeat, arched and lax canes, hardy, mildews

Table 2. continued

			Garden	rating ^b	Height ^c		
Class	Cultivar	Colora	NRR	JAS	feet	Blackspot	d Comments ^e
Bourbon	Souv. de la Malmaison	LP	8.2	7.8	3.0	1.5	fff, large flowers cupped then flat and quartered, winter killed, mildews
Bourbon	Zephirine Drouhin	MP	7.8	8.5	4.5	3.0	ff, great flowers, great productivity, hardy
Centifolia	Bullata	MP	7.4	6.7	3.5	4.0	ff, sparse bloom, thin plant, hardy, unimpressive
Centifolia	Burgundian Rose	PB	_	8.0	3.0	2.0	fff, great flowers, died
Centifolia	Fantin Latour	LP	7.6	7.8	4.0	3.5	fff, great flowers, productive, great plant, lax canes, hardy, mildews
Centifolia	Paul Ricault	MP		7.2	4.0	2.0	fff, nice flat flowers, productive, arched canes, hardy
Centifolia	Petite de Hollande	MP	8.5	? g	4.0	2.0	ff, small scattered flowers, hardy
Centifolia	Prolifera de Redoute	MP	6.7	7.3	4.5	2.5	fff, nice flowers, productive, thin plant, arched canes, hardy
Centifolia	Robert le Diable	M	-	7.5	3.0	4.0	fff, great flowers, productive, lax-spreading canes, hardy
Centifolia	Rose de Meaux	MP	8.3	7.5	3.0	1.0	f, small flowers, poor bloom, sparse, up- right, discarded
Centifolia	Rose des Pientres	MP	7.1	6.7	4.0	2.0	fff, sparse thin plant, arched canes, died
Centifolia	The Bishop	M		8.5	5.0	2.5	fff, excellent flowers, good productivity, hardy, mildews
Centifolia	Tour de Malakoff	M	7.8	6.7	3.0	3.0	fff, ragged bloom, sparse poor plant, weak-arched canes, heavy mildew, dis- carded
China	Comtesse du Cayla	ОВ	-	6.5	3.0	1.0	ff, short lived flowers, sparse, unimpressive, non-hardy
China	Cramoisi Superieur	MR	· <u>_</u>	6.5	3.0	1.0	ff, nice flowers, productive, weak plant, hardy

Table 2. continued

			Garden	rating	h Height ^e		
Class	Cultivar	Colora	NRR	JAS	feet	Blackspot	d Comments ^e
China	Gloire des Rosomanes	MR	_	5.5	4.5	3.0	ff, loose flowers, sparse, upright, hardy
China	Hermosa	LP	7.5	6.7	4.0	2.0	f, nice flowers, weak necks, productive, up- right, hardy
China	Le Vésuve	PB	_	?	3.0	2.0	ff, loose flowers, upright, hardy
China	Louis Philippe	RB	8.0	8.0	4.0	2.0	fff, nice flowers, productive upright, hardy
China	Old Blush	MP	7.9	8.0	3.5	2.0	f, nice flowers, weak necks, heavy produc- tivity, good repeat, hardy
Damask	Autumn Damask	MP	-	7.2	2,5	3.0	fff, good flowers, fair productivity, thin plant, lax arched canes
Damask	Bella Donna	LP		8.0	3.0	3.0	fff, nice flowers, productive, thin plant, hardy, mildews
Damask	Gloire de Guilan	LP	6.5	6.5	4.0	3.0	fff, few blooms, thin plant, hardy
Damask	Ispahan	MP	_	7.5	3.0	3.0	fff, great buds, nice flowers, good produc- tivity, upright plant, arching canes, hardy, mildews
Damask	Kazanlik	DP	7.8	8.0	5.0	3.0	fff, nice flowers, productive, hardy, mildews
Damask	La Ville de Bruxelles	DP	-	7.5	4.0	2.0	fff, great flowers, fair productivity
Damask	Leda	W .	8.0	8.5	4.0	2.0	fff, nice flowers, productive, thin plant, hardy, mildews
Damask	Mme. Hardy	W	8.8	8.8	3.0	3.0	ff, great flowers, fair productivity, hardy, mildews
Damask	Mme. Zöetmans	W	-	8.2	2.5	1.5	fff, great flowers, good productivity, weak stems, hardy
Damask	Marie Louise	MP	8.0	7.2	3.5	3.0	fff, nice flowers, fair productivity, hardy

Table 2. continued

		(=	Garden	rating ^b	Height ^c		
Class	Cultivar	Colora	NRR	JAS	feet	Blackspot ^d	Commentse
Damask	Rose de Rescht	DP	8.6	8.5	3.0	pro wa	great flowers, good oductivity, died and as replaced with me
Damask	York and Lancaster	PB	8.1	6.7	4.0		fair flowers, poor oduction, thin plant, ed
Eglanteria	Hebe's Lip	W	7.1	7.6	4.0	2.5 fff pr die	oductive, mildews,
Gallica	Agathe Incarnata	MP	-	7.7	4.0	3.0 ffi pr	f, nice flowers, oductive, thin plant
Gallica	Apothecary's Rose	DP	9.2	8.5	3.0	pr	, nice flowers, fair oductivity, thin, ildews
Gallica	Assemblage des Beautés	DR	******	7.0	2.5	•	great flowers, medi- n production, hardy
Gallica	Belle de Cércy	M	7.5	7.4	4.0	-	f, nice flowers, coductive lax canes, ardy, severe mildew
Gallica	Belle Isis	LP	7.2	7.0	3.0	pı	f, nice flowers, fair roduction, hardy ildews
Gallica	Camaieux	M	7.5	7.5	3.0	pi	f, nice flowers roductive, hardy ildews
Gallica	Cardinal de Richelieu	M	7.0	7.3	4.5	pı	f, great flowers, good roduction, lax canes ardy
Gallica	Charles de Mills	M	8.5	9.0	4.0	p	great flowers roductive, died ou wice
Gallica	Cramoisi Picoté	RB	_	7.3	2.5	fl	great flowers, smal owers, productive ardy
Gallica	D' Aguesseau	MR	_	7.4	2.5		ff, great flowers parse, hardy
Gallica	Duc de Guiche	M	7.6	7.5	3.0		f, great flowers, medi m productivity
Gallica	Duchesse de Montebello	LP	_	7.0	3.0		ff, productive, lax ong canes, hardy
Gallica	La Belle Sultane	DR	7.8	8.5	3.0	c i	ff, nice flowers, grea olor, productive, arch ng canes, hardy nildews

Table 2. continued

Class	Cultivar	Color ^a			b Height ^c	Dlogless -4	d Commontee
Gallica	President de Sèze	M	5.6	6.3	3.0	Blackspot	fff, nice flowers, long bloom period, produc-
Gallica	Rosa Mundi	PB	9.1	9.0	3.0	2.5	tive, lax canes, hardy, mildews ff, nice flowers,
O 11:	D 1 16	22				o =	productive, lax canes, thin plant, hardy
Gallica	Rose des Maures	DR	_	7.7	4.0	2.5	ff, nice flowers, good productivity, hardy
Gallica	Superb Tuscan	M	8.0	7.8	4.0	2.5	ff, great flowers, fair production, lax canes, upright plant, hardy
Gallica	Surpass Tout	M	_	6.7	3.0	2.5	ff, nice flowers, fair productivity, leggy plant, hardy, mildews
Gallica	Tricolore de Flandre	PB	8.8	8.3	3.0	2.5	fff, nice flowers, small flowers, fair produc- tivity, lax canes, vigorous
Gallica	Tuscany	M	8.3	8.0	3.5	2.5	ff, nice flowers, great color, sparse, hardy
Hybrid Bourbon	Coup d' Hébé	DP	-	7.5	3.0	2.5	fff, great flowers and color, good produc- tivity, weak stems, hardy
Hybrid China	Juno	LP	6.8	6.3	4.0	3.0	fff, poor plant, sparse production, weak necks, thin plant, unimpressive
Hybrid Perpetual	Baronne Prévost	MP	7.5	8.0	4.0	3.0	ff, great flowers, good productivity, arched canes, thin-upright plant, hardy
Hybrid Perpetual	Ferdinand Pichard	RB	7.7	_	4.0	2.5	ff, great flowers, fair productivity and repeat, vigorous hardy
Hybrid Perpetual	Général Jacqueminot	RB	6.7	6.8	4.5	2.5	fff, great flowers productive, lax canes thin plant, hardy
Hybrid Perpetual	Gloire de Ducher	DR	_	7.2	3.0	2.5	ff, fair flowers, sparse weak necks, lax canes thin plant

Table 2. continued

			Garden	$rating^b$	Heightc		
Class	Cultivar	Colora	NRR	JAS	feet	Blackspot	d Comments ^e
Hybrid Perpetual	La Reine	MP	_	7.3	3.0	3.0	fff, fair flowers, productive, weak necks, thin plant, nonhardy
Hybrid Perpetual	Mme. Victor Verdier	MR	-	8.0	3.0	2.0	fff, very nice flowers and color, sparse, thin plant, hardy
Hybrid Perpetual	Paul Neyron	MP	7.9	7.8	2.5	2.5	f, great flowers, productive, thin- upright plant, non- hardy
Hybrid Perpetual	Reine des Violettes	M	7.1	7.4	3.0	2.5	fff, great flowers, productive, lax canes, thin plant, hardy
Hybrid Perpetual	Souv. du Docteur Jamain	DR	_	7.5	3.0	2.5	fff, nice flowers productive, thin-upright, nonhardy
Hybrid Rugosa	Belle Poitevine	MP	7.5	6.8	3.0	2.0	fff, fair flowers, large, sparse, hardy
Hybrid Rugosa	Charles Albanel	MR	_	6.7	2.5	2.5	ff, sparse, newly planted
Hybrid Rugosa	Jens Munk	MP	_	7.0	4.0	0.0	ff, fair flowers, productive, upright, newly planted
Hybrid Rugosa	Martin Frobisher	LP		7.3	4.5	2.5	ff, nice flowers good productivity, hardy
Hybrid Rugosa	Sarah Van Fleet	MP	6.5	6.5	6.0	2.5	fff, nice flowers, productive, good repeat, reliable, hardy
Hybrid Spinossisima	Stanwell Perpetual	W	8.0	7.3	3.0	2.5	fff, great flowers, fair productivity, sprawls, poor growth, died
Kordesii	Dortmund	MR	9.1	9.0	8.0	0.0	?f, great flowers, productive, good repeat, vigorous, hardy
Kordesii	John Cabot	MR	7.0	8.2	4.0	1.0	ff, great flowers, great productivity, vigorous, hardy
Miscellaneous OGR	Empress Josephine	MP	7.6	7.0	4.0	1.0	f, unimpressive, thin plant, nonhardy
Miscellaneous OGR	Fortune's Double Yellow	YB	7.6	7.1	5.0	1.0	f, nice flowers, good productivity, hardy

Table 2. continued

		i	Garden	rating	Height ^c		
Class	Cultivar	Colora	NRR	JAS	feet	Blackspo	t ^d Comments ^e
Moss	Alfred de Dalmas	LP	7.1	7.0	2.5	2.0	f, nice flowers, poor productivity, thin plant, hardy
Moss	Capitaine John Ingram	M	-	?	3.0	2.0	ff, nice flowers, productive, attractive red moss, vigorous, hardy, new to garden
Moss	Celina	M	8.3	7.5	3.5	2.5	ff, nice flowers, fair productivity
Moss	Comtesse de Murinais	W	7.6	7.0	4.5	3.0	fff, unimpressive, sparse productivity, thin-erect plant
Moss	Crested Moss	MP	8.7	7.5	3.0	2.5	fff, unimpressive, poor productivity, thin up- right plant
Moss	Deuil de Paul Fontaine	M	6.0	6.4	2.5	2.0	f, nice flowers, sparse, thin plant, hardy, some mildew
Moss	Général Kléber	MP	8.3	7.0	4.5	3.0	fff, sparse, thin plant, hardy
Moss	Gloire des Mousseuses	MP	7.6	7.5	5.0	2.5	fff, nice flowers, sparse, unimpressive plant, weak canes, thin plant
Moss	Maréchal Davoust	MP	-	6.5	3.0	2.5	fff, nice flowers, productive, lax canes, thin plant
Moss	Salet	MP	8.3	6.5	3.0	3.0	fff, nice flowers, sparse, weak plant, thin-upright, mildews
Moss	William Lobb	M	8.4	8.0	5.0	2.5	fff, great flowers, good productivity, lax canes, thin plant, hardy
Noisette	Aimée Vibert	W	-	7.0	3.0	2.0	f, nice flowers, produc- tive, nonhardy
Noisette	Crépuscule	AB	-	8.0	3.5	?	f, nice flowers, good productivity, weak necks, suffered some winter injury
Noisette	Fellenberg	MR		8.0	4.0	2.5	f, nice flowers, good productivity, very nice plant, hardy

Table 2. continued

		•	Garden	rating ^b	Heightc		
Class	Cultivar	Colora	NRR	JAS	feet	Blackspot	t ^d Comments ^e
Noisette	Maréchal Niel	MY	7.8	6.0	2.5	?	ff, poor flower quality, weak necks, non- hardy, died
Portland	Blanc de Vibert	W	_	7.0	3.0	2.5	fff, fair flowers, fair productivity, upright plant
Portland	Comte de Chambord	PB	7.0	6.9	3.0	3.0	fff, unimpressive, thin plant, hardy, slightmildew
Portland	Rose du Roi	MR	7.0	7.1	2.0	2.0	ff, great flowers, good repeat, vigorous
Rambler	American Pillar	PB	-	7.3	10.0	?	?f, nice flowers, productive, vigorous, hardy, heavy mildew
Shrub	Malaguena	MP	_	7.7	2.5	?	fff, great flowers, died
Shrub	Paulii Rosea	PB	8.3	?	3.0	1.5	ff, sparse, long-lax canes, died
Species	R. banksiae banksiae	W	9.0	7.9	10.0	0.0	?f, nice flowers, fair production, vigorous, hardy
Species	R. banksiae lutea	LY	9.0	9.2	12.0	0.0	?f, great flowers, very productive, vigorous, froze out, replanted
Species	R. eglanteria	LP	7.7	7.4	8.0	0.0	?f, nice flowers, mildews
Species	R. foetida bicolor	RB	8.1	7.8	4.0	4.0	?f, nice flowers, fair productivity, thin scraggly plant, hardy
Species	$R.\ for restiana$	DP	_	7.0	5.5	0.0	ff, nice flowers, sparse, discarded
Species	R. glauca	MP	8.8	7.8	3.0	0.0	ff, nice flowers, sparse, thin plant
Species	R. hugonis	MY	9.1	8.9	4.0	0.0	ff, great flowers, good productivity, vigorous hardy
Species	R. macrophylla don- casterii	DP	_	5.5	4.0	?	%, nice flowers, sparse discarded
Species	R. palustris	MP	_	8.2	6.0	?	f, nice flowers, produc tive, vigorous, hardy
Species	R. roxburghii	MP	_	7.5	6.0	0.0	f, great flowers productive, vigorous hardy

Table 2. continued

			Garden	rating	^b Height ^c		
Class	Cultivar	Colora	NRR	JAS	feet	Blackspot	d Comments ^e
Species	R. sericea pteracantha	W	_	7.3	3.0	0.0	?f, nice 4-petal flowers, fair productivity, winged thorns, not well adapted
Tea	Safrano	AB	7.2	6.8	4.5	3.0	f, fair flowers, upright plant, nonhardy
Tea	Sombrueil	W	8.5	8.1	4.5	2.0	fff, great flowers, productive, nonhardy

^aAmerican Rose Society (ARS) Color Classification: W = white, near white and white blend, ly = light yellow, MY = medium yellow, YB = yellow blend, AB = apricot and apricot blend, OB = orange and orange blend, LP = light pink, MP = medium pink, PB = pink blend, DP = deep pink, MR = medium red, DR = dark red, RB = red blend, and M = mauve and mauve blend.

^bNational Rose Ratings (NRR). 10 = perfect, 9.0 - 9.9 = outstanding, 8.0 - 8.9 = excellent, 7.0 - 7.9 = good, 6.0 - 6.9 = fair, and 5.9 and lower = of questionable value. JAS rating = researchers' evaluation of the plant at this site.

cheight of plant in garden at the time information was taken.

 $^{^{}d}0$ = no blackspot symptoms, 1 = 1-15% of plant leaves affected, 2 = 16-25% of plant leaves affected, 3 = 26-40% of plant leaves affected, and 4 = over 40% of plant leaves affected.

ef = slight fragrance, ff = moderate fragrance, and fff = strong fragrance.

fInformation not available

g? and ?f = value was not determined

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