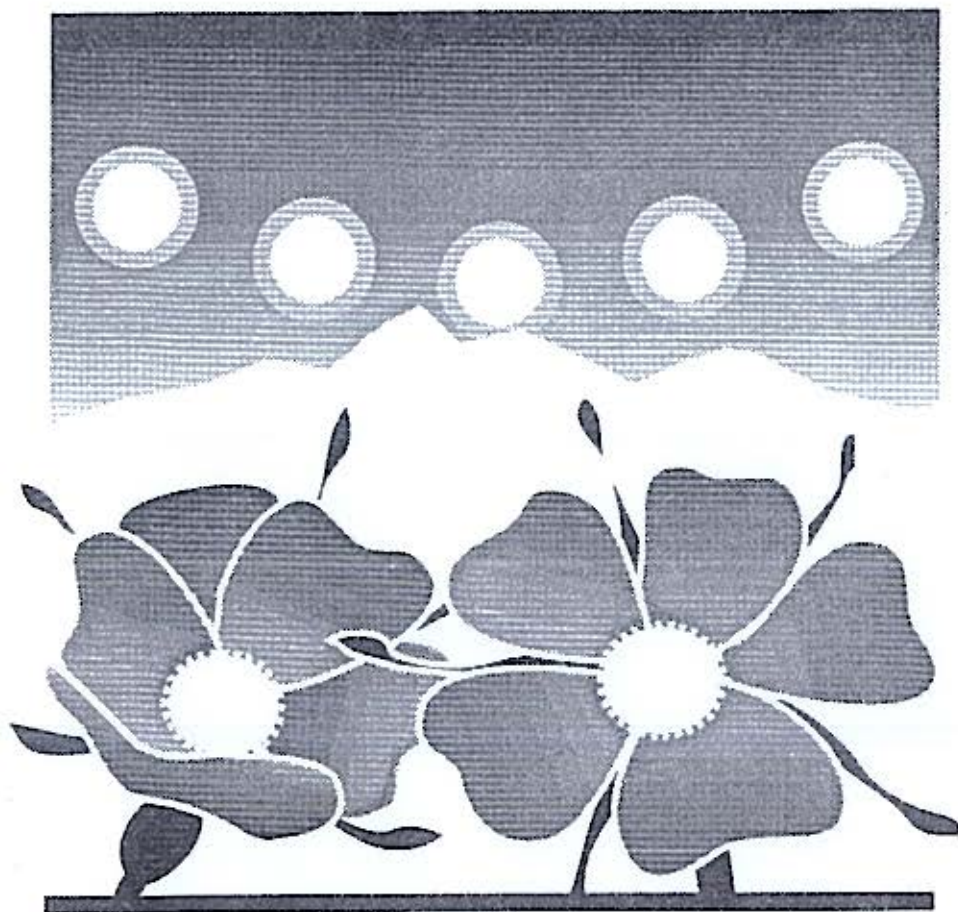


Perennial Landscape Plant Evaluations 1991



GEORGESON BOTANICAL GARDEN

by

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and Garden Volunteer

UNIVERSITY OF ALASKA FAIRBANKS

Agricultural and Forestry Experiment Station

School of Agriculture and Land Resources Management

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Introduction

In 1989, a systematic evaluation of woody and herbaceous perennial landscape plants was begun at the University of Alaska Fairbanks Georgeson Botanical Garden (64° 51' N, 147° 52' W). The purpose of this research is to identify hardy perennials capable of surviving in subarctic environments; to evaluate the ornamental potential of these plants; and to fulfill a growing demand for information on hardy landscape plant materials by home owners, commercial growers, and landscapers.

The collection includes both indigenous and non-indigenous species that were obtained as plants or propagules from wild stands, botanical gardens, plant materials centers, and commercial nurseries in North America and the circumpolar North (Appendix 1). When available, ten plants of each herbaceous perennial ornamental will be evaluated for a minimum of five years, and five plants of each woody landscape plant will be evaluated for 10 years. Subsequently, hardy perennials will be propagated and tested at other locations throughout the Interior and released for commercial propagation.

Plants are grown in the Herbaceous Perennial and Woody Ornamental Test Garden in the Georgeson Botanical Garden (see map on the last page) on a south-facing slope, elevation 475 - 487 feet. Soils are Fairbanks silt-loam that have been under cultivation since about 1910. Soils were amended with 1-2 inches of Lemeta peat in 1988. All plants receive full sun (a shade house will be completed in 1992) and are watered with overhead irrigation as needed. Weed control is primarily by hand and rototiller. In May 1991, Surflan® herbicide (60 gal/A) was applied to established plantings, but additional hand weeding was necessary. Unless otherwise noted, plants received no special winter protection such as mulching or screening.

Weather data is compiled annually from a U.S. Weather Service station (elevation 475 ft) located approximately 350 ft west of the test garden. A summary of pertinent weather statistics for 1989 through 1991 is shown in Table 1.

Plant Evaluation Tables

The information is summarized in three tables. Table 2 lists all the plant materials currently being evaluated. Table 3 lists all plants that have been evaluated but did not survive the minimum five-year evaluation period for herbaceous perennials and grasses or the minimum ten-year evaluation period for woody landscape plants. Table 4 lists current year's plantings that have not yet been evaluated for winter survival. Each of the three tables is further divided into three sections: herbaceous perennials, ornamental grasses and woody landscape plants.

Explanation of Tables

SCIENTIFIC NAME : The following references listed in order, were consulted for scientific names:

L.H. Bailey Hortorium. 1976. *Hortus III*. MacMillan Publishing Co., NY.

Fernald, M.L. 1970. *Gray's Manual of Botany*. 8th ed. D. Van Nostrand Company, NY.

Hultén, E. 1974. *Flora of Alaska and Neighboring Territories*. Stanford University Press, CA.

Harkness, M.G. and D. D'Angelo, eds. 1986. *Bernard E. Harkness Seedlist Handbook*. Timber Press, Portland.

Bluebird Nursery, Inc. 1990. Catalog. Clarkson, NE.

SOURCE : This column lists the private individual, botanical garden, agency, organization or commercial business that provided the plants or propagules. Complete names and addresses for the commercial sources and organizations are listed in Appendix 1.

NUMBER OF PLANTS : The total number of plants evaluated.

WINTER INJURY : A visual rating of winter injury was recorded each spring beginning in 1990. Data represent an average rating for the total number of plants evaluated using the scale listed below. Data are cumulative over all the years plants were evaluated.

0 = no visible injury

1 = slight winter injury

2 = moderate winter injury, recovery likely

3 = severe setback from winter injury, recovery questionable

4 = winterkilled

HEIGHT AND SPREAD : The maximum height and spread of herbaceous perennials and ornamental grasses and the average height and spread of woody landscape plants was recorded each summer. Some plants showed a significant difference in height between foliage and flowers/seed pods. For these plants, the first number listed is the foliage height, and the number in parentheses is the flower/seed pod height.

FLOWERING PERIOD : The flower symbol ☼ in each column denotes the weeks in each month when plants were flowering. For ornamental grasses, only the first observation of flowering is noted because the flowers are insignificant and the seed heads are usually present until snowfall. The fruit symbol 🍎 in the woody landscape plants section indicates the weeks when ornamental fruits are present.

FROST TOLERANT : A plus sign in each column indicates that the foliage or flowers of a particular plant showed no obvious damage after the first frost (+29°F on Aug 27 1991). A negative sign indicates frost damage.

PLOT LOCATION : The number in this column indicates the plot in the test garden where the specific test plants are located. Refer to the map on the last page of this publication for the physical location of each plot.

NUMBER OF YEARS SURVIVED : The total number of years that one or more of the plants being evaluated survived. Causes of plant death could be winterkill, improper site conditions, inadequate or improper field management practices, or mechanical injury. Suspected cause for a particular species or cultivar, if known, is listed in code in the comments section. Codes are defined in a footnote at the bottom of each page.

Acknowledgments

We gratefully acknowledge the assistance of the following employees and volunteers who helped plant and maintain the research test gardens:

Judy Binkley
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 Eli Kilapsuk
 Melinda (Milly) Korth
 Judy Lynch

Table 1. Weather records for the test years.

	Season		
	1989	1990	1991
Average temperature °F			
May	46.7	52.2	48.9
June	57.8	59.6	60.8
July	62.9	64.1	59.7
August	58.8	58.4	53.0
September	47.6	44.3	47.9
Seasonal temperature extremes			
Maximum	86	90	93
Minimum ¹	-55	-49	-42 ³
Growing season			
Last spring frost	May 24	May 23	May 16
First fall frost	Sept 15	Sept 8	Aug 27
Frost-free days	114	108	103
Rainfall (inches) ²	6.70	13.20	6.28
Snowfall (inches) ¹	71.4	131.6	40.0 ³
¹ September through April of following year ² May through September ³ September through December only			



Table 2. All plant materials evaluated in 1991.

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS	WINTER INJURY*	HEIGHT (in)	SPREAD (in)
HERBACEOUS PERENNIALS							
<i>Achillea millefolium</i> 'Summer Pastels'	Common Yarrow	AAS	Aug 90	10	0.5	22 (30)	15
<i>Anemone multifida</i>	Argentine anemone	ANPS	Aug 89	8	1.5	9	13
<i>Anemone (Pulsatilla) patens</i>	Pasque flower	M.Earp	Aug 89	10	2.4	6 (15)	9
<i>Amica frigida</i>		C.Parker	Aug 89	10	2.8	6	12
<i>Amica latifolia</i>	Broadleaf anemone	ANPS	June 90	10	0.1	6 (12)	11
<i>Amica Lessingii</i>		ARGS	June 90	10	0.5	20	32
<i>Amica louseana</i>		NEWFS	June 90	10	3.7	8 (18)	8
<i>Artemisia campestris</i> subsp. <i>borealis</i>		ARGS	Oct 90	10	1.4	5 (28)	9
<i>Artemisia eriantha</i>		ARGS	Oct 90	3	3.0	4	7
<i>Bergenia cordifolia</i> 'Redstart'	Heartleaf bergenia	Park	Sept 89	10	2.2	8 (12)	15
<i>Bergenia cordifolia</i> 'Rose'	Heartleaf bergenia	Park	Sept 89	10	2.4	12 (18)	20
<i>Campanula rotundifolia</i>	Harebell	ANPS	Aug 89	9	3.2	12	10
<i>Cerastium Beringianum</i>		C.Parker	Aug 89	10	0.5	5 (10)	22
<i>Cerastium tomentosum</i>	Snow-In-Summer	T&M	June 90	10	1.1	9	32
<i>Chrysanthemum arcticum</i> 'Roseum'	Arctic chrysanthemum	NCRPIS	Aug 90	10	2.9	16	20
<i>Chrysanthemum arcticum</i> 'Schwefelglanz'	Arctic chrysanthemum	NCRPIS	Aug 90	9	2.7	17	21
<i>Dianthus arenarius</i>	Sand pink	ARGS	June 90	10	0.7	4 (12)	14
<i>Dianthus arenarius</i>	Sand pink	T&M	June 90	2	2.0	12	15
<i>Dianthus arenarius</i> (pink)	Sand pink	ARGS	June 90	10	0.5	5 (8)	14

* Winter Injury Rating: 0 = no visible injury, 1 = slight winter injury, 2 = moderate winter injury, recovery likely, 3 = severe setback from winter injury, recovery questionable, 4 = winterkilled

Table 2. (continued)

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS	WINTER INJURY*	HEIGHT (in)	SPREAD (in)
<i>Dianthus aeneus</i> subsp. <i>bortussicus</i>	Sand pink	ARGS	June 90	10	0.2	5 (12)	14
<i>Dianthus armeria</i>	Deptford pink	NCRPIS	June 90	10	2.9	20	20
<i>Dianthus callizonus</i>	Zoned pink	ARGS	June 90	6	2.5	3 (7)	8
<i>Dianthus carthusianorum</i>	Carthusian pink	T&M	June 90	10	0.0	15	10
<i>Dianthus chinensis</i>	Chinese pink	NCRPIS	June 90	10	0.7	17	20
<i>Dianthus freynii</i> <i>Ch. 'eeesj'?</i>		ARGS	June 90	6	0.7	18	20
<i>Dianthus gratianopolitanus</i> 'T&M Hybrid Mix'	Cheddar pink	T&M	June 90	9	2.0	13	20
<i>Dianthus gratianopolitanus</i> 'Elfin's Hat'	Cheddar pink	T&M	June 90	9	1.8	18	19
<i>Dianthus pavonius</i>		ARGS	June 90	10	0.4	3 (6)	12
<i>Dianthus plumarius</i> 'Smoky'	Cottage pink	NCRPIS	June 90	7	0.3	17	16
<i>Dianthus</i> 'Orchid Lace'	Cottage pink	T&M	June 90	10	0.1	20	20
<i>Dianthus repens</i>	Bering pink	ARGS	June 90	4	1.2	15	24
<i>Dianthus superbus</i> 'Fantasy Mix'	Lilac pink	T&M	June 90	10	0.0	31	30
<i>Erigeron compositus</i>	Femleaf fleabane	ANPS	June 90	10	1.5	4 (9)	8
<i>Erigeron glabellus</i>	Smooth fleabane	ANPS	June 90	10	0.8	10 (22)	13
<i>Filipendula vulgaris</i>	Dropwort	Park	Aug 89	7		15 (32)	22
<i>Geranium Endressii</i> 'Wargrave'	Endres cranesbill	VB&S	June 90	10	2.7	14 (18)	28
<i>Geranium Rogellii</i>		VB&S	June 90	10	0.0	24	34
<i>Geranium sanguineum</i>	Blood-red geranium	VB&S	June 90	6	2.8	9	12

* Winter Injury Rating: 0 = no visible injury, 1 = slight winter injury, 2 = moderate winter injury, recovery likely, 3 = severe setback from winter injury, recovery questionable, 4 = winterkilled

MAY	WEEKLY BLOOM PERIOD					BLOOM COLOR	FROST TOLERANT		COMMENTS	PLOT LOCATION	SCIENTIFIC NAME
	JUN	JUL	AUG	SEP	flowers		foliage				
		☼☼☼☼☼☼☼☼☼☼				white	+	+		7	<i>D. arenarius</i> subsp. <i>borussicus</i>
		☼☼☼☼☼☼☼☼☼☼				magenta	+	+		11	<i>Dianthus armeria</i>
	☼☼☼☼☼☼☼☼☼☼	☼☼☼☼☼☼☼☼☼☼				pink	+	+		7	<i>D. calizonus</i>
		☼☼☼☼☼☼☼☼☼☼				magenta	+	+		7	<i>D. carthusianorum</i>
	☼☼☼☼☼☼☼☼☼☼	☼☼☼☼☼☼☼☼☼☼				pink	+	+		11	<i>D. chinensis</i>
	☼☼☼☼☼☼☼☼☼☼					pink, white	+	+	variable plant form and bloom color	7	<i>D. Freynii</i>
	☼☼☼☼☼☼☼☼☼☼	☼☼☼☼☼☼☼☼☼☼				red, rose mix	+	+	plants variable, foliage color varies	7	<i>D. gratianopolitanus</i> T&M Hybrid Mix
		☼☼☼☼☼☼☼☼☼☼				rose	+	+		7	<i>Dianthus</i> 'Elfin's Hat'
		☼☼☼☼☼☼☼☼☼☼				pink	+	+		7	<i>D. pavonius</i>
	☼☼☼☼☼☼☼☼☼☼	☼☼☼☼☼☼☼☼☼☼				pink	+	+	blooms fade to white	11	<i>Dianthus</i> 'Smokey'
	☼☼☼☼☼☼☼☼☼☼	☼☼☼☼☼☼☼☼☼☼				orchid	+	+	very attractive in bloom	7	<i>Dianthus</i> 'Orchid Lace'
		☼☼☼☼☼☼☼☼☼☼				pink	+	+		7	<i>D. repens</i>
		☼☼☼☼☼☼☼☼☼☼				white to lavender	+	+		7	<i>Dianthus</i> 'Fantasy Mix'
		☼☼☼☼☼				pale lavender		+		11	<i>Erigeron compositus</i>
	☼☼☼☼☼☼☼☼☼☼	☼☼☼☼☼☼☼☼☼☼				lavender	+	+	blooms fade to white	11	<i>E. glabellus</i>
		☼☼☼☼☼☼☼☼☼☼				white	+	+	plants flowered at different times	4	<i>Filipendula</i>
		☼☼☼☼☼☼☼☼☼☼				pink	+	+		11	<i>Geranium Endressii</i>
	☼☼☼☼☼☼☼☼☼☼	☼☼☼☼☼☼☼☼☼☼				blue violet	+	+	foliage on 4 plants became discolored and plants died back in August	11	<i>G. Regellii</i>
		☼☼☼☼		☼☼		magenta	+	+		11	<i>G. sanguineum</i>

Table 2. (continued)

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS	WINTER INJURY*	HEIGHT (in)	SPREAD (in)
<i>Geranium sanguineum</i>	Blood-red geranium	ARGS	June 90	10	3.0	8	11
<i>Hemerocallis minor</i>	Grass-leaf daylily	NCRPS	Aug 90	9	1.6	18	6
<i>Heracleum Sphondylium subsp. montanum</i>		NEWFS	Oct 90	5	0.0	21	40
<i>Hieracium umbellatum</i>	Yellow hawkweed	ANPS	Aug 89	10	0.4	28	20
<i>Iris scariosa</i>		J. Grant	Sept 89	7	1.4	14	7
<i>Lilium 'Corina'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.5	34	11
<i>Lilium 'Fireball'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.7	26	10
<i>Lilium 'Freckles'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.7	28	10
<i>Lilium 'French Vanilla'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.9	20	11
<i>Lilium 'Juliana'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.1	22	10
<i>Lilium 'Pink Chiffon'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	1.3	16	10
<i>Lilium 'Poet's Dream'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.3	26	9
<i>Lilium 'Prince Carnival'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.9	24	8
<i>Lilium 'Rainbow'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.6	34	9
<i>Lilium 'Rose Fire'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.2	26	10
<i>Lilium 'Tribute'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.3	24	9
<i>Lilium 'Vanessa'</i>	Asiatic hybrid lily	VB&S	Aug 90	10	0.0	38	11
<i>Lupinus polyphyllus</i>	Washington lupine	P. Holloway	Aug 89	7	0.8	22	28
<i>Lysimachia punctata</i>	Garden loosestrife	T&M	Aug 90	10	3.3	16	14

* Winter Injury Rating: 0 = no visible injury, 1 = slight winter injury, 2 = moderate winter injury, recovery likely, 3 = severe setback from winter injury, recovery questionable, 4 = winterkilled

MAY	WEEKLY BLOOM PERIOD					BLOOM COLOR	FROST TOLERANT		COMMENTS	PLOT LOCATION	SCIENTIFIC NAME
	JUN	JUL	AUG	SEP	flowers		foliage				
		☼☼☼☼☼☼☼☼☼				magenta	+	+		11	<i>G. sanguineum</i>
								+		12	<i>Hemerocallis</i>
								+		15	<i>Hieracium</i>
		☼☼☼☼☼☼☼☼☼				yellow	+	+	reseeds readily	4	<i>Hieracium</i>
								+		7	<i>Iris</i>
			☼☼☼☼☼☼☼☼☼			deep orange	+	+		12	<i>Lilium 'Corina'</i>
			☼☼☼☼☼☼☼☼☼			burgundy	+	+		12	<i>Lilium 'Frebail'</i>
			☼☼☼☼☼☼☼☼☼			red	+	+		12	<i>Lilium 'Freckles'</i>
			☼☼☼☼☼☼☼☼☼			light yellow	+	+		12	<i>Lilium 'French Vanilla'</i>
			☼☼☼☼☼☼☼☼☼			light yellow		+		12	<i>Lilium 'Juliana'</i>
			☼☼☼☼			pink		+		12	<i>Lilium 'Pink Chiffon'</i>
			☼☼☼☼☼☼☼☼☼			white/rose	+	+		12	<i>Lilium 'Poot's Dream'</i>
			☼☼☼☼☼☼☼☼☼			pink	+	+		12	<i>Lilium 'Prince Carnival'</i>
			☼☼☼☼☼☼☼☼☼			red	+	+		12	<i>Lilium 'Rainbow'</i>
			☼☼☼☼☼☼			orange/gold		+		12	<i>Lilium 'Rose Fire'</i>
			☼☼☼☼			coral		+		12	<i>Lilium 'Tribute'</i>
			☼☼☼☼☼☼			bright yellow	+	+		12	<i>Lilium 'Vanessa'</i>
	☼☼☼					blue		+		4	<i>Lupinus</i>
		☼☼☼☼☼☼☼☼☼				yellow	+	+		12	<i>Lysimachia</i>

Table 2. (cont.)

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS	WINTER INJURY*	HEIGHT (in)	SPREAD (in)
<i>Malva moschata</i>	Musk mallow	T&M	June 90	9	3.3	22	12
<i>Myosotis alpestris</i>	Alpine forget-me-not	ANPS	June 90	10	2.3	6	7
<i>Papaver alaskanum</i>		ANPS	June 90	10	1.9	8 (15)	12
<i>Polemonium caeruleum</i> subsp. <i>villosum</i>	Jacob's-ladder	C.Parker	Aug 89	4	1.0		
<i>Primula incana</i>		J.Grant	Aug 89	10	1.3	3 (10)	4
<i>Rubus parvifolius</i>	Japanese raspberry	NCRPIS	Sept 89	5	1.8	24	48+
<i>Solidago decumbens</i>	Decumbent goldenrod	ANPS	Aug 89	10	1.6	21	20
<i>Stellaria monantha</i>		D.Dinkel	Aug 89	10	1.6	6	32
<i>Triplurospermum phaeocephalum</i>		ANPS	June 90	10	3.7	7 (13)	16
ORNAMENTAL GRASSES							
<i>Andropogon Gerardii</i> 'Pawnee'	Big bluestem	Bluebird	Aug 90	3	2.7	34	12
<i>Arrhenatherum elatius</i> 'Variegatum'	Tall oat grass	Bluebird	Aug 90	2	2.0	15 (24)	12
<i>Calamagrostis acutiflora</i> var. <i>stricta</i>	Feather reed grass	Bluebird	Aug 90	1	0.0	34 (69)	24
<i>Calamagrostis arundinacea</i> 'Kati Foerster'		Bluebird	Aug 90	2	0.0	30 (68)	14
<i>Carex muskingumensis</i>	Palm sedge	NEWFS	July 90	8	2.6	22	14
<i>Carex nigra</i>	Black sedge	Bluebird	July 90	9	3.1	8	10
<i>Deschampsia caespitosa</i> 'Bronzeschleier'	Tufted hair grass	Bluebird	Aug 90	2	0.0	24 (46)	24
<i>Deschampsia caespitosa</i> 'Goldhaenge'	Tufted hair grass	Bluebird	Aug 90	4	0.0	18 (38)	22

* Winter Injury Rating: 0 = no visible injury, 1 = slight winter injury, 2 = moderate winter injury, recovery likely, 3 = severe setback from winter injury, recovery questionable, 4 = winterkilled

Table 2. (continued)

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS	WINTER INJURY*	HEIGHT (in)	SPREAD (in)
<i>Doschampsia caespitosa</i> 'Goldschleier'	Tufted hair grass	Bluebird	Aug 90	1	0.0	20 (36)	22
<i>Doschampsia flexuosa</i>	Crinkled hair grass	Bluebird	Aug 89	12	2.6	9 (32)	10
<i>Festuca amethystina</i>	Large blue fescue	Bluebird	Aug 89	10	1.6	12 (24)	12
<i>Festuca scoparia</i>	Bearskin grass	Bluebird	Aug 90	1	2.0	3	4
<i>Festuca valesiaca</i> 'Glaucosa'	Swiss fescue	Bluebird	Aug 90	3	0.3	12 (18)	13
<i>Helictotrichon sempervirens</i>	Blue oat grass	Bluebird	Aug 90	1	1.0	15	7
<i>Hystrix patula</i>	Bottle brush grass	Bluebird	Aug 89	12	3.0	31	12
<i>Koeleria glauca</i>	Blue hair grass	Bluebird	Aug 89	10	1.2	11 (23)	13
<i>Koeleria glauca</i>	Blue hair grass	T&M	July 90	10	2.5	9 (21)	12
<i>Malva ciliata</i>	Silky-spike malic	Bluebird	Aug 89	10	2.2	20 (35)	15
<i>Phalaris arundinacea</i> var. <i>picta</i>	Ribbon grass	Bluebird	Aug 89	11	0.6	40 (56)	42
<i>Sesleria autumnalis</i>	Autumn moor grass	Bluebird	Aug 90	2	0.5	14 (24)	10
WOODY PERENNIALS							
<i>Actinidia kolomikta</i>	Kolomikta kiwi	BCN	Sept 89	5	2.0	24	48
<i>Betula occidentalis</i>	Water birch	NCRPIS	June 90	3	2.0	37	49
<i>Betula michauxii</i>		ARGS	Sept 90	5	1.0	9	26
<i>Betula sp.</i>		NCRPIS	June 90	3	1.3	60	72
<i>Caragana manshurica</i>		NCRPIS	Sept 90	5	3.6	24	6

* Winter Injury Rating : 0 = no visible injury, 1 = slight winter injury, 2 = moderate winter injury, recovery likely, 3 = severe setback from winter injury, recovery questionable, 4 = winterkilled

WEEKLY BLOOM PERIOD					BLOOM COLOR	FROST TOLERANT		COMMENTS	PLOT LOCATION	SCIENTIFIC NAME
MAY	JUN	JUL	AUG	SEP		flowers	foliage			
	☼					+			8	<i>Daschampsia</i> 'Goldschleier'
	☼					+			8	<i>D. flexuosa</i>
	☼					+			8	<i>Festuca amethystina</i>
						+			8	<i>F. scoparia</i>
	☼					+			8	<i>F. valesiaca</i>
						+			8	<i>Holcetrichon</i>
		☼				+		reddish fall color	8	<i>Hystrix</i>
	☼					+		blue-green color	8	<i>Koeleria glauca</i>
	☼					+			8	<i>K. glauca</i>
	☼					+			8	<i>Melica</i>
	☼					+		striking variegated foliage	8	<i>Phalaris</i>
						+			8	<i>Sesleria</i>
						-			3	<i>Actinidia</i>
						+			3	<i>Betula occidentalis</i>
						+			14	<i>B. michauxii</i>
						+			3	<i>Betula sp.</i>
						+			14	<i>Caragana</i>

Table 2. (continued)

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS	WINTER INJURY*	HEIGHT (in)	SPREAD (in)
<i>Crataegus monogyna</i>	Single-seed hawthorn	NCRPIS	June 90	3	1.3	37	34
<i>Forsythia ovata</i>	Early forsythia	NCRPIS	Sept 90	5	2.2	15	23
<i>Forsythia ovata</i> Nakai'	Early forsythia	NCRPIS	Sept 90	5	1.6	29	24
<i>Larix decidua</i>	European larch	PMC	Sept 90	5	3.6	10	8
<i>Larix Gmelinii</i> var. <i>Gmelinii</i>	Dahurian larch	PMC	Sept 90	4	3.0	15	7
<i>Larix Gmelinii</i> var. <i>olgensis</i>	Dahurian larch	PMC	Sept 90	5	3.6	12	8
<i>Larix Gmelinii</i> var. <i>principis</i>	Dahurian larch	PMC	Sept 90	5	3.6	14	8
<i>Lonicera Maackii</i>	Amur honeysuckle	NCRPIS	June 90	5	3.2	29	52
<i>Lonicera tatarica</i> 'Beavermor'	Tatarian honeysuckle	Beaverlodge	Sept 89	5	1.0	47	60
<i>Lonicera tatarica</i> 'Siberica'	Tatarian honeysuckle	NCRPIS	June 90	3	0.3	45	58
<i>Physocarpus opulifolius</i> 'Nugget'	Ninebark	NCRPIS	Sept 89	5	2.0	37	59
<i>Physocarpus</i> sp.	Ninebark	NCRPIS?	Sept 89	5	1.2	42	51
<i>Picea Engelmannii</i>	Engelmann spruce	Schumacher	Sept 89	5	0.2	11	9
<i>Picea glauca</i> var. <i>albertiana</i>	Alberta spruce	GBG	Sept 89	5	0.0	14	8
<i>Pinus cambra</i>	Swiss stone pine	Schumacher	Sept 89	5	0.6	4	3
<i>Pinus pumila</i>	Dwarf stone pine	Schumacher	Sept 89	5	2.0	3	2
<i>Populus deltoides</i> X <i>Petrowskiana</i> 'Brooks #6'		NCRPIS	June 90	2	1.4	71	76
<i>Populus</i> 'Tower'		PMC	June 90	5	2.0	79	56
<i>Populus tremula</i> 'Erecta'	Upright European ash	KHN	June 90	5	1.8	52	22

* Winter Injury Rating: 0 = no visible injury, 1 = slight winter injury, 2 = moderate winter injury, recovery likely, 3 = severe setback from winter injury, recovery questionable, 4 = winterkilled

MAY	WEEKLY BLOOM PERIOD					BLOOM COLOR	FROST TOLERANT		COMMENTS	PLOT LOCATION	SCIENTIFIC NAME
	JUN	JUL	AUG	SEP	flowers		foliage				
								+		3	<i>Crataegus</i>
								+		14	<i>Forsythia ovata</i>
								+		14	<i>Forsythia 'Nakat'</i>
								+		9	<i>Larix decidua</i>
								+		9	<i>L. Gmelinii</i> var. <i>Gmelinii</i>
								+		9	<i>L. Gmelinii</i> var. <i>olgensis</i>
								+		9	<i>L. Gmelinii</i> var. <i>principis</i>
								+		3	<i>Lonicera Maackii</i>
					☼☼☼☼☼☼☼☼☼	white red fruits		+		2	<i>Lonicera Beavermor'</i>
								+		3	<i>Lonicera Siberica'</i>
					☼☼☼☼☼☼☼☼☼	white		+		2	<i>Physocarpus Nugget'</i>
					☼☼☼☼☼☼☼☼☼	white		+		2	<i>Physocarpus. sp.</i>
								+		9	<i>Picea Engelmannii</i>
								+		9	<i>P. glauca</i> var. <i>albertiana</i>
								+		9	<i>Pinus cembra</i>
								+		9	<i>P. pumila</i>
								+		3	<i>Populus Brooks #6'</i>
								+		3	<i>Populus 'Tower'</i>
								+		3	<i>Populus Erecta'</i>

Table 2. (continued)

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS	WINTER INJURY*	HEIGHT (in)	SPREAD (in)
<i>Prunus fruticosa</i>	European dwarf cherry	BCN	Sept 89	5	2.2	20	24
<i>Prunus fruticosa</i> 'Scarlet'	European dwarf cherry	NCRPIS	Sept 89	5	3.4	28	44
<i>Prunus salicina</i> var. <i>mandshurica</i>	Manchurian plum	BCN	Sept 89	5	3.0	47	44
<i>Prunus sargentii</i>	Sargent cherry	PMC	June 90	5	3.0	35	45
<i>Ribes nigrifolium</i>	Jostaberry	BCN	Sept 89	4	2.2	22	54
<i>Salix alba</i> 'Vitellina'	Golden willow	BCN	Sept 89	5	3.0	73	69
<i>Sorbaria sorbifolia</i>	False spiraea	NCRPIS	June 90	3	0.0	49	79
<i>Viburnum lentago</i>	Sheepberry	NCRPIS	June 90	5	1.6	34	14

* Winter Injury Rating : 0 = no visible injury, 1 = slight winter injury, 2 = moderate winter injury, recovery likely, 3 = severe setback from winter injury, recovery questionable, 4 = winterkilled

WEEKLY BLOOM PERIOD					BLOOM COLOR	FROST TOLERANT		COMMENTS	PLOT LOCATION	SCIENTIFIC NAME
MAY	JUN	JUL	AUG	SEP		flowers	foliage			
							+		2	<i>Prunus fruticosa</i>
							+	surviving plants grew back from roots	2	<i>Prunus Scarlet</i>
							+	winter killed to ground, plants grew back from roots	2	<i>P. salicina mandshurica</i>
							+	winter killed to ground, plants grew back from roots	3	<i>P. sargentii</i>
							+		3	<i>Ribes</i>
							+	winter killed to ground, plants grew back from roots	2	<i>Salix</i>
			***	***	***	white	+		2	<i>Sorbaria</i>
							+		3	<i>Viburnum</i>

Table 3. All plants that have been evaluated but did not survive the minimum number of test years.*

SCIENTIFIC NAME	COMMON NAME	SOURCE	YEAR PLANTED	NUMBER OF PLANTS	NUMBER OF YEARS SURVIVED	COMMENTS
HERBACEOUS PERENNIALS						
<i>Dianthus capitatus</i>		NCRPS	1990	10	0	A
<i>Dianthus glacialis</i>	Ice pink	T&M	1990	1	0	A
<i>Dianthus superbus</i>	Utah pink	NCRPS	1990	10	0	A
<i>Dryas Drummondii</i>	Drummond dryad	ANPS	Aug 89	10	1	C
<i>Erigeron ericephalus</i>	Reabane	ANPS	June 90	10	0	A
<i>Erigeron purpuratus</i>	Reabane	ANPS	Aug 89	10	1	B,C
<i>Gypsophila cerastoides</i>	Mous ear gypsophila	ARGS	June 90	8	0	A
<i>Gypsophila globulosa</i>		NCRPS	June 90	10	0	A
<i>Hedysarum Mckenziei</i>	Wild sweet pea	ANPS	Aug 89	3	1	B
<i>Kitaibata vilifolia</i>		NCRPS	June 90	10	0	A
<i>Malva sylvestris</i>	High mallow	T&M	June 90	10	0	A
<i>Papaver kernerii</i>	Poppy	ARGS	June 90	7	0	A,D
<i>Potentilla pensylvanica</i>	Pennsylvania cinquefoil	J. Grant	Sept 89	3	0	A
<i>Potentilla</i> sp.		ANPS	Aug 89	10	1	
<i>Primula vulgaris</i> 'Dania Mix'	English primrose	Daehnfeldd	Sept 89	10	0	A
<i>Prunella vulgaris</i>	Common selfheal	ANPS	Aug 89	10	0	A
<i>Smelowskia pyriformis</i>		C. Parker	Aug 89	3	0	A,D
<i>Taraxacum carneocoloratum</i>		C. Parker	Aug 89	9	1	
<i>Tellima grandiflora</i>	Alaska fringecup	NEWFS	Sept 89	10	0	A
<i>Xerophyllum tenax</i>	Beor grass	Lawyer	Aug 90	10	1	E
ORNAMENTAL GRASSES						
<i>Bouteloua curtipendula</i> 'Trailway'	Sideoats grama	Bluebird	Aug 90	4	0	A
<i>Bouteloua gracilis</i>	Blue grama	Bluebird	Aug 89	7	1	
<i>Carex Morrowii</i> var. <i>aureo-variegata</i> 'Old Gold'	Variegated Japanese sedge	Bluebird	Aug 89	11	0	A
<i>Carex ornithopoda</i> 'Variegata'		Bluebird	Aug 89	10	1	
<i>Carex pendula</i>	Sedge grass	Bluebird	Aug 89	11	0	A
<i>Chasmanthium latifolium</i>	Sea oats	Bluebird	Aug 90	1	0	A
<i>Eragrostis trichodes</i>	Sand love grass	Bluebird	Aug 89	10	0	A
<i>Imperata cylindrica</i> var. <i>rubra</i> 'Red Baron'	Japanese blood grass	Bluebird	Aug 90	4	0	A
<i>Panicum virgatum</i> 'Pathfinder'	Switch-grass	Bluebird	Aug 89	12	0	A
<i>Pennisetum alopecuroides</i>	Chinese pennisetum	Bluebird	Aug 89	11	0	A
<i>Pennisetum flaccidum</i>		Bluebird	Aug 89	10	0	A
<i>Schizachyrium scoparium</i> 'Blaze'	Little bluestem	Bluebird	Aug 89	11	1	
<i>Sorghastrum avenaceum</i>	Indian grass	Bluebird	Aug 89	11	0	A
<i>Sporobolus airoides</i>	Greater dropseed	Bluebird	Aug 90	2	0	A

Key to Comments : A = did not survive first winter, B = mechanical injury caused loss, C = spring drought may have caused mortality, D = weak going into fall, E = very weak after winter.

* Minimum number of test years = 5 years for herbaceous perennials, = 10 years for woody landscape plants.

Table 3. (continued)

SCIENTIFIC NAME	COMMON NAME	SOURCE	YEAR PLANTED	NUMBER OF PLANTS	NUMBER OF YEARS SURVIVED	COMMENTS
WOODY PERENNIALS						
<i>Betula occidentalis</i>	Water birch	ANPS	Sept 89	4	0	A
<i>Ceanothus integerrimus</i>	Deerbush	Schumacher	Sept 89	5	0	A
<i>Cerocarpus montanus</i>	Mountain mahogany	NCRPIS	Sept 89	1	0	A
<i>Cotoneaster horizontalis</i>	Rock cotoneaster	Schumacher	Sept 89	5	1	
<i>Cotoneaster integerrimus</i> 'Centennial'	European cotoneaster	NCRPIS	Sept 89	5	1	
<i>Sorbus reducta</i>		NCRPIS	June 90	2	0	A,D

Key to Comments : A = did not survive first winter, B = mechanical injury caused loss, C = spring drought may have caused mortality, D = weak going into fall, E = very weak after winter.

Table 4. Plantings from 1991 that have not yet been evaluated for winter survival.

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS
HERBACEOUS PERENNIALS				
<i>Achillea borealis</i>	Yarrow	P. Wagner	Oct 91	3
<i>Aconitum volubile</i>	Monkhood	T&M	Sept 91	2
<i>Alchemilla alpinamollis</i>	Mountain ladysmantle	Park	Sept 91	10
<i>Allium cernuum</i>	Nodding onion	NEWFS	Aug 91	10
<i>Allium</i> sp.		VASKHNL	Aug 91	10
<i>Androsace septentrionalis</i>	Pygmy flower	WNS	June 91	10
<i>Anemone alba</i> subsp. <i>sulfurea</i>	Sulfur alpine anemone	ANPS	June 91	3
<i>Anemone Halleri</i>	Haller anemone	ANPS	June 91	7
<i>Anemone virginiana</i>	Thimbleweed	NEWFS	June 91	10
<i>Aquilegia atrata</i>		ARGS	Aug 91	7
<i>Aquilegia brevistyla</i>	Yukon columbine	ANPS	June 91	10
<i>Aquilegia Buergeriana</i>		ARGS	Aug 91	10
<i>Aquilegia formosa</i>	Stika columbine	ANPS	Aug 91	10
<i>Aquilegia pyrenaica</i>	Pyreneas columbine	ARGS	Aug 91	7
<i>Aquilegia sibirica</i>	Siberian columbine	ARGS	Aug 91	10
<i>Aquilegia vulgaris</i>	Garden columbine	T&M	Aug 91	2
<i>Aquilegia</i> sp. 'Dynasty'		J. Bittner	June 91	10
<i>Aquilegia</i> sp. 'McKana Giant Hybrids'		T&M	Aug 91	10
<i>Aquilegia</i> sp. 'Nora Barlow'		Park	Aug 91	10
<i>Aquilegia</i> sp. 'Star McKana Mix'		Park	Aug 91	6
<i>Arnica</i> sp.		WNS	Sept 91	10
<i>Arnebia</i> sp.		J. Bittner	June 91	3
<i>Artemisia Absinthium</i>	Common wormwood	Johnny's	June 91	10
<i>Artemisia frigida</i>	Fringed sagebrush	P. Holloway	June 91	10
<i>Artemisia Schmidtiana</i> 'Silver Mound'		P. Holloway	June 91	10
<i>Aster alpinus</i> var. <i>vierhapperi</i>		NEWFS	Sept 91	4
<i>Chrysanthemum Leucanthemum</i>	Oxeye daisy	WNS	June 91	10
<i>Cimicifuga racemosa</i>	Black snakeroot	T&M	Sept 91	4
<i>Clematis columbiana</i>	Columbian rock clematis	ANPS	Oct 91	1
<i>Clematis integrifolia</i>	Solitary clematis	J. Holm	Oct 91	1
<i>Cornus X undaschkensis</i>		ARGS	Oct 91	2
<i>Decodon verticillatus</i>	Swamp loosestrife	NEWFS	Sept 91	5
<i>Delphinium glaucum</i>	Sierra larkspur	C. Parker	Oct 91	2
<i>Delphinium grandiflorum</i>	Siberian larkspur	NCRPIS	July 91	10
<i>Delphinium grandiflorum</i> 'Blue Elf'		Harris Moran	July 91	10
<i>Delphinium laxiflorum</i>		NCRPIS	July 91	10
<i>Delphinium</i> sp. 'Stand Up'		Park	July 91	10
<i>Dianthus deltoides</i>	Malden pink	J. Bittner	June 91	10

Table 4. (continued)

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS
<i>Dianthus plumarius</i>	Cottage pink	VASKHNIL	Aug 91	19
<i>Dianthus plumarius</i>	Cottage pink	VASKHNIL	Aug 91	19
<i>Dianthus plumarius</i>	Cottage pink	VASKHNIL	Aug 91	31
<i>Dianthus plumarius</i> 'Ballad Blend'	Cottage pink	Stokes	July 91	10
<i>Dianthus plumarius</i> 'Sonata Double Mix'	Cottage pink	Park	July 91	10
<i>Draba densifolia</i>		ARGS	Aug 91	3
<i>Draba kamtschatica</i>		ANPS	July 91	10
<i>Erigeron humilis</i>	Heabane	ANPS	Aug 91	5
<i>Erigeron</i> sp. 'Pink Jewel' (?)		J. Bittner	June 91	10
<i>Eupatorium rugosum</i>	White snakeroot	NEWFS	Sept 91	2
<i>Gentiana Freyniana</i>		ARGS	Aug 91	10
<i>Gentiana septemfida</i>		ARGS	Aug 91	10
<i>Geranium maculatum</i>	Wild geranium	NEWFS	Aug 91	10
<i>Geranium Renardii</i>		ARGS	Sept 91	4
<i>Geranium sanguineum</i> 'Album'		ARGS	Sept 91	2
<i>Geranium</i> sp.		VASKHNIL	Sept 91	10
<i>Heuchera americana</i> 'Palace Purple'	Rock geranium	T&M	June 91	10
<i>Heuchera glabra</i>	Alumroot	ANPS	June 91	10
<i>Heuchera sanguinea</i> 'Bressingham Hybrids'	Coral bells	T&M	June 91	10
<i>Hypericum perforatum</i>	Common St. Johnswort	SBG	Sept 91	1
<i>Iris Bulleyana</i>	Hollowstem Iris	ARGS	Sept 91	1
<i>Iris Koempferi</i> (?)	Japanese Iris	ANPS	June 91	10
<i>Iris sibirica</i>	Siberian Iris	AHS	Aug 91	10
<i>Iris sibirica</i> 'Snow Queen'	Siberian Iris	ARGS	Aug 91	8
<i>Iris</i> (?) sp.		Novosibirsk	Aug 91	10
<i>Levisticum officinale</i>	Lovage	Vermont Bean	June 91	10
<i>Liatris borealis</i>		NEWFS	June 91	10
<i>Liatris punctata</i>	Dotted gayfeather	NEWFS	June 91	10
<i>Lilium</i> 'Corsica'	Asiatic hybrid lily	J. Bittner	June 91	10
<i>Lilium</i> 'Dreamland'	Asiatic hybrid lily	J. Bittner	June 91	10
<i>Lilium</i> 'Sterling Star'	Asiatic hybrid lily	J. Bittner	June 91	10
<i>Lilium</i> 'Yolanda'	Asiatic hybrid lily	J. Bittner	June 91	10
<i>Monarda</i> sp.	Mint	J. Bittner	June 91	1
<i>Patrinia scabiosifolia</i> 'Nagoya'	Dahurian patrinia	Park	July 91	10
<i>Penstemon procerus</i>	Littleflower penstemon	ANPS	Aug 91	2
<i>Physostegia virginiana</i>	Obedience	NEWFS	Sept 91	6
<i>Polemonium reptans</i>	Creeping polemonium	NEWFS	Oct 91	4
<i>Potentilla mandshurica</i>		VASKHNIL - DG	Sept 91	10

Table 4. (continued)

SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS
<i>Potentilla tridentata</i>	Three-toothed cinquefoil	P. Holloway	June 91	10
<i>Potentilla villosa</i>	Hairy cinquefoil	NEWFS	June 91	10
<i>Primula scotia</i>	Scotch primrose	ANPS	June 91	10
<i>Salvia officinalis</i>	Common salvia	Gorno-Altalsk	June 91	10
<i>Silene caroliniana</i>	Wild pink	NEWFS	June 91	6
<i>Silene</i> sp.		VASKHNIL	Sept 91	10
<i>Silene(?)</i> sp.		ANPS	Sept 91	6
<i>Silphium terebinthinaceum</i>	Prairie dock	NEWFS	July 91	10
<i>Sisyrinchium littorale</i>	Blue-eyed grass	ANPS	June 91	4
<i>Solidago puberula</i>	Downy goldenrod	NEWFS	Sept 91	10
<i>Tanacetum vulgare</i>	Common tansy	J. Bittner	June 91	10
<i>Teledkia speciosa</i>		T&M	June 91	10
<i>Thalictrum sparsiflorum</i>		ANPS	Sept 91	4
<i>Thymus X citriodorus</i> 'Lemon'	Lemon thyme	DBG	June 91	2
<i>Thymus X citriodorus</i>	Silver thyme	DBG	June 91	3
<i>Thymus X citriodorus</i>	White thyme	DBG	June 91	4
<i>Thymus Serpyllium</i>	Lemon variegated thyme	DBG	June 91	4
<i>Thymus Serpyllium</i> 'Pink Chintz'		DBG	June 91	4
<i>Thymus</i> sp.	Lemon thyme	DBG	June 91	8
<i>Valeriana sitchensis</i>	Sitka valerian	ANPS	June 91	2
<i>Veronica incana</i>	Wooly speedwell	T&M	June 91	10
<i>Viola pedata</i>	Bird-foot Viola	NEWFS	Sept 91	10
WOODY PERENNIALS				
<i>Betula populifolia</i>	Gray birch	Barnaul	Aug 91	10
<i>Caragana arborescens</i>	Siberian pea	Chernal	Sept 91	5
<i>Caragana</i> sp.		PMC	Sept 91	1
<i>Caragana</i> sp. o.p.		PMC	Sept 91	2
<i>Cotoneaster horizontalis</i>	Rock cotoneaster	Schumacher	Sept 91	5
<i>Cotoneaster nifens</i>	Pinkblush cotoneaster	NCRPIS	Sept 91	5
<i>Larix sibirica</i>	Siberian larch	Novosibirsk	Aug 91	5
<i>Malus baccata</i> var. <i>mandshurica</i>	Siberian crab	PMC	Sept 91	5
<i>Picea pungens X glauca</i>	Spartan spruce	BTI	Aug 91	5
<i>Prunus tenella</i>	Dwarf Russian almond	Lawyer	Sept 91	1
<i>Rhododendron canadense</i>	Rhodora	NEWFS	Aug 91	5
<i>Rosa Eglanteria</i>	Eglantine rose	NCRPIS	Aug 91	5

Table 4. (Continued)

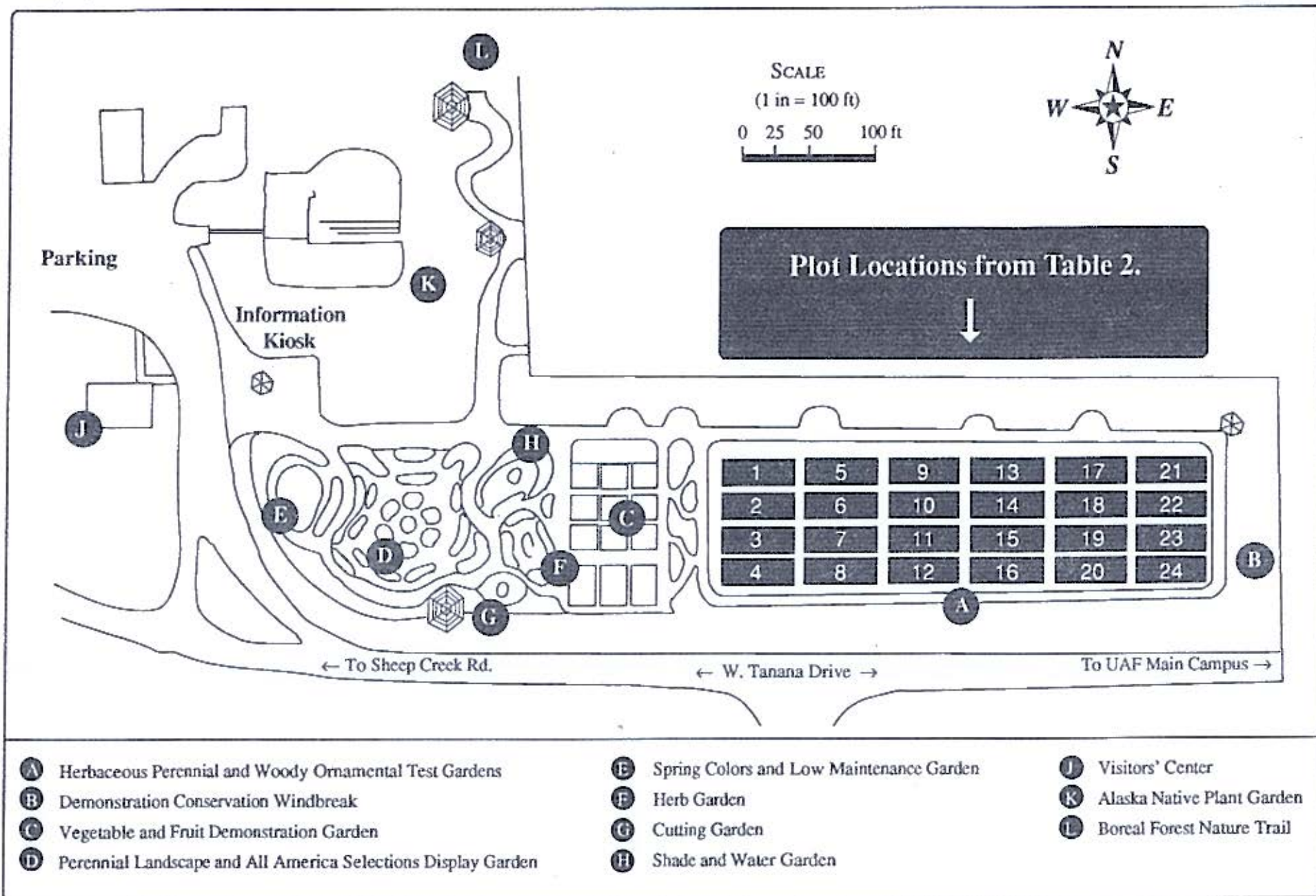
SCIENTIFIC NAME	COMMON NAME	SOURCE	DATE PLANTED	NUMBER OF PLANTS
<i>Rosa multiflora</i>	Baby rose	Selberling	Aug 91	5
<i>Rosa multiflora</i>	Baby rose	P. Holloway	Aug 91	5
<i>Rosa rugosa</i> Pl 277 432		PMC	Aug 91	5
<i>Rosa Woodlil</i>	Wood's rose	NCRPIS	Aug 91	5
<i>Rosa</i> sp. 'Lac Majean'		PMC	Aug 91	5
<i>Rosa</i> sp. 'à Parfum de l'Hay'		PMC	Aug 91	4
<i>Rosa</i> sp. 'Prairie Wren'		PMC	Aug 91	2
<i>Rosa</i> sp. 12B		PMC	Aug 91	1
<i>Salix</i> sp.		AFES	Aug 91	5
<i>Syringa pekinensis</i>	Pekin lilac	NCRPIS	Sept 91	3

Appendix 1. Commercial sources and organizations

AAS	All-America Selections	Lawyer	Lawyer Nursery Inc., 950 Highway 200 West, Plains, MT 59859
AHS	The American Horticultural Society, P.O. Box 6118, 7931 E. Boulevard Dr., Alexandria, VA 22308	NCRPIS	North Central Regional Plant Introduction Station, Ames, IA
ANPS*	Alaska Native Plant Society, P.O. Box 141613, Anchorage, AK 99514	NEWFS*	New England Wild Flower Society, Garden in the Woods, Hemenway Rd., Framingham, MA 01701
ARGS*	American Rock Garden Society, P.O. Box 67, Millwood, NY 10546	Novosibirsk	Central Siberian Botanical Garden, Novosibirsk, Russia
Barnaul	The Lisavenko Research Institute of Horticulture, Barnaul, Altai Region, Russia	Park	Park Seed Co., Cokesbury Rd., Greenwood, SC 29647-0001
BCN	Bear Creek Nursery, P.O. Box 411, Northport, WA 99157	PMC	Plant Materials Center, HC02 Box 7440, Palmer AK 99645
Beaverlodge	Beaverlodge Nursery, Ltd., Box 127, Beaverlodge, Alberta T0H 0C0, Canada	SBG	Siberian Botanical Garden, Novosibirsk, Russia
Bluebird	Bluebird Nursery, Inc., P.O. Box 460, Clarkson, NE 68629	Schumacher	F.W. Schumacher Co., Inc., 36 Spring Hill Rd., Sandwich MA 02563-1023
BTI	Better Trees, Inc., 7894 W. Maple Rapids Rd., St. Johns, MI 48879	Seiberling	Seiberling Naturealm, Akron, Ohio
Chamal	Mountain Experiment Station, Gorno-altaisk Region, Russia	T&M	Thompson & Morgan Inc., P.O. Box 1308, Jackson, NJ 08527
Dachnfeldt	Dachnfeldt, Box 947, Albany, OR 97321	VASKHNIL-DG	Dendrological Garden - Siberian Academy of Agricultural Sciences, Novosibirsk Region, Russia
DBG	Denver Botanic Gardens	VASKHNIL	Siberian Academy of Agricultural Sciences, Novosibirsk Region, Russia
GBG	Georgeson Botanical Garden, 309 O'Neill Building, University of Alaska Fairbanks, Fairbanks, AK 99775	VB&S	K. Van Bourgondien & Sons, Inc., 245 Farmingdale Rd., Babylon NY 11702
Harris Moran	Harris Moran Seed Company, 1155 Harkins Rd. Salinas, CA 93901	Vermont Bean	Vermont Bean Seed Co., Garden Lane, Fair Haven, VT 05743
KHN	Knight Hollow Nursery, Inc., 236 E. Sunset Ct., Madison, WI 53705	WNS	Wildwood Northern Seeds, Whitehorse, Yukon, Canada
Johnny's	Johnny's Selected Seeds, Foss Hill Rd., Albion, ME 04910		

*seeds available to members

Map of the Georgeson Botanical Garden.



University of Alaska Fairbanks
Agricultural and Forestry Experiment Station
School of Agriculture and Land Resources Management

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