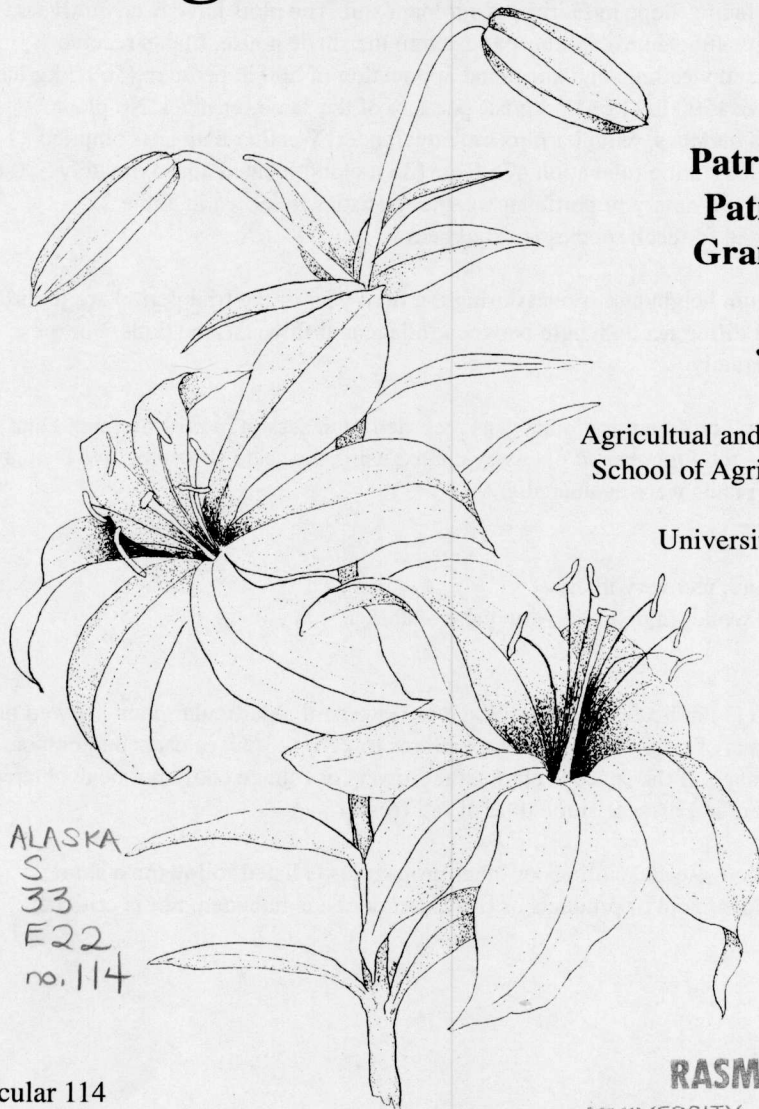


Perennial Plant Trials at the Georgeson Botanical Garden

by
**Patricia S. Holloway,
Patricia J. Wagner,
Grant E.M. Matheke
and
Jane Gibson**

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



ALASKA
S
33
E22
no. 114

Circular 114

RASMUSON LIBRARY
UNIVERSITY OF ALASKA FAIRBANKS
December 1998

Introduction

Trials were begun in 1989 at the Georgeson Botanical Garden (64°51'N, 147° 52'W, elevation 475 feet; 136 meters) to evaluate the hardiness and ornamental potential of trees, shrubs, and herbaceous perennial ornamentals. Woody ornamentals are tested for 10 years, and herbaceous perennials for five years. This report is the first summary of perennials that have survived the trial period with a winter hardiness rating between zero and 2.5. Each plant in the trial is evaluated annually for winter injury and rated on a scale of zero through four. A zero rating denotes no visible injury, and four is death. A score of 2.5 and lower indicates the plant grew well in the Garden. It may have shown symptoms of winter injury but recovered in subsequent seasons. The species and cultivars listed in Table 1 are recommended for further trial throughout Interior Alaska.

Plants are grown on a south-facing slope in Fairbanks silt loam soil. The plots have been cultivated since about 1910. All plants receive full sun except those located in the shade house. Plants receive supplemental irrigation, mostly hand weeding, and an annual application of 500 lb per acre (560.5 kg/ha) 10-20-20S fertilizer. Lilies receive 1500 lb (1,681.5 kg/ha) per acre of the same fertilizer. No plant receives winter protection such as mulches, wind barriers or snow fences. Weather data are compiled annually from U.S. Weather Service station (elevation 475 feet; 136 meters) located approximately 350 feet (105 meters) west of the Garden. A summary of pertinent weather statistics is shown in Table 2.

An explanation of data reported for each species is listed below:

Height and Spread: Maximum height and spread during the final year of the trial period are reported. Some plants showed a significant difference in height between foliage and flowers/seed pods. For these plants, two heights are listed separately.

Hardiness Rating: A visual rating of winter injury was recorded each season in mid summer. Data represent an average rating for the total number of plants evaluated using the scale shown below. Data are cumulative over all the years the 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

Frost Tolerance: A plus sign (+) indicates that the foliage or flowers of a particular plant showed no obvious damage after several nights of below freezing temperatures to 27°F (-3 °C) in early September. A negative sign (-) means frost damage. If the space is empty, the flowers or foliage could not be evaluated because they had died back or were not present at the time of fall frost.

Source: The source of the plants, seeds, cuttings or other propagules is listed following a short description of each plant. No endorsement of products or firms mentioned is intended, nor is criticism implied of those not mentioned.

Table 1. Perennials evaluated at the Georgeson Botanical Garden with an average hardiness rating of 2.5 or lower for the five-year trial period.

Herbaceous Perennial Ornamentals

Asiatic Hybrid Lily (*Lilium sp.*) Liliaceae

Asiatic hybrid lilies have been grown in the Interior for more than 50 years. Most notable among garden plants in the Fairbanks area is the "Elegans" lily locally known as tiger lily. The orange, upward-facing flowers form large, robust clumps lining driveways and home foundations throughout the area. Asiatic hybrids are available in a rainbow of flower colors and an incredible array of sizes and flowering times. Most thrive in sunny gardens of the Interior in mixed borders, mass plantings and cutting gardens. They are relatively pest free except for voles that can destroy the bulbs in winter. Propagate by bulb scales and sometimes seeds and bulbils. GBG sources: Waushara Gardens, Plainfield, Wisconsin; B&D Lilies, Port Townsend, Washington; Wayside Gardens, Hodges, South Carolina.

Cultivar	Height in(cm)	Spread in(cm)	Hardiness Rating*	Flower Color	Flowering Period
Antarctica	30 (76)	20 (51)	1.9	white	mid July through Aug
Chinook	35 (89)	22 (56)	1.2	Lt. orange	late July through Aug
Corina	41 (104)	32 (81)	0.4	Orange	June to early Sept
Dreamland	17 (43)	10 (25)	0.8	Yellow/gold throat	late July through Aug
Fireball	19 (48)	16 (41)	1.0	Burgundy	mid July to mid Aug
French Vanilla	29 (74)	26 (66)	0.6	Lt yellow	mid July through Aug
Graceland	26 (66)	21 (53)	2.3	Orange	mid July through mid Aug
Jolanda	39 (99)	17 (43)	0.4	Orange	mid July through early Sept
Juliana	24 (61)	24 (61)	0.4	Cream	mid July to early Aug
Pink Chiffon	27 (68)	25 (64)	1.5	Pink	mid July to Mid Aug
Poet's Dream	31 (79)	25 (64)	0.8	Pink/burgundy throat	July through Aug
Prince Carnival	33 (83)	26 (66)	0.9	Pink/spotted throat	mid July to late Aug
Rainbow	36 (91)	24 (61)	1.1	scarlet	mid July through Aug
Red Night	24 (61)	15 (38)	1.1	Dk red	mid July to Mid Aug
Roma	25 (63)	20 (51)	0.3	Lt Yellow	late July through Aug
Sterling Star	24 (61)	18 (45)	0.6	white/spotted throat	mid July through Aug
Tribute	28 (71)	20 (51)	0.6	Lt Orange	mid July to Mid Aug
Vanessa	28 (71)	26 (66)	0.7	Yellow/orange	early July through Aug

Carthusian or Clusterhead Pink (*Dianthus carthusianorum*)

Caryophyllaceae

Height: foliage 8in (20cm) flowers 26in (66cm) **Spread:** 22in (56cm) **Hardiness Rating:** 0.8

Frost Tolerance: flowers + foliage +

Flower Color: deep pink **Flowering Period:** June through early Sept

This plant produces mats of sprawling stems covered with linear-oblong leaves and topped with clusters of deep pink flowers. Early in the season the stems and flowers are upright, but as the season progresses, stems flatten, and flowers form a ring around the central crown. Some gardeners consider this species too lanky and floppy, recommending it be staked or planted in mixed borders crowded with other plants so the flowers stay upright. Others found the "floppy" habit quite interesting. Subsequent to the test years, this species was winterkilled in 1995-96 by inadequate snow cover, therefore winter protection is essential. Propagate by seed, stemcuttings or division. GBG Source: Thompson & Morgan, Inc., Jackson, New Jersey.

Cottage Pink (*Dianthus plumarius* 'Smokey') Caryophyllaceae

Height: 20in (51cm) **Spread:** 30in (76cm) **Hardiness Rating:** 1.6

Frost Tolerance: flowers + foliage +

Flower Color: light pink **Flowering Period:** mid June through early Sept

The cultivar, 'Smokey' is a robust plant with upright, spreading stems and distinctive grayish green foliage. Stems have small clusters of light pink flowers that contrast nicely with the foliage. It grows well as an edging plant in mixed borders. In the Garden, it is interplanted with annual *Dianthus* selections for a beautiful mixed pink, red and white border that blooms nearly all summer. Propagate by seeds, stem cuttings or division. GBG Source: North Central Plant Introduction Station, Ames, Iowa

Crested Gentian (*Gentiana septemfida*) Gentianaceae

Height: 15in (38cm) **Spread:** 24in (61cm) **Hardiness Rating:** 2.1

Frost Tolerance: flowers + foliage +

Flower Color: dark blue **Flowering Period:** Aug through early Sept

Crested gentian blooms late in the season. The upward-facing, cup-shaped flowers are borne in clusters at the top of spreading, upright stems. They are a showy, dark blue with paler blue spots inside. The plants need winter protection and snow cover for best survival. It grows well as edging and in rock gardens. Propagate by seeds. GBG Source: American Rock Garden Society, Millwood, New York.

Delphinium (*Delphinium laxiflorum*) Ranunculaceae

Height: 73in (185cm) **Spread:** 34in (86cm) **Hardiness Rating:** 1.8

Frost Tolerance: flowers foliage +

Flower Color: dark blue **Flowering Period:** late June through Aug

A tall, willowy plant with flowers that are very similar to our native larkspur and the wild Siberian delphinium tested at the same time. The large crown produced branched stalks covered with dark blue flowers. It needs staking if planted alone. It is not as ornamental as the many strains and hybrids of delphiniums commercially available, but provides interesting contrast to the more showy hybrids. This species self sows, but seeds are heavy, and most seedlings appear near the main plant. They are easy to dig and transplant. Propagate by seed and division. GBG source: North Central Regional Plant Introduction Station, Ames, Iowa

Dropwort (*Filipendula vulgaris* [*F. hexapetala*]) Rosaceae

Height: foliage 21in (53cm) flowers 51in (129cm) **Spread:** 26in (66cm) **Hardiness Rating:** 2.0

Frost Tolerance: flowers + foliage +

Flower Color: white **Flowering Period:** mid June, July, occasionally Aug, Sept

Loose panicles of white flowers tower over the finely-dissected, fern-like rosettes of leaves. This plant spreads slowly from a tuberous rootstock, and is a valuable addition to sunny borders. Both flowers and foliage are ornamental. Flower height varies considerably by seed source. One selection reached 51 inches (129cm) in height, whereas another was only 27 inches (68cm) tall. This species needs snow cover for winter survival. It is easily propagated by seed. GBG source: Geo. Park Seed Co., Greenwood South Carolina.

Grass-leaf daylily (*Hemerocallis minor*) Liliaceae

Height: 24in (61cm) **Spread:** 22in (56cm) **Hardiness Rating:** 2.3

Frost Tolerance: flowers foliage +

Flower Color: gold **Flowering Period:** June, July

This species is considered a dwarf when compared to other daylilies. Its height is only two feet (61cm) and the leaves are about 1/4 inch (6mm) across. The trumpet-shaped flowers are fragrant, bright golden yellow and emerge just above the leaves. It has a single, relatively short bloom time, but is a welcome addition to the very few types of daylilies that survive in the Interior. Propagate by seeds and division. GBG source: North Central Regional Plant Introduction Station, Ames, IA

Heartleaf Bergenia (*Bergenia cordifolia* 'Redstart' and 'Rose')

Saxifragaceae

Height: 15in (38cm) **Spread:** 25in (64cm) **Hardiness Rating:** 2.5

Frost Tolerance: flowers foliage +

Flower Color: rose **Flowering Period:** late May, early June

Both 'Redstart' and 'Rose' bergenias were grown in the shade house and have expanded vegetatively to mounds nearly 3 feet (91cm) in diameter. More than half of the plants from each cultivar died during the first two years of establishment, but the remaining plants survived even with poor snow cover. The glossy green foliage is evergreen and provides early-season color to shade gardens. The bright rose pink blooms appear in large clusters in late May. Some gardeners dislike this plant because the leaves remind them of cabbage seedlings, but the flowers are very colorful, and the evergreen foliage is a welcome sight in early May. Propagate by seed and division. GBG source: Geo. Park Seed Co., Greenwood, South Carolina.

Lace-veil Asparagus (*Asparagus officinalis* subsp. *pseudoscaber*) Liliaceae

Height: 28in (71cm) **Spread:** 22 (56cm) **Hardiness Rating:** 0.7

Frost Tolerance: flowers foliage +

Flower Color: yellow **Flowering Period:** mid to late June, sporadically in Aug and Sept

This plant is related to the edible asparagus, but is much hardier. It survived with little snow cover while the edible cultivars at the Garden were killed. It has clusters of willowy stems covered with tiny scale-like leaves. The flowers are insignificant, but this plant has a definite place in cut flower gardens. It is a hardy source of greenery for floral arrangements. Propagate by seed and division. GBG source: Ball Seed, West Chicago, Illinois.

Narrow-leaved Hawkweed (*Hieracium umbellatum*) Asteraceae

Height: 36in (91cm) Spread: 36in (91cm) Hardiness Rating: 0.2

Frost Tolerance: flowers + foliage +

Flower Color: yellow Flowering Period: June through Sept

Hawkweed is a large, coarse perennial forming clumps of upright stems topped with loose panicles of bright yellow flowers. The bracts beneath the flowers are blackish green and create a striking contrast to the yellow, linear petals. This plant flowers abundantly, and self sows all over the garden. The “dandelion-like” seeds spread far and wide on the slightest breeze. It can be quite invasive by seed and is best grown in wildflower meadows and natural plantings. Propagate by seeds. GBG source: Alaska Native Plant Society, Anchorage, Alaska.

Nodding Onion (*Allium cernuum*) Amaryllidaceae

Height: 8in (20cm) Spread: 4in (10cm) Survival Rating: 2.4

Frost Tolerance: flowers foliage +

Flower Color: rose Flowering Period: mid July through Sept

This wildflower is native to the eastern and midwestern United States and is a beautiful, delicate flower for sunny borders and edible landscapes. It is not very showy by itself and should be planted in groups or with other low-growing bulbs. It is a fairly short perennial with delicate clusters of rose-colored, nodding flowers. It needs good snow cover for optimum survival. Propagate by seeds and division. GBG source: New England Wildflower Society, Framingham, Massachusetts.

Northern beech fern (*Phegopteris connectilis* [*Thelypteris phegopteris*])

Thelypteridaceae

Height: foliage 13in (33cm) Spread: 27in (68cm) Hardiness Rating: 1.7

Frost Tolerance: flowers foliage -

Flower Color: none Flowering Period: none

Triangular-shaped fronds arise from creeping rootstocks to form a dense, crowded clump. The plant spreads slowly and produces interesting, upward-spreading mounds of fronds. This plant grows in shade gardens and is recommended for acid soil conditions. It adds some interesting variety to the very limited number of hardy ferns for Interior shade gardens. Propagate by division or spores. GBG source: New England Wildflower Society, Framingham, Massachusetts

Ribbon grass (*Phalaris arundinacea* var. *picta*) Poaceae

Height: foliage 12in (30cm) flowers 46in (117cm) Spread: 96+in (244cm) Hardiness Rating: 0.4

Frost Tolerance: flowers foliage +

Flower Color: light green Flowering Period: late June

Ribbon grass is grown for its crowded mats of variegated foliage rather than flowers. The plants spread by thick rhizomes to form solid, nearly impenetrable mats of green and white striped leaves. Flowers are narrow spikes nearly four feet tall. Flower heads dry to a light brown and persist in winter. This plant performed very well during the test years, but was winterkilled by a lack of snow cover two years after testing. Winter protection is essential for survival. Plants are extremely difficult to remove once rhizome spread has begun. They are tenacious soil binders. Propagation is by division or rhizome cuttings. GBG source: Bluebird Nursery, Clarkson, Nebraska.

Russian Salvia (*Phlomis tuberosa*) Lamiaceae

Height: 66in (168cm) Spread: 30in (76cm) Hardiness Rating: 0.7

Frost Tolerance: flowers foliage +

Flower Color: pink Flowering Period: mid June through July, sporadic in Aug

Russian salvia is a welcome addition to the short list of perennials that will be a very reliable background plant in mixed borders, especially when planted with delphiniums and other tall perennials. Coarse rosettes of large, oblong leaves appear early in the season and are quickly followed by flowering stems that may reach more than 5 feet (152cm) in height. Flowers are clustered in tight rings around the stem. Individual flowers are a beautiful shade of pink and have feathery edges. They are attractive to bees and other insect pollinators. At the end of the season, the floral calyx dries to a hard, dark brown ring. Clusters of these rings appear all along the stem. They are useful in dried flower arrangements. The plant produces abundant seeds and self sows in the garden. Its species name, *tuberosa*, comes from the potato-like tubers produced beneath the rosettes of leaves. Propagation is by seed and tubers. GBG Source: Central Siberian Botanical Garden, Novosibirsk, Russia

Russian Wild Daylily (*Hemerocallis sp.*) Liliaceae

Height: foliage 18in (46cm) flowers 24in (61cm) Spread: 15in (38cm) Hardiness Rating: 2.3

Frost Tolerance: flowers foliage +

Flower Color: yellow Flowering Period: mid June through July

This daylily was collected in the medicinal garden of the Central Siberian Botanical Garden. Its species identification is not yet known. Like many species daylilies, this plant has a single, relatively short bloom time, but the lemon yellow flowers are an attractive addition to a perennial mixed border. It is very hardy, and showed no damage in years with very little snow cover. Propagate by seed and division. GBG Source: Central Siberian Botanical Garden, Novosibirsk, Russia.

Russian Chives (*Allium schoenoprasum*) Amaryllidaceae

Height: 24in (61cm) Spread: 22in (56cm) Hardiness Rating: 0.3

Frost Tolerance: flowers foliage +

Flower Color: rose Flowering Period: mid June, July

These chives were part of a plant breeding collection at the Siberian Agricultural Research Institute. They are very reliable and hardy, just like garden chives already common in Alaska's gardens. This collection has nothing outstanding or unusual to make it more desirable than the ones already grown. It, along with all other garden chives, makes a great ornamental for mixed borders and edible landscapes. Propagate by seeds and division. GBG Source: Siberian Agricultural Research Institute, Novosibirsk, Russia

Siberian columbine (*Aquilegia sibirica*) Ranunculaceae

Height: foliage 18in (46cm) flowers 29in (74cm) Spread: 22in (56cm) Hardiness Rating: 1.2

Frost Tolerance: flowers foliage +

Flower Color: deep purplish blue Flowering Period: late May, June occasionally July, Aug, Sept

Siberian columbine is one of the earliest flowers to bloom in the Garden and is a welcome sight when most perennials are just beginning to emerge. The plants have nodding flower heads with short, incurved spurs. The showy flowers appear on long stalks high above a large mound of blue-green foliage. This species was the most reliably hardy columbine during years of low snowfall. It self sows in the Garden and is easily propagated by seeds. GBG Source: American Rock Garden Society, Millwood, New York.

Siberian Larkspur (*Delphinium elatum*) Ranunculaceae

Height: 74in (188cm) Spread: 30in (76cm) Hardiness Rating: 1.2

Frost Tolerance: flowers foliage +

Flower Color: dark blue Flowering Period: late June, through Aug

The flowers on this plant are very similar to Alaska wild larkspur, but the plant is more robust and significantly taller than the native plant. Siberian larkspur produces large crowns of finely dissected, palmately compound leaves. Hollow, willowy stems support many-branched racemes of dark blue flowers that appear earlier than most cultivated delphiniums. By late summer most of the towering stems are covered with brown seed capsules. Seeds are shaken by the slightest breeze, and seedlings can be quite prolific in the garden. The plants are susceptible to aphid damage, but not to the extent of some cultivated delphiniums. The tall stems need staking if planted alone. It grows best as a background plant in mixed borders. Propagate from seed following a cold stratification period of about 90 days or by division. GBG Source: North Central Regional Plant Introduction Station, Ames, Iowa

Snow-in-summer (*Cerastium tomentosum*) Caryophyllaceae

Height: 10in (25cm) Spread: 48 (122cm) Hardiness Rating: 1.6

Frost Tolerance: flowers + foliage +

Flower Color: white Flowering Period: early June through July, sporadic in Aug, Sept

This evergreen, mound-forming ground cover has grayish wooly foliage and many white flowers on top of recumbent, sprawling stems. The leaves are small and pointed. In some years, portions of the plant die back, and stems are covered with straw-colored leaves. New growth quickly covers the dead spots, but the spring appearance can be ragged. Perennial weed control is difficult in this open, loose ground cover. This plant is best grown in rock gardens and as edging. Propagate by seeds, division and stem cuttings. GBG Source: Thompson & Morgan, Inc., Jackson, New Jersey.

Solitary Clematis (*Clematis integrifolia*) Ranunculaceae

Height: 17in (43cm) Spread: 11in (28cm) Hardiness Rating: 1.0

Frost Tolerance: flowers + foliage +

Flower Color: blue Flowering Period: mid Aug to early Sept

This clematis was introduced many years ago by the late John Holm, Northern Lights Nursery. It is a delicate, non-climbing clematis with nodding flower heads and twisted petals. It is not a showy clematis like some of the non-hardy vine types, but it has blue, bell-like flowers that provide interesting color in late summer. Seeds sometimes mature and appear as fuzzy seed heads with long hairy appendages. Propagate by seeds following cold stratification for 30 days. GBG source Northern Lights (Holmtown) Nursery, Fairbanks, Alaska

Solomon's-seal (*Polygonatum biflorum*) Liliaceae

Height: 38in (96cm) Spread: 30in (76cm) Hardiness Rating: 1.4

Frost Tolerance: flowers foliage +

Flower Color: white with green tips Flowering Period: June

This plant was one of the most striking herbaceous perennials grown in the Garden. The original plants came from a Fairbanks garden where they thrived for many years. Tall, graceful, arching stems have blue green foliage consisting of large, ribbed, elliptic leaves standing out like wings along opposite sides of the stem. Beneath each arching branch, a single row of bell-shaped flowers hang on short, delicate stalks. The

plants are very distinctive and grow well in mass plantings in full sun or shade. Propagate by division or seeds. GBG source: Kay Collette, Fairbanks, Alaska.

Thimbleflower (*Anemone virginiana*) Ranunculaceae

Height: foliage 9in (23cm) flowers 28in (71cm) Spread: 16in (41cm) Hardiness Rating: 1.0

Frost Tolerance: flowers foliage +

Flower Color: white with green tinge Flowering Period: mid June, July

Whitish flowers top very straight leafless stems held high above a mound of narrowly dissected compound leaves. The individual flowers are short lived, but they are quickly replaced by hard, greenish thimble-like seed heads. These heads remain intact and firm until late in the season when they gradually disintegrate into fluffy masses of cotton. The mature heads, when rubbed between fingers will also fall apart revealing seeds covered in white, fuzzy cotton. The plant is a good accent filler for more showy flowers, and the thimbles make an interesting contrast late in the season. Stems with the intact immature seed heads have some use in dried flower arrangements. GBG source: New England Wildflower Society, Framingham, Massachusetts.

Three-toothed Cinquefoil (*Potentilla tridentata*) Rosaceae

Height: foliage 8in (20cm) flowers 12in (30cm) Spread: 24+in (61+cm) Survival Rating: 1.9

Frost Tolerance: flowers + foliage +

Flower Color: white Flowering Period: mid June through Sept

This plant was first introduced to the Interior by Northern Lights Nursery. It is a slow-growing, woody ground cover that forms mounds of three-parted, glossy green leaves. Tiny, white flowers appear above the foliage and bloom nearly all summer. They are similar to wild strawberry flowers, but tiny, only about 1/4 inch (0.6 cm) across. This is an excellent addition to the limited selection of ground covers available in the Interior. Plants showed winterburn on foliage with inadequate snow cover, but they recover nicely. Propagate by division and stem cuttings. GBG source: Northern Lights (HolmTown) Nursery, Fairbanks, Alaska.

Woolly Speedwell, (*Veronica incana*) Scrophulariaceae

Height: 24in (61cm) Spread: 34in (86cm) Hardiness Rating: 1.4

Frost Tolerance: flowers + foliage +

Flower Color: purplish blue Flowering Period: late June through Aug

Two characteristics make this plant an interesting ornamental for Interior gardens: whitish woolly stems and leaves and tall spikes of purplish blue flowers. This plant produces long, spreading stems with lance-shaped leaves. Stems are topped with crowded spikes of tiny flowers. The flowers bloom from the bottom of the spike to the tip providing color for an extended period of time. It grows well as an edging plant in mixed borders as long as it is given ample room for its sprawling growth habit. Propagate by seeds, stem cuttings or division. GBG source: Thompson & Morgan, Inc., Jackson, New Jersey.

Yarrow (*Achillea millefolium* 'Summer Pastels') Asteraceae

Height: 29in (74cm) Spread: 40in (102cm) Hardiness Rating: 1.5

Frost Tolerance: flowers + foliage +

Flower Color: pink, white, red, yellow Flowering Period: mid June through Sept

Yarrow is an aromatic perennial with feathery, finely-dissected, oblong leaves on upright, crowded stems. The plant forms large clumps that spreads slowly by rhizomes. The cultivar, 'Summer Pastels' is a

collection of plants with mostly pastel-colored flowers in flat-topped or slightly rounded heads. The color mixture is spectacular for the first two years, but the yellows and dark reds die out early. Remaining plants have mostly white or pink flowers. This plant is excellent for natural gardens, mixed borders and cut flower gardens. Plants self sow prolifically. Flower heads need to be removed shortly after flowering to avoid an invasion of mostly white seedlings. Propagate by seeds or division. GBG source: All America Selections Program

Sneezewort (*Achillea Ptarmica* 'The Pearl') Asteraceae

Height: 23in (58cm) Spread: 34in (86cm) Hardiness Rating: 0.3

Frost Tolerance: flowers + foliage +

Flower Color: white Flowering Period: late June through Sept

This plant is the perfect example of "brilliant white". The tiny flowers are so abundant and pure white, they almost glow. This is a rhizomatous perennial with simple, linear leaves. No one looks at the leaves, though. The plant is blanketed with tiny, double white flowers and blooms nearly all summer. It is an excellent addition to white gardens, mixed borders and cutting gardens. Propagate by seeds and division. GBG source: Vaughan's Seeds, Downer's Grove, Illinois

Alaska Native Plants

Arnica (*Arnica lessengii*) Asteraceae

Height: 15in (38cm) Spread: 12+in (30+cm) Hardiness Rating: 0.1

Frost Tolerance: flowers + foliage +

Flower Color: bright yellow Flowering Period: mid June through Sept

This yellow "daisy" grows throughout Alaska mostly in alpine and subalpine meadows. In cultivation it forms thick mats of flowers that are borne singly on slender stems. The gently nodding flowers have yellow ray petals and purple anthers. It spreads by rhizomes and also self sows. The "dandelion-like" seeds can spread quite a distance in just a few years. It is not a flower for mixed borders and formal gardens because it will easily take over, but it is an excellent addition to wildflower mixes and natural plantings. It grows well along roadsides and in poor soils, but is difficult to eradicate once established. Propagate by seeds and division. GBG source: American Rock Garden Society, Millwood, New York.

Beering Chickweed (*Cerastium Beeringianum*) Caryophyllaceae

Height: foliage 6in (15cm) flowers 9in (23cm) Spread: 40in (102cm) Hardiness Rating: 1.0

Frost Tolerance: flowers foliage +

Flower Color: white Flowering Period: May through Sept

This Alaska native plant is found throughout the state in gravel areas, hillsides and rocky cliffs. It forms a matted ground cover with silvery foliage and has white flowers in loosely-branched clusters three inches above the foliage. The plant was quite attractive the first year, but it spread into a large, flat mat with abundant straw-colored dead foliage from previous year's growth. It tends to die out in the center leaving a ring of silvery foliage around the edges and the tips of branches. Seed pods are large, light brown and unattractive. This plant might be useful in rock gardens, but has little ornamental value. Propagate by seeds and division. GBG source: Alaska Native Plant Society, Anchorage, Alaska.

Bering Pink (*Dianthus repens*) Caryophyllaceae

Height: 12in (30cm) **Spread:** 14in (35cm) **Hardiness Rating:** 2.3

Frost Tolerance: flowers foliage +

Flower Color: pink **Flowering Period:** June through Sept

Mat-forming perennial that is native to arctic regions and western Interior Alaska and Siberia. The blue-green foliage is linear and upright. It forms thick mats covered with small, bright pink flowers. They are best grown in rock gardens where the showy flowers can be appreciated. Propagate from seed, stem cuttings and division. GBG source: American Rock Garden Society, Millwood, New York.

Cow Parsnip (*Heracleum sphondylium* subsp. *montanum*) Apiaceae

Height: foliage 20in (51cm) flowers 29in (74cm) **Spread:** 30in (76cm) **Hardiness Rating:** 2.0

Frost Tolerance: flowers foliage +

Flower Color: white **Flowering Period:** July

Cow parsnip is a native plant common in coastal Alaska in wet, grassy meadows. It is a very large, coarse plant that has some use as an eye-catching background plant. White flowers are clustered in flat-topped umbels. Brown, flat, ribbed seeds persist through the early winter. In the Interior, this plant does not grow as large as coastal plants, but it is still one of the largest plants grown in the Garden. Many people develop a painful sun sensitivity after touching cow parsnip leaves and stems. It causes poison ivy-like welts wherever skin is exposed to sunlight. The plant attracts aphids. It is best grown in natural gardens or as a background plant where sensitive individuals cannot accidentally touch it. Propagate by seeds. GBG source: New England Wildflower Society, Framingham, Massachusetts..

Cut-leaved Anemone (*Anemone multifida*) Ranunculaceae

Height: foliage 15in (38cm) flowers 30in (76cm) **Spread:** 17in **Hardiness Rating:** 1.2

Frost Tolerance: flowers foliage +

Flower Color: rose **Flowering Period:** late May, early June sporadically in July, Aug, Sept

This native plant grows in meadows and hillsides primarily in southeast, southcentral and eastern Interior Alaska. Cut-leaved anemone begins growth early in the spring and provides early-season flower color in late May. The small flowers are solitary on tall stems that grow high above the 15-inch tall mounds of finely-dissected foliage. Blooms appear sporadically all summer. Seed pods are hard whitish clusters that expand late in the season into woolly masses of cotton. It is useful in mixed borders as accent plants and for early season color. Propagate by seeds. GBG source: Alaska Native Plant Society, Anchorage, Alaska.

Mountain Fleabane (*Erigeron humilis*) Asteraceae

Height: foliage 2in (5cm) flowers 6in (15cm) **Spread:** 4in (10cm) **Hardiness Rating:** 2.4

Frost Tolerance: flowers foliage

Flower Color: white **Flowering Period:** late May to early June

This tiny fleabane is native to northern and eastern Alaska and Yukon Territory. It produces rosettes of oblong, rounded leaves from a thick rootstock. Flowers appear singly on hairy stems and have tiny, linear petals surrounding a yellow center. The entire plant dies back after flowering. It is best used in rock gardens for an early season display of color. Propagate by seeds. GBG source: Alaska Native Plant Society, Anchorage, Alaska.

Nootka Lupine (*Lupinus nootkatensis*) Fabaceae

Height: foliage 20in (51cm) flowers 31in (79cm) Spread: 72+in (183+cm) Hardiness Rating: 1.1

Frost Tolerance: flowers + foliage +

Flower Color: blue/white Flowering Period: May, June, occasionally in July, Aug, Sept

Nootka lupine is the coastal species that produces a stunning flower display along roadsides in southcentral Alaska at the end of June. This species is a larger plant and more robust than the arctic lupine that dominates the Interior. Nootka lupine produces masses of partly recumbent, sprawling stems with palmately compound, five- to eight-parted leaves. The flowers are blue, tipped with white and are crowded together in tall racemes. They bloom early, then set seeds in pea-like pods that turn black when mature. As pods dry out, they explode sending seeds far and wide. Seedlings can appear unexpectedly quite a distance from the main plant, but are not frequent enough or aggressive enough to be considered invasive. It is useful in wildflower meadows, in mass plantings, and in mixed borders. It grows well with Turkestan roses (*Rosa rugosa*) and cinquefoil (*Potentilla fruticosa*). Propagation is by seeds following scarification for hard seed coats. GBG source: wild collected, Valdez, Alaska

Shining Starwort (*Stellaria monantha*) Caryophyllaceae

Height: 6in (15cm) Spread: 30in (76cm) Hardiness Rating: 2.3

Frost Tolerance: flowers + foliage +

Flower Color: white Flowering Period: June through Sept

This native plant grows throughout Alaska in rocky soils of arctic and alpine tundra. It is a mounding perennial suitable for rock gardens. It has tufts of crowded, lance-shaped leaves topped with loose clusters of small white flowers. It blooms almost continuously from mid June through September. Propagate by seeds and division. GBG source: Dinkel's Fairview Nursery, Palmer, Alaska.

Decumbent Goldenrod (*Solidago decumbens*) Asteraceae

Height: foliage 15in (38cm) flowers 21in (53cm) Spread: 23in (58cm) Survival Rating: 2.3

Frost Tolerance: flowers + foliage +

Flower Color: yellow Flowering Period: mid July through Sept

This plant grows in eastern Interior Alaska and Yukon Territory. It forms large, crowded clumps of upright stems with linear foliage topped with tall golden flowering spikes. Flowers occur in tight clusters along the stems and provide excellent late-season blooms. The plant self sows in the garden with dandelion-like seeds and may become weedy. It is an excellent addition to wildflower mixes and natural plantings. GBG source: Alaska Native Plant Society, Anchorage.

Draba (*Draba densifolia*) Brassicaceae

Height: 3in (7.5cm) Spread: 6in (15cm) Survival Rating: 0.1

Frost Tolerance: flowers foliage +

Flower Color: yellow Flowering Period: early May, occasionally July, Aug

This evergreen plant forms tiny, dense mounds that are covered with bright yellow blooms very early in the season. It is an excellent rock garden plant that is reliably hardy even with inadequate snow cover. The leaves are densely crowded, and flowering stems rise above the mound, forming a crown of yellow blooms. Seeds are held in light brown, flat, orbicular pods that become papery and brittle when mature. This plant is native to scree slopes in the Rocky Mountains and as far south as California. It has a limited

distribution in eastern Interior Alaska. Propagation is by seeds. Germination is promoted by cold stratification for one month. GBG source: American Rock Garden Society, Millwood, New York.

Few-flowered Meadow Rue (*Thalictrum sparsiflorum*) Ranunculaceae

Height: 34in (86cm) Spread: 20in (51cm) Survival Rating: 0.4

Frost Tolerance: flowers foliage +

Flower Color: white Flowering Period: late May, June

The most ornamental characteristic of this plant is its thin, delicate, three-parted compound leaves scattered along many thin, upright stems. Tiny, not very showy, flowers are borne in loose panicles above the foliage. This plant is extremely hardy, surviving even with poor snowcover. In gardens, it grows best in mass plantings where the foliage is the centerpiece. It can also be useful as fillers in mixed borders with plants that have more showy flowers. It grows well in full sun and shade. It is native to meadows and woodlands throughout most of Alaska south of the Brooks Range and Yukon Territory. GBG source: Alaska Native Plant Society, Anchorage, Alaska.

Smooth Fleabane (*Erigeron glabellus*) Asteraceae

Height: foliage 12in (30cm) flowers 25in (63cm) Spread: 24in (61cm) Hardiness Rating: 1.2

Frost Tolerance: flowers + foliage +

Flower Color: pale lavender, blue, pink to white with yellow centers Flowering Period: June through Sept

Fleabane is common in eastern Interior Alaska and Yukon Territory. It grows in dry roadsides and meadows and is most common from Delta Junction eastward. The plant forms large clumps of crowded stems with lance-shaped leaves. Flowering stalks may be more than twice the height of the foliage. Flowers are daisy-like with hundreds of narrow, linear, pastel-colored petals surrounding a yellow center. The plant self sows and may become invasive. It is best grown in wildflower meadows or other natural plantings. Propagate by seeds. GBG Source: Alaska Native Plant Society, Anchorage, Alaska

Wild larkspur (*Delphinium glaucum*) Ranunculaceae

Height: foliage 26in (66cm) flowers 49in (124cm) Spread: 25in (63cm) Survival Rating: 2.5

Frost Tolerance: flowers foliage +

Flower Color: dark blue to purplish blue Flowering Period: late June through Aug

Wild larkspur is a tall perennial sometimes grown in wildflower meadows and mixed borders along with the cultivated delphiniums. In the wild it grows in grassy meadows, moist streambanks and open woodlands throughout most of Alaska and Yukon Territory. In the Interior, plants are mostly solitary or scattered, but in southcentral Alaska it can be the dominant plant in large grassy meadows. The five-petaled, spurred flowers are borne in loose spikes on long, hollow stem. The leaves are deeply five-lobed and appear at the base of the plant and on the stems beneath the flower clusters. Like cultivated delphinium, it is susceptible to aphid damage in some years. Propagation is by seed following a cold stratification period of 90 days or more. GBG source: wild collected, Fairbanks, Alaska

Table 2. Weather records for the test years

	Season									
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Average Temperature (°F)										
May	46.7	52.2	48.9	40.6	51.9	52.0	52.3	44.1	47.8	49.0
June	57.8	59.6	60.8	59.1	60.5	57.0	58.5	57.3	61.0	57.7
July	62.9	64.1	59.7	63.0	64.5	62.0	61.9	61.9	63.8	62.1
August	58.8	58.4	53.0	55.9	55.5	51.0	55.6	52.1	57.1	52.4
September	47.6	44.3	47.9	31.4	42.5	43.0	50.6	41.2	49.6	45.7
Maximum temperature (°F)	86	90	93	90	91	89	85	82	87	87
Growing Season										
Last spring frost	24 May	23 May	16 May	7Jun	1 May	6 May	22 May	5 June	25 May	18 May
First fall frost	15 Sept	8 Sept	27 Aug	5 Sept	1 Sept	23 Aug	4 Sept	27 Aug	19 Aug	28 Aug
Frost-free days	114	108	103	90	123	109	105	83	83	102
Thaw degree days			3069	2568	3547	3476	3676	2810	3655	3077
Rainfall (inches)	6.70	13.20	6.28	8.87	6.67	7.21	10.15	8.73	5.86	9.38
Previous winter season										
Minimum temperature (°F)	-55	-49	-49	-35	-52	-37	-48	-48	-54	-48
Snowfall (inches)	58.9	71.4	131.6	103.8	131.7	36.3	69	47.8	58.4	35.5

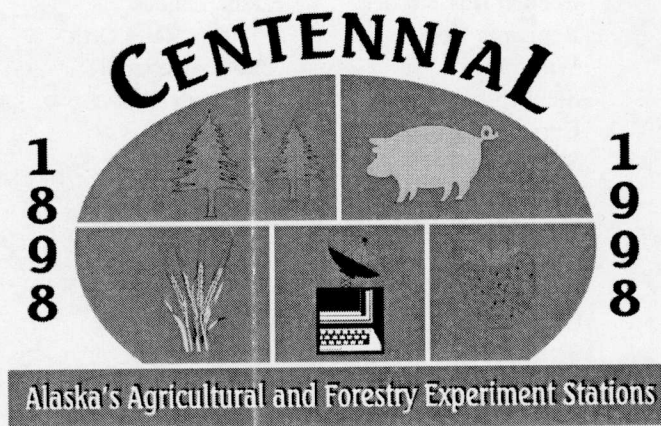
May through September 32°F base temperature
 May through September

The following individuals donated their time to plant, maintain and record data in the Georgeson Botanical Garden in 1998. Without their assistance this publications would not have been possible.

Kate Barr	Julie Bennett	Debbie Bogan	Elizabeth Brown
Ramona Brown	Steven Brown	Rodlyn Bundy	Jane Campbell
Jan Cannon	Barbara Carlson	Leanne Converse	Melanie Cook
Andy Curtice	Kay Davies	Ashley Davis	Kathy Davis
Terrance Davis	Susan Dearborn	Tone Deehr	Donna Dinsmore
Becca Duch	Carolyn Duehn	Catherine Egan	Mary Farrell
Barbara Fay	Shiela Finch	Jack Finch	Etta Gardinier
Ginger Gauss	Miles Gibson	AnnGuhman	Ian Hebert
Marian Hoffman	Susan Holder	Charmaine Johnston	LouKillion
Joanne Klumb	Martha Kopplin	the Kurber Family	Jessica Kuntz
Sherry Lewis	Hope Lockwood	Jed Lowell	Teresa MacDonald
Tracey Martinson	Grant Matheke	Mara Matheke	Sarah McClellan
David McGowen	Jackie Meeker	Ron Meier	Ginny Moore
Norma Mosso	Terri Nault	Deb Neumayr	Changhai Zhu
Sally O'Connor	Toos Omtzigt	Kathy Pearse	Garret Perney
Ria Peep	Irene Peyton	Len Peyton	John Phillips
Emily Reiter	Lou Rowinski	Kathy Seim	Anne Sherman
Anne Sudkamp	Jackie Sunnyboy	Ann Swift	Bob Van Veldhuizen
Jacob VanVeldhuizen	Matthew Van Veldhuizen	Eileen Van Wyhe	Angel Vizcaya
Pat Wagner	Judy Weber	Jeff Werner	Margaret Wiedeman
Katja Binkley	JoAnna Carpluk	Kayla Colang	Michael Green
Ashley Hartman	Bennett Hasselbroek	Jane Landes	Lindsay Martines
Kendell Meekins	Benjamin Nodler	Tristan Reily Orth	Travis Rush
Cassi Smart	Willie Via	Kayla Weber	Tommy Williams
Daryl Bohanan	Stephen Botasso	Kenneth Chissus	Kaylee Drier
Savanna Fink	Christina Garner	Sasha Graves	Nick Gray
Ella Jacobson	Sarah James	Jami Lord	Laurel Lynch
Nicholas Nauheim	Kedrik Neff	Ronald Pederson	Matthew Schell
Katie Schwartzwald	Cassandra Smallwood	Aunna Wilson	Lorin Wilson
Franklin Cederstrom	Stacey Chiu	Allison Deal	Amanda Ellis
Owen Funk	Jedediah Hass	Carl Honea	Alaina Kemp
Kezia Mandregan	Cashaana Renfro	Anastasia Rohn	Heidi Schultz
Rosalyn Thompson	Seth Tracey	Toby Viavant	William Wang
Greg Beasley	Emma Boone	Anna Burr	Seth Chandler
Jackie Dean	Ashley Duran	Kareena Ellingson	Ricky Ellis
Lee Johnson	Erin Keith	Ashley Kelley	Brianna Kemp
Travis Newman	Ashley Norum	Arron Skinner	Nadine Warner
Amy, Abby, Brigit & Peter Noon		William Anderson	Ellen Wood
Mrs Bell's 2 nd Grade Class University Park School		Mandy Woods	Anna Younger
Mrs Ferri's 2 nd Grade Class University Park School		Alysha Belden	Cyrena Brown
Mrs. Angaiak's 2 nd Grade Class University Park School		Elizabeth Hughes-Hageman	
Mrs Harrison's 2 nd Grade Class University Park School			

Special thanks to the following individuals and businesses for donating seeds, plants or supplies to the Garden:

Jim Desinger
Larry Duffy
Virginia Gauss
Dr. Jay McKendrick
Ria Peep
Irmatraud Rieck
Dave Swanson
Patricia Werner
Ball Seed Company
Central Siberian Botanical Garden
Dinkel's Fairview Nursery
Gardens North
New England Wildflower Society
North Central Regional Plant Introduction Station
Park Seed Company, Inc.
Seeds of Alaska
Thompson & Morgan, Inc.



It is the policy of the University of Alaska to provide equal education and employment opportunities and to provide services and benefits to all students and employees without regard to race, color, religion, national origin, sex, age, disability, status as a Vietnam era or disabled veteran, marital status, changes in marital status, pregnancy or parenthood, pursuant to laws enforced by the Department of Education and the Department of Labor, including Presidential Executive Order 11246, as amended, Title VI and Title VII of the 1964 Civil Rights Act, Title IX of the Education Amendments of 1972, the Public Health Service Act of 1971, the Veteran's Readjustment Assistance Act of 1974, the Vocational Rehabilitation Act of 1973, the Age Discrimination in Employment Act of 1967, the Equal Pay Act of 1963, the 14th Amendment, EEOC's Sex Discrimination Guidelines, and Alaska Statutes 18.80.010 et seq., and 14.18.010 et seq., and 36.30.010 et seq. Inquiries regarding application of these and other regulations should be directed either to the University of Alaska Fairbanks, Director of Employee Relations; the Office of Civil Rights, Department of Education, Washington, DC; or to the Office of Federal Contract Compliance Programs, Department of Labor, Washington, DC.