Table 1: Performance Ratings and Plant Traits Observed on Chicago Botanic Garden Green Roof

Rating	Roof/Depth	Plant Name	Flower Color	Flower Size	Bloom Period	Flower Production	Reseeding ¹	Height	Width	Heat/Drought ²
**	North 8 in.	Achillea 'Paprika'	red	2½ in. wide	early Jun-early Sep	good	none	8 in.	32 in.	minor
***	North 6 in.	Agastache astromontana 'Pink Pop'	pinkish purple	4 in. long	early Jul-early Sep	excellent	low	9-21 in.	4-15 in.	minor
****	North 6 in.	Agastache foeniculum	lavender	3½ in. long	late Jun-mid Sep	excellent	moderate	17 in.	18 in.	minor
***	North 8 in.	Agastache foeniculum	lavender	3½ in. long	late Jun-mid Sep	fair	moderate	24 in.	10 in.	minor
***	North 4 in.	Alchemilla mollis 'Auslese'	yellow	¾ in. wide	early Jun-early Jul	good	none	6 in.	7 in.	minor
***	South 6 in.	Allium cernuum	lavender	2 in. wide	late Jul-mid Sep	fair	none	28 in.	12 in.	moderate
****	South 8 in.	Allium cernuum	lavender	2 in. wide	late Jul-mid Sep	good	none	36 in.	15 in.	moderate
****	South 6 in.	Amorpha canescens	purple	6 in. long	early Jul-late Jul	excellent	none	28 in.	18 in.	none
****	South 8 in.	Amorpha canescens	purple	6 in. long	early Jul-late Jul	excellent	none	33 in.	18 in.	none
***	South 6 in.	Amorpha nana	n/a	n/a	did not flower	n/a	none	17 in.	16 in.	none
***	South 8 in.	Amorpha nana	n/a	n/a	did not flower	n/a	none	15 in.	24 in.	none
***	South 4 in.	Andropogon gerardii	purple	n/a	late Aug-Oct	excellent	low-moderate	59 in.	22 in.	moderate
****	South 6 in.	Andropogon gerardii	purple	n/a	late Aug-Oct	excellent	low-moderate	74 in.	28 in.	moderate
****	South 8 in.	Andropogon gerardii	purple	n/a	late Aug-Oct	excellent	low-moderate	100 in.	30 in.	moderate
**	South 6 in.	Anemone caroliniana	white	1¾ in. wide	early Jun-late Jul	fair	low	7 in.	10 in.	minor
***	South 4 in.	Anemone cylindrica	white	¾ in. wide	late Jun-mid Jul	fair	none	22 in.	10 in.	none
***	South 6 in.	Anemone cylindrica	white	% in. wide	mid Jun-early Jul	fair	none	19 in.	9 in.	none
***	South 8 in.	Anemone cylindrica	white	% in. wide	mid Jun-mid Jul	fair	none	28 in.	14 in.	none
	r North 4 in.	Antennaria dioica	white	¼ in. wide	late May-early Jul	excellent	none	6 in.	24 in.	none
****	South 4 in.	Aquilegia canadensis	red, yellow	1 in. wide	mid May-mid Jul	excellent	moderate	31-45 in.	14-21 in.	moderate
**	South 6 in.	Aquilegia canadensis	red, yellow	1 in. wide	mid May-mid Jun	fair	none	20 in.	8 in.	moderate
<u>***</u>	South 8 in.	Aquilegia canadensis	red, yellow	1½ wide	mid May-late Jun	good	moderate	24 in.	16 in.	moderate
**	South 4 in.	Arctostaphylos uva-ursi	n/a	n/a	did not flower	n/a	n/a	3 in.	15 in.	minor
<u>^</u>	South 6 in.	Arctostaphylos uva-ursi	n/a	n/a	did not flower	n/a	n/a	4 in.	9 in.	minor
^^ ***	South 8 in.	Arctostaphylos uva-ursi	n/a	n/a	did not flower	n/a	n/a	8 in.	12 in.	minor
<u>^^^</u>	North 4 in.	Armeria maritima 'Alba'	white	1 in. wide	early May-mid Jun	fair		3-10 in.	7 in.	
<u>^~</u> ****	North 6 in.			1 in. wide	early May-mid Jun	excellent	none		7 III. 7-10 in.	none
		Armeria maritima 'Alba'	white		, ,		none	4-11 in.		none
**	North 6 in.	Armeria maritima 'Rubrifolia'	deep purple-pink		mid May-late Jun	poor	none	2-7 in.	5-7 in.	moderate
****	South 4 in.	Artemisia caudata	yellow-green	½ in. wide	early Aug-mid Sep	excellent	heavy	44 in.	9 in.	minor
****	South 6 in.	Artemisia caudata	yellow-green	½ in. wide	early Aug-mid Sep	excellent	heavy	36 in.	7 in.	minor
**	South 4 in.		yellow	n/a	early Jul-late Jul	poor	none	11 in.	14 in.	minor
**	South 6 in.	Artemisia frigida	yellow	n/a	early Jul-late Jul	poor	none	10 in.	23 in.	minor
**	South 8 in.	Artemisia frigida	yellow	n/a	early Jul-late Jul	poor	none	13 in.	18 in.	minor
****	North 8 in.	Artemisia ludoviciana var. albula 'Silver King'	yellow-gray	½ in. wide	mid Sep-early Oct	good	none	17 in.	spreading	none
***	South 8 in.	Artemisia schmidtiana 'Silver Mound	l' silver	n/a	mid Aug-mid Sep	good	none	10 in.	24 in.	none
**	South 4 in.	Artemisia stelleriana	silvery green	¼ in. wide	mid Jun-early Jul	fair	none	14 in.	19 in.	minor
***	South 6 in.	Artemisia stelleriana	silvery green	¼ in. wide	early Jun-early Jul	fair	none	17 in.	27-36 in.	minor
**	South 4 in.	Asclepias tuberosa	orange	2½ in. wide	late Jun-late Aug	fair	none	12 in.	10 in.	moderate
**	South 6 in.	Asclepias tuberosa	orange	2½ in. wide	late Jun-late Jul	fair	none	13 in.	11 in,	moderate
***	South 8 in.	Asclepias tuberosa	orange	2½ in. wide	late Jun-mid Aug	fair	none	21 in.	9 in.	moderate
***	North 4 in.	Aster alpinus var. albus	white	2 in. wide	early Jun-late Jun	fair	none	10 in.	7 in.	minor
****	North 6 in.	Aster alpinus var. albus	white	2 in. wide	early Jun-late Jun	excellent	none	3 in.	6 in.	minor
***	North 4 in.	Aster oharai	lavender-blue	1½ in. wide	early Sep-mid Oct	fair	none	5 in.	6 in.	none
****	South 8 in.	Baptisia alba var. alba	white	1 in. wide	early Jun-early Jul	fair		34 in.	46 in.	
*** ***	South 4 in.					excellent	none	34 III. 37 in.	40 III. 24 in.	minor
		Bouteloua curtipendula	purple	11 in. long	mid Jul-late Aug		low			
****	South 6 in.	Bouteloua curtipendula	purple	11 in. long	late Jul-early Sep	excellent	low	44 in.	33 in.	minor
****	South 8 in.	Bouteloua curtipendula	burgundy	12 in. long	mid Jul-early Sep	excellent	moderate	44 in.	36 in.	minor

***	South 4 in.	Bouteloua gracilis	red, green	1 in. long	Aug	poor	none	18 in.	8 in.	none
***	South 6 in.	Bouteloua gracilis	red, green	1 in. long	Aug	poor	none	15 in.	9 in.	none
***	South 8 in.	Bouteloua gracilis	red, green	1½ in. long	Aug	poor	none	24 in.	10 in.	none
****	North 4 in.	Buchloe dactyloides 'Legacy'	n/a	n/a	did not flower	n/a	none	3 in.	spreading	moderate
****	North 6 in.	Buchloe dactyloides 'Legacy'	n/a	n/a	did not flower	n/a	none	3 in.	spreading	moderate
**	North 8 in.	Buddleja davidii 'Blue Chip'	light purple	5 in. long	early Aug-early Oct	excellent	none	10 in.	12 in.	minor
****	North 8 in.	Calamagrostis brachytricha	green, purple	11 in. long	early Sep-early Oct	excellent	heavy	52 in.	28 in.	minor
***	South 4 in.	Calamintha arkansana	light purple	¼ in. wide	early Jul-mid Aug	excellent	none	9 in.	10 in.	moderate
***	South 6 in.	Calamintha arkansana	light purple	¼ in. wide	early Jul-mid Aug	excellent	none	12 in.	6 in.	moderate
****	North 6 in.	Calamintha nepeta ssp. nepeta	white	¼ in. wide	mid Jul-early Nov	excellent	none	17 in.	17 in.	minor
****	North 8 in.	Calamintha nepeta ssp. nepeta	white	¼ in. wide	mid Jul-early Nov	excellent	none	25 in.	32 in.	minor
**	South 8 in.	Callirhoe involucrata	magenta	1¼ in. wide	mid Jun-mid Jul	fair	none	4 in.	18 in.	moderate
****	South 6 in.	Campanula rotundifolia	light purple	1 in. wide	mid May-early Aug	excellent	none	18 in.	6 in.	minor
***	North 6 in.	Campanula trachelium	purple	1 in. wide	early Jul-mid Nov	good	none	25 in.	14 in.	minor
**	South 8 in.	Campanulastrum americanum	lavender-blue	1 in. wide	early Jul-mid Aug	poor	low	32 in.	4 in.	moderate
***	South 4 in.	Carex radiata	light green	1 in. long	Jun-Jul	fair	none	10 in.	13 in.	minor
***	South 6 in.	Carex radiata	light green	1 in. long	Jun-Jul	fair	none	10 in.	10 in.	minor
***	South 8 in.	Carex radiata	light green	1 in. long	Jun-Jul	fair	none	12 in.	11 in.	minor
****	South 8 in.	Ceanothus americanus	white	2 in. long	early Jul-early Aug	excellent	none	46 in.	48 in.	none
***	North 6 in.	Cerastium tomentosum	white	¾ in. wide	late May-late Jun	good	none	4-6 in.	11-15 in.	minor
***	South 6 in.	Chamaecrista fasciculata	yellow	1 in. wide	late Jul-mid Sep	excellent	heavy	18 in.	23 in.	severe
***	South 8 in.	Chamaecrista fasciculata	yellow	1 in. wide	late Jul-mid Sep	excellent	heavy	26 in.	5 in.	severe
****	South 4 in.	Coreopsis lanceolata	golden-yellow	1¾ in. wide	late May-late Jun	good	low	14 in.	13 in.	moderate
***	South 6 in.	Coreopsis lanceolata	golden-yellow	2¼ in. wide	early Jun-early Jul	excellent	low	13 in.	15 in.	moderate
****	South 8 in.	Coreopsis lanceolata	golden-yellow	2¼ in. wide	early Jun-early Jul	excellent	low	14 in.	11 in.	minor
****	North 4 in.	Coreopsis verticillata 'Zagreb'	golden-yellow	1½ in. wide	early Jun-late Sep	excellent	none	11 in.	14 in.	none
****	South 4 in.	Dalea candida	white	2 in. long	early Jul-early Aug	excellent	low	34 in.	26 in.	moderate
****	South 8 in.	Dalea candida	white	2¼ in. long	late Jun-early Aug	excellent	low	25 in.	16 in.	moderate
***	South 4 in.	Dalea purpurea	purple	1½ in. long	early Jul-early Aug	excellent	moderate	28 in.	21 in.	minor
***	South 6 in.	Dalea purpurea	purple	1¾ in. long	early Jul-early Aug	excellent	moderate	24 in.	10 in.	minor
****	South 8 in.	Dalea purpurea	purple	2 in. long	late Jun-early Aug	excellent	moderate	27 in.	14 in.	minor
***	South 6 in.	Dalea villosa	magenta	1½ in. long	Jul	excellent	none	22 in.	14 in.	none
***	North 4 in.	Dianthus carthusianorum	magenta	% in. wide	early Jun-late Jul	good	low	10 in.	6 in.	minor
***	North 4 in.	Dianthus gratianopolitanus 'Firewitch'		1 in. wide	late May-late Jun	excellent	low	7 in.	12 in.	minor
***	North 8 in.	Dianthus gratianopolitanus 'Firewitch'		1 in. wide	late May-early Jul	excellent	low	7 in.	11 in.	minor
***	South 8 in.	Echinacea pallida	light purple-pink		mid Jun-late Jul	excellent	none	28 in.	6 in.	moderate
***	South 6 in.	Echinacea purpurea	purple-pink	2½ in. wide	mid Jul-early Sep	fair	none	19 in.	10 in.	moderate
***	South 6 in.	Eragrostis spectabilis	purple	5 in. wide	mid Sep-mid Oct	fair	none	15 in.	15 in.	minor
***	South 8 in.	Eragrostis spectabilis	purple	5 in. wide	mid Sep-mid Oct	fair	none	25 in.	24 in.	minor
**	South 4 in.	Erigeron caespitosa	lavender	1 in. wide	late May-early Jul	poor	none	4 in.	8 in.	moderate
**	South 8 in.	Erigeron caespitosa	lavender	1 in. wide	late May-early Jul	good	none	5 in.	8 in.	moderate
**	North 4 in.	Erigeron scopulinus	lavender	1¼ in. wide	mid Jun-late Jul	poor	none	5 in.	6 in.	none
***	North 4 in.	Eriogonum umbellatum	yellow	¾ in. wide	late May-mid Jul	good	none	4-15 in.	6-10 in.	moderate
**	North 8 in.	Eriogonum umbellatum	n/a	n/a	did not flower	n/a	n/a	2-5 in.	4-7 in.	none
<u>***</u>	South 4 in.	Eryngium yuccifolium	white	¾ in. wide	early Jul-early Aug			22 in.	11 in.	
***	South 6 in.	Eryngium yuccifolium	white	¾ in. wide		poor	none	9 in.	14 in.	minor
					Aug	poor	none			minor
****	North 6 in.	Festuca amethystina 'Superba'	tan	3 in. wide	early Jun-early Jul	excellent	none	19 in.	15 in.	moderate
**	North 4 in.	Festuca glauca	tan	n/a	Jun	poor	none	14 in.	8 in.	minor
**	North 6 in.	Festuca glauca	tan	n/a	Jun	poor	none	7 in.	10 in.	minor
***	North 4 in.	Fragaria 'Stickbolwi'	red-pink	¾ in. wide	early May-late Aug	fair	none	4 in.	9 in.	moderate

***	South 4 in.	Fragaria virginiana	white	¾ in. wide	mid May-early Jun	fair	low	5 in.	12 in.	moderate -severe
****	South 6 in.	Fragaria virginiana	white	1 in.	mid May-early Jun	fair	low	5 in.	10 in.	moderate -severe
***	North 4 in.	Galium verum	yellow	7 in. long	late Junlate Sep	excellent	moderate	31 in.	13 in.	none
***	North 8 in.	Galium verum	yellow	9 in. long	mid Jun-mid Sep	excellent	moderate	33 in.	22 in.	none
***	North 4 in.	Geranium × cantabrigiense 'Biokovo'	pale pink	1% in. wide	mid Jun-mid Jul	good	none	6 in.	15 in.	moderate
***	South 4 in.	Geum triflorum	pink-red	1½ in. wide	early May-early Jun	fair	moderate	11 in.	10 in.	severe
***	South 6 in.	Geum triflorum	pink-red	1½ in. wide	early May-early Jun	excellent	moderate	12 in.	15 in.	severe
***	North 4 in.	Gypsophila repens 'Rosea'	light pink	% in. wide	late May-late Jul	good	low	4 in.	16 in.	moderate
***	North 8 in.	Helianthus mollis	golden-yellow	3 in. wide	early Aug-late Sep	excellent	moderate-heavy	33 in.	28 in.	none
***	North 4 in.	Heuchera micrantha 'Palace Purple'	white	¼ in. wide	mid Jul-late Aug	fair	none	15 in.	21 in.	minor
***	North 6 in.	Heuchera micrantha 'Palace Purple'	white	¼ in. wide	mid Jul-late Aug	fair	none	15 in.	14 in.	minor
****	North 8 in.	Heuchera richardsonii	green	15 in. long	late May-early Jul	excellent	none	42 in.	15 in.	moderate
***	North 4 in.	Hieracium spilophaeum 'Leopard'	yellow	1 in. wide	late May-late Sep	fair	moderate	16 in.	8 in.	none
****	North 8 in.	Hieracium spilophaeum 'Leopard'	yellow	1¼ in. wide	mid May-late Sep	fair	heavy	19 in.	9 in.	none
***	North 4 in.	Hosta 'Cracker Crumbs'	light purple	2 in. long	early Jul-late Aug	excellent	none	4 in.	8 in.	moderate
****	North 6 in.	Hosta lancifolia	light purple	2½ in. long	late Aug-Oct	excellent	none	35 in.	18 in.	minor
****	North 4 in.	Hylotelephium 'Rosy Glow'	purple	% in. wide	Sep	good	none	7 in.	15 in.	none
****	North 6 in.	Hylotelephium 'Rosy Glow'	purple	% in. wide	Sep	excellent	none	6 in.	10 in.	none
***	North 8 in.	Hylotelephium 'Rosy Glow'	purple	¾ in. wide	Sep	excellent	none	8 in.	10 in.	none
**	North 4 in.	Hylotelephium sieboldii	n/a	n/a	did not flower	n/a	n/a	5 in.	14 in.	none
**	North 6 in.	Hylotelephium sieboldii	n/a	n/a	did not flower	n/a	n/a	5 in.	16 in.	none
**	North 8 in.	Hylotelephium spectabile 'Neon'	pink	½ in. wide	Sep	fair	none	13 in.	18 in.	none
***	North 6 in.	Iris tectorum	lilac	4 in. wide	late May-mid Jun	fair	none	13 in.	18 in.	minor
****	North 8 in.	Juniperus chinensis var. sargentii 'Viridis'	n/a	n/a	n/a	n/a	none	5 in.	36 in.	none
****	North 8 in.	Juniperus horizontalis 'Wiltonii'	n/a	n/a	n/a	n/a	none	7 in.	46 in.	none
****	North 6 in.	Koeleria glauca	tan	3 in. long	early Jun-late Jun	excellent	heavy	26 in.	10 in.	minor
****	South 4 in.	Koeleria macrantha	light green	4 in. long	Jun-Jul	good	moderate	24 in.	12 in.	minor
***	South 6 in.	Koeleria macrantha	light green	4 in. long	Jun-Jul	excellent	moderate-heavy	28 in.	15 in.	minor
***	South 8 in.	Koeleria macrantha	light green	4 in. long	Jun-Jul	excellent	moderate	24 in.	15 in.	minor
**	North 6 in.	Lavandula angustifolia 'Hidcote'	lavender	2½ in. long	early Jul-late Oct	fair	none	9 in.	12 in.	none
***	North 8 in.	Lavandula angustifolia 'Hidcote'	lavender	2½ in. long	early Jul-late Oct	fair	none	19 in.	12 in.	none
**	South 4 in.	Lespedeza capitata	white	6 in. long	mid Aug-late Sep	good	low	30 in.	18 in.	minor
***	South 8 in.	Lespedeza capitata	white	6 in. long	early Aug-late Sep	good	low	42 in.	20 in.	minor
***	North 4 in.	Leucanthemum vulgare	white, yellow	1¾ in. wide	late May-early Jul	excellent	moderate	15 in.	10 in.	moderate
***	North 8 in.	Leucanthemum vulgare	white, yellow	1¾ in. wide	early Jun-mid Jul	excellent	moderate	15 in.	8 in.	moderate
**	North 4 in.	Lewisia longipetala 'Little Plum'	pink	1½ in. wide	mid May-mid Jul	good	none	1¼ in.	2 in.	moderate
***	South 4 in.	Liatris cylindracea	mauve	1 in. wide	early Aug-mid Sep	good	none	12 in.	12 in.	minor
****	South 6 in.	Liatris cylindracea	mauve	1 in. wide	early Aug-mid Sep	good	none	16 in.	16 in.	minor
***	South 8 in.	Liatris cylindracea	mauve	1 in. wide	early Aug-mid Sep	good	none	23 in.	9 in.	minor
***	South 8 in.	Liatris ligulistylis	light purple	22 in. long	early Aug-early Oct	excellent	low	33 in.	10 in.	minor
**	North 4 in.	Linum flavum 'Compactum'	yellow	1 in. wide	mid Jun-early Aug	excellent	none	8-12 in.	5-12 in.	none
*	South 6 in.	Lupinus perennis	n/a	n/a	did not flower	n/a	n/a	n/a	n/a	severe
****	South 6 in.	Monarda fistulosa	light purple	2 in. wide	early Jul-early Sep	excellent	low	29 in.	17 in.	minor
***	South 4 in.	Monarda punctata	light yellow	½ in. long	late Jul-mid Aug	good	low	10 in.	7 in.	minor
***	South 6 in.	Monarda punctata	light yellow	½ in. long	late Jul-late Aug	good	low	15 in.	13 in.	minor
***	South 8 in.	Monarda punctata	light yellow	½ in. long	late Jul-late Aug	good	low	14 in.	10 in.	minor
****	North 8 in.	Nepeta racemosa 'Walker's Low'	lavender-blue	9 in. long	early Jun-late Oct	good	none	20 in.	30 in.	minor

***	North 4 in.	Oenothera fruticosa 'Fireworks'	yellow	1¾ in. wide	mid Jun-late Jul	fair	none	18-24 in.	15-18 in.	moderate
***	North 8 in.	Oenothera fruticosa 'Fireworks'	yellow	1¾ in. wide	mid Jun-mid Jul	good	none	18-24 in.	10-17 in.	moderate
**	South 4 in.	Oenothera macrocarpa	yellow	3 in. wide	early Jun-early Jul	fair	none	3 in.	10 in.	moderate
**	South 6 in.	Oenothera macrocarpa	yellow	3 in. wide	early Jun-early Jul	good	none	3 in.	10 in.	moderate
***	South 8 in.	Oenothera macrocarpa	yellow	3½ in. wide	mid Jun-early Aug	good	none	4 in.	13 in.	moderate
****	South 8 in.	Oligoneuron album	white	¾ in. wide	mid Jun-mid Sep	excellent	heavy	12 in.	20 in.	minor
***	South 4 in.	Opuntia humifusa	yellow	3 in. wide	late Jun-mid Jul	poor	none	4 in.	12 in.	none
***	North 8 in.	Origanum laevigatum 'Herrenhausen	ı' light purple	2 in. wide	mid Jul-early Sep	excellent	moderate	27 in.	36 in.	minor
**	North 6 in.	Origanum libanoticum	light purple	½ in. wide	late Jun-late Aug	good	none	10 in.	19 in.	none
**	North 8 in.	Origanum libanoticum	light purple	½ in. wide	mid Jul-mid Aug	fair	none	8-11 in.	10-16 in.	none
**	North 4 in.	Origanum vulgare 'Aureum'	white	¾ in. wide	late Jun-early Aug	poor	none	7-13 in.	11-17 in.	moderate
**	North 8 in.	Origanum vulgare 'Aureum'	white	¾ in. wide	mid Jul-mid Aug	poor	none	1 in.	10 in.	moderate
**	North 8 in.	Pachysandra procumbens	n/a	n/a	did not flower	n/a	none	4 in.	4 in.	none
***	South 4 in.	Penstemon digitalis	white	1¼ in. long	early Jun-mid Jul	good	moderate	18 in.	12 in.	moderate
****	South 6 in.	Penstemon digitalis	white	1¼ in. long	early Jun-mid Jul	excellent	moderate	28 in.	21 in.	moderate
****	South 8 in.	Penstemon digitalis	white	1¼ in. long	early Jun-mid Jul	excellent	low	27 in.	24 in.	minor
***	North 8 in.	Penstemon digitalis 'Husker Red'	white	6 in. long	mid Jun-mid Jul	excellent	none	15 in.	7 in.	moderate
*	South 4 in.	Penstemon grandiflorus	light purple	1¼ in. long	early Jun-late Jun	fair	none	7 in.	4 in.	severe
**	South 6 in.	Penstemon grandiflorus	light lavender	2 in. long	early Jun-late Jun	good	low	12 in.	7 in.	moderate
**	South 8 in.	Penstemon grandiflorus	light purple	1 in. long	early Jun-early Jul	good	low	24 in.	7 in.	minor
**	North 6 in.	Penstemon grandiflorus 'Prairie Snow'	white	1¾ in. long	early Jun-late Jun	excellent	none	18 in.	6 in.	none
****	North 6 in.	Penstemon hirsutus	light purple	1 in. long	early Jun-early Jul	excellent	moderate	11 in.	18 in.	minor
****	North 8 in.	Penstemon hirsutus	light purple	1 in. long	early Jun-early Jul	excellent	moderate	17 in.	17 in.	minor
****	North 6 in.	Penstemon hirsutus 'Pygmaeus'	light purple	1 in. long	early Jun-early Jul	excellent	low	6 in.	9 in.	minor
^^^	INOTHI O III.	Tonotomon imoutuo 1 yginadad	ngni parpio	5	ourry ourr ourry our	CACCHOIL	1044	•	•	
***	North 8 in.	Penstemon hirsutus 'Pygmaeus'	light purple	1 in. long	early Jun-early Jul	excellent	low	9 in.	8 in.	minor
					· · · · ·					minor moderate
****	North 8 in.	Penstemon hirsutus 'Pygmaeus'	light purple	1 in. long	early Jun-early Jul	excellent	low	9 in.	8 in.	
****	North 8 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks'	light purple magenta	1 in. long 1¼ in. long	early Jun-early Jul late Jun-late Sep	excellent poor	low	9 in. 15 in.	8 in. 20 in.	moderate
**** ** ***	North 8 in. North 8 in. North 8 in.	Penstemon hirsutus 'Pygmaeus' Penstemon×mexicali 'Red Rocks' Perovskia atriplicifolia	light purple magenta lavender	1 in. long 1¼ in. long 18 in. long	early Jun-early Jul late Jun-late Sep early Jul-late Oct	excellent poor good	low none none	9 in. 15 in. 36 in.	8 in. 20 in. 26 in.	moderate minor
**** ** **** ****	North 8 in. North 8 in. North 8 in. North 4 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea'	light purple magenta lavender pink	1 in. long 1¼ in. long 18 in. long ½ in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep	excellent poor good excellent	none none moderate	9 in. 15 in. 36 in. 10 in.	8 in. 20 in. 26 in. 16 in.	moderate minor moderate
**** ** **** **** ****	North 8 in. North 8 in. North 8 in. North 4 in. South 8 in.	Penstemon hirsutus 'Pygmaeus' Penstemon×mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida	light purple magenta lavender pink light blue	1 in. long 1¼ in. long 18 in. long ½ in. wide 1 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun	excellent poor good excellent excellent	low none none moderate low	9 in. 15 in. 36 in. 10 in. 7 in.	8 in. 20 in. 26 in. 16 in. 12 in.	moderate minor moderate minor
**** *** *** *** ****	North 8 in. North 8 in. North 8 in. North 4 in. South 8 in. North 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon×mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom'	light purple magenta lavender pink light blue light pink	1 in. long 1¼ in. long 18 in. long ½ in. wide 1 in. wide ¾ in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early May-early Jun	excellent poor good excellent excellent excellent	none none moderate low none	9 in. 15 in. 36 in. 10 in. 7 in. 3 in.	8 in. 20 in. 26 in. 16 in. 12 in.	moderate minor moderate minor minor
**** *** *** *** **** ****	North 8 in. North 8 in. North 8 in. North 4 in. South 8 in. North 6 in. North 4 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue'	light purple magenta lavender pink light blue light pink lavender	1 in. long 1¼ in. long 18 in. long ½ in. wide 1 in. wide ¾ in. wide 1 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early May-early Jun early May-early Jun	excellent poor good excellent excellent excellent excellent	low none none moderate low none none	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in.	moderate minor moderate minor minor minor
**** *** *** *** **** ****	North 8 in. North 8 in. North 8 in. North 4 in. South 8 in. North 6 in. North 4 in. North 4 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake'	light purple magenta lavender pink light blue light pink lavender white	1 in. long 1¼ in. long 18 in. long ¼ in. wide 1 in. wide 1 in. wide 1 in. wide 5 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early May-early Jun early May-early Jun early May-early Jun	excellent poor good excellent excellent excellent excellent excellent	low none none moderate low none none none	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in.	moderate minor moderate minor minor minor minor
**** *** *** *** *** **** ****	North 8 in. North 8 in. North 8 in. North 4 in. South 8 in. North 6 in. North 4 in. North 4 in. North 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake'	light purple magenta lavender pink light blue light pink lavender white	1 in. long 1¼ in. long 18 in. long ½ in. wide 1 in. wide ½ in. wide ½ in. wide ½ in. wide ½ in. wide 1 in. wide 1 in. wide 1 in. wide 1 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun	excellent poor good excellent excellent excellent excellent excellent excellent	low none none moderate low none none none	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 4 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in. 13 in.	moderate minor moderate minor minor minor minor minor minor
**** *** *** *** *** *** **** ***	North 8 in. North 8 in. North 8 in. North 4 in. South 8 in. North 6 in. North 4 in. North 4 in. North 6 in. South 4 in. South 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake'	light purple magenta lavender pink light blue light pink lavender white white	1 in. long 1¼ in. long 18 in. long 18 in. wide 1 in. wide 1 in. wide 1 in. wide 5% in. wide 1 in. wide 1 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun	excellent poor good excellent excellent excellent excellent excellent excellent fair	low none none moderate low none none none none none	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 4 in. 34 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in. 13 in. 13 in.	moderate minor moderate minor minor minor minor minor moderate
**** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 4 in. South 8 in. North 6 in. North 4 in. North 4 in. North 6 in. South 4 in. South 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta	light purple magenta lavender pink light blue light pink lavender white white white	1 in. long 1¼ in. long 18 in. long 18 in. wide 1 in. wide 1 in. wide 1 in. wide ½ in. wide 1 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-early Aug	excellent poor good excellent excellent excellent excellent excellent excellent fair	low none none moderate low none none none none none none	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in. 13 in. 15 in. 15 in.	moderate minor moderate minor minor minor minor minor minor minor minor minor moderate minor
**** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 4 in. South 8 in. North 6 in. North 4 in. North 4 in. North 6 in. South 8 in. South 8 in. South 8 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta	light purple magenta lavender pink light blue light pink lavender white white white white white white	1 in. long 1¼ in. long 18 in. long 18 in. long ½ in. wide 1 in. wide ½ in. wide ½ in. wide ½ in. wide 1 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Jul	excellent poor good excellent excellent excellent excellent excellent excellent excellent excellent	low none none moderate low none none none none none none none no	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in.	8 in. 20 in. 26 in. 16 in. 13 in. 20 in. 13 in. 13 in. 13 in. 15 in.	moderate minor moderate minor minor minor minor minor minor minor moderate minor none
**** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 4 in. South 8 in. North 6 in. North 4 in. North 6 in. North 6 in. South 6 in. South 6 in. South 8 in. South 8 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla fruticosa	light purple magenta lavender pink light blue light pink lavender white white white white white yellow	1 in. long 1¼ in. long 18 in. long 18 in. wide 1 in. wide 1 in. wide % in. wide % in. wide 1 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Jul early Jul-late Jul early Jul-late Sep	excellent poor good excellent excellent excellent excellent excellent fair excellent excellent	low none none moderate low none none none none none none none no	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in. 19 in.	8 in. 20 in. 26 in. 16 in. 13 in. 20 in. 13 in. 13 in. 15 in. 15 in. 19 in.	moderate minor moderate minor minor minor minor minor minor moderate minor moderate minor none moderate
**** *** *** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 8 in. South 8 in. North 6 in. North 4 in. North 6 in. North 6 in. South 6 in. South 8 in. South 6 in. South 8 in. South 6 in. South 6 in. South 6 in. North 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla fruticosa Potentilla neumanniana Prunella grandiflora Pulsatilla patens	light purple magenta lavender pink light blue light pink lavender white white white white yellow purple pale lavender	1 in. long 1¼ in. long 18 in. long 18 in. wide 1 in. wide 1 in. wide ½ in. wide 1 in. wide 2 in. wide 2 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Sep early May-early Jun late Jun-mid-Aug mid Apr-mid May	excellent poor good excellent excellent excellent excellent excellent excellent excellent good poor fair	low none none moderate low none none none none none mone mone mone	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 35 in. 19 in. 1 in. 4 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in. 13 in. 12 in. 13 in. 15 in. 16 in. 19 in. 16 in. 10 in.	moderate minor moderate minor minor minor minor minor minor moderate minor moderate moderate moderate moderate
**** *** *** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 8 in. South 8 in. North 6 in. North 4 in. North 6 in. South 8 in. South 8 in. South 8 in. South 6 in. South 8 in. South 8 in. South 6 in. North 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla fruticosa Potentilla neumanniana Prunella grandiflora	light purple magenta lavender pink light blue light pink lavender white white white white white yellow yellow purple	1 in. long 1¼ in. long 18 in. long 18 in. wide 1 in. wide 3¼ in. wide 1 in. wide 5½ in. wide 1 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Jul early Jun-late Sep early May-early Jun late Jun-mid-Aug	excellent poor good excellent excellent excellent excellent excellent excellent excellent excellent good poor	low none none moderate low none none none none mone mone none none	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in. 19 in. 1 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in. 13 in. 13 in. 15 in. 20 in. 19 in. 16 in.	moderate minor moderate minor minor minor minor minor moderate moderate moderate moderate moderate moderate
**** *** *** *** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 8 in. South 8 in. North 6 in. North 4 in. North 6 in. South 8 in. South 8 in. South 6 in. South 8 in. South 8 in. South 6 in. South 6 in. South 6 in. North 6 in. North 6 in. North 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla fruticosa Potentilla qrandiflora Prunella grandiflora Pulsatilla patens Pulsatilla vulgaris	light purple magenta lavender pink light blue light pink lavender white white white white yellow yellow purple pale lavender purple	1 in. long 1¼ in. long 1¼ in. long 18 in. long ½ in. wide 1 in. wide ¾ in. wide ½ in. wide ½ in. wide 1 in. wide 2 in. wide 2 in. wide 2 in. wide 2 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Jul early Jun-late Sep early May-early Jun late Jun-mid-Aug mid Apr-mid May mid Apr-mid May	excellent poor good excellent excellent excellent excellent excellent excellent excellent good poor fair	low none none moderate low none none none none none low low low low	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 35 in. 19 in. 1 in. 4 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in. 13 in. 12 in. 13 in. 15 in. 16 in. 19 in. 16 in. 10 in.	moderate minor moderate minor minor minor minor minor moderate minor moderate moderate moderate moderate moderate moderate moderate
**** *** *** *** *** *** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 8 in. South 8 in. North 6 in. North 4 in. North 6 in. South 6 in. South 6 in. South 8 in. South 6 in. South 6 in. South 6 in. North 6 in. North 6 in. North 6 in. North 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla fruticosa Potentilla neumanniana Prunella grandiflora Pulsatilla patens Pulsatilla vulgaris Pulsatilla vulgaris	light purple magenta lavender pink light blue light pink lavender white white white white yellow purple pale lavender purple purple	1 in. long 1¼ in. long 1¼ in. long 18 in. long ½ in. wide 1 in. wide ½ in. wide ½ in. wide ½ in. wide 1 in. wide 2 in. wide 2 in. wide 2 in. wide 2 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Sep early Jun-late Sep early Jun-late Jun mid Apr-mid May mid Apr-mid May mid Apr-early Jun mid Apr-early Jun	excellent poor good excellent excellent excellent excellent excellent fair fair excellent excellent fair fair good poor fair fair good	low none none none none none none none no	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in. 19 in. 1 in. 4 in. 5 in. 14 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in. 13 in. 15 in. 20 in. 15 in. 16 in. 16 in. 17 in. 18 in. 19 in. 19 in. 19 in. 19 in. 10 in. 10 in. 11 in.	moderate minor moderate minor minor minor minor minor moderate minor none moderate minor
**** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 8 in. South 8 in. North 6 in. North 6 in. North 6 in. South 8 in. South 8 in. South 6 in. South 6 in. South 6 in. North 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla fruticosa Potentilla qrandiflora Prunella grandiflora Pulsatilla patens Pulsatilla vulgaris	light purple magenta lavender pink light blue light pink lavender white white white white yellow yellow purple pale lavender purple purple white white	1 in. long 1¼ in. long 1% in. wide 1 in. wide 3¼ in. wide 1 in. wide ½ in. wide 1 in. wide 2 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Jul early Jun-late Sep early May-early Jun late Jun-mid-Aug mid Apr-mid May mid Apr-mid May	excellent poor good excellent excellent excellent excellent excellent excellent fair fair excellent good poor fair fair good	low none none moderate low none none none none none low low low low	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in. 19 in. 1 in. 4 in. 5 in. 14 in.	8 in. 20 in. 26 in. 16 in. 13 in. 20 in. 13 in. 13 in. 13 in. 15 in. 20 in. 19 in. 10 in. 24 in.	moderate minor moderate minor minor minor minor minor moderate minor moderate
**** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 8 in. South 8 in. North 6 in. North 6 in. North 6 in. South 8 in. South 6 in. South 6 in. North 6 in. North 6 in. North 6 in. South 8 in. North 6 in. North 4 in. North 4 in. South 8 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla irruticosa Potentilla irruticosa Potentilla patens Pulsatilla patens Pulsatilla vulgaris Pulsatilla vulgaris Pulsatilla vulgaris Pulsatilla vulgaris 'Alba' Pycnanthemum virginianum	light purple magenta lavender pink light blue light pink lavender white white white white white yellow yellow purple pale lavender purple purple white white white	1 in. long 1¼ in. long 1¼ in. long 18 in. long ½ in. wide 1 in. wide ¾ in. wide ½ in. wide ½ in. wide 1 in. wide 1 in. wide 1 in. wide 1 in. wide 2 in. wide 1¼ in. wide 2 in. wide 1¼ in. wide 1¼ in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Jul early Jun-late Sep early May-early Jun late Jun-mid-Aug mid Apr-mid May mid Apr-mid May mid Apr-early Jun late Apr-late May mid Jul-late Sep	excellent poor good excellent excellent excellent excellent excellent fair fair excellent excellent fair fair good poor fair fair good	low none none moderate low none none none none none low low low moderate	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in. 19 in. 1 in. 4 in. 5 in. 14 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in. 13 in. 15 in. 20 in. 15 in. 16 in. 16 in. 17 in. 18 in. 19 in. 19 in. 19 in. 19 in. 10 in. 10 in. 11 in.	moderate minor moderate minor minor minor minor minor moderate minor none moderate minor
**** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 8 in. South 8 in. North 6 in. North 6 in. North 6 in. South 8 in. South 8 in. South 6 in. South 6 in. South 6 in. North 6 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla fruticosa Potentilla neumanniana Prunella grandiflora Pulsatilla patens Pulsatilla vulgaris Pulsatilla vulgaris Pulsatilla vulgaris 'Alba'	light purple magenta lavender pink light blue light pink lavender white white white white yellow yellow purple pale lavender purple purple white white	1 in. long 1¼ in. long 1% in. wide 1 in. wide 3¼ in. wide 1 in. wide ½ in. wide 1 in. wide 2 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Jul early Jun-late Sep early Jun-late Sep early May-early Jun late Jun-mid-Aug mid Apr-mid May mid Apr-mid May mid Apr-early Jun late Apr-late May	excellent poor good excellent excellent excellent excellent excellent fair fair excellent good poor fair fair good good excellent good fair	low none none none none none none none no	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in. 19 in. 1 in. 4 in. 5 in. 14 in. 14 in. 9 in.	8 in. 20 in. 26 in. 16 in. 13 in. 20 in. 13 in. 13 in. 15 in. 20 in. 15 in. 16 in. 17 in. 18 in. 18 in.	moderate minor moderate minor minor minor minor minor minor moderate minor none moderate
**** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 8 in. South 8 in. North 6 in. North 6 in. South 8 in. South 8 in. South 6 in. South 8 in. South 6 in. South 6 in. North 6 in. North 6 in. South 6 in. South 6 in. South 8 in. North 6 in. South 8 in. North 6 in. North 6 in. North 6 in. North 6 in. North 8 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla arguta Potentilla fruticosa Potentilla neumanniana Prunella grandiflora Pulsatilla patens Pulsatilla vulgaris Pulsatilla vulgaris Pulsatilla vulgaris 'Alba' Pycnanthemum virginianum Ratibida pinnata Rhus aromatica 'Gro-Low'	light purple magenta lavender pink light blue light pink lavender white white white white yellow yellow purple pale lavender purple purple white white white yellow yellow yellow purple purple purple yellow	1 in. long 1¼ in. long 1% in. wide 1 in. wide 3¼ in. wide 1 in. wide ½ in. wide 1 in. wide 1 in. wide 1 in. wide 1 in. wide 2 in. wide 1¼ in. wide 2 in. wide 2 in. wide 2 in. wide 2 in. wide 1¼ in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Jul early Jun-late Sep early May-early Jun late Jun-mid-Aug mid Apr-mid May mid Apr-mid May mid Apr-early Jun late Apr-late May mid Jul-late Sep late Jul-late Sep late Jul-late Sep	excellent poor good excellent excellent excellent excellent excellent fair fair excellent good poor fair fair good good excellent	low none none moderate low none none none none none low low low low moderate none low low low low low moderate low low	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in. 19 in. 1 in. 4 in. 5 in. 14 in. 14 in. 9 in.	8 in. 20 in. 26 in. 16 in. 13 in. 20 in. 13 in. 13 in. 13 in. 15 in. 20 in. 16 in. 17 in. 18 in. 18 in. 18 in. 18 in.	moderate minor moderate minor minor minor minor minor moderate minor none moderate minor minor minor minor minor
**** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***	North 8 in. North 8 in. North 8 in. North 8 in. South 8 in. North 6 in. North 4 in. North 6 in. South 6 in. North 6 in. North 6 in. South 6 in. North 6 in. South 6 in. South 6 in. South 8 in. South 8 in. South 8 in. South 8 in. South 6 in. South 6 in. South 6 in. North 6 in. North 6 in. North 6 in. South 8 in. South 8 in.	Penstemon hirsutus 'Pygmaeus' Penstemon × mexicali 'Red Rocks' Perovskia atriplicifolia Petrorhagia saxifraga 'Rosea' Phlox bifida Phlox subulata 'Apple Blossom' Phlox subulata 'Emerald Blue' Phlox subulata 'Snowflake' Phlox subulata 'Snowflake' Potentilla arguta Potentilla arguta Potentilla fruticosa Potentilla fruticosa Potentilla patens Pulsatilla patens Pulsatilla vulgaris Pulsatilla vulgaris Pulsatilla vulgaris 'Alba' Pycnanthemum virginianum Ratibida pinnata	light purple magenta lavender pink light blue light pink lavender white white white white yellow purple pale lavender purple purple white white yellow	1 in. long 1¼ in. long 1¼ in. long 18 in. long ½ in. wide 1 in. wide ½ in. wide ½ in. wide 1 in. wide 2 in. wide	early Jun-early Jul late Jun-late Sep early Jul-late Oct mid Jun-early Sep early May-early Jun early Jul-late Jul early Jul-late Jul early Jul-late Sep early Jun-late Sep early May-early Jun late Jun-mid-Aug mid Apr-mid May mid Apr-mid May mid Apr-early Jun late Apr-late May mid Jul-late Sep late Jul-late Sep	excellent poor good excellent excellent excellent excellent excellent fair fair excellent good poor fair fair good good excellent good fair	low none none moderate low none none none none none none low low low low moderate none low low none low none low none low none none none none none	9 in. 15 in. 36 in. 10 in. 7 in. 3 in. 6 in. 3 in. 4 in. 37 in. 35 in. 19 in. 1 in. 4 in. 4 in. 14 in. 14 in. 19 in. 22 in. 31 in.	8 in. 20 in. 26 in. 16 in. 12 in. 13 in. 20 in. 13 in. 13 in. 15 in. 20 in. 16 in. 17 in. 18 in. 18 in. 18 in. 18 in. 18 in.	moderate minor moderate minor minor minor minor minor minor moderate minor none moderate moderate moderate moderate moderate minor moderate minor minor minor minor minor minor minor minor

**	South 6 in.	Rudbeckia fulgida	golden-yellow	2½ in. wide	early Aug-late Sep	good	none	18 in.	10 in.	severe
*	South 8 in.	Rudbeckia fulgida	golden-yellow	2½ in. wide	early Aug-late Sep	good	none	18 in.	10 in.	severe
*	South 8 in.	Rudbeckia hirta	golden-yellow	2½ in. wide	mid Jun-late Sep	excellent	heavy	20 in.	12 in.	severe
r * *	South 4 in.	Ruellia humilis	lavender	1¾ in. wide	early Jul-mid Aug	fair	none	6 in.	6 in.	minor
*	North 6 in.	Salvia argentea	n/a	n/a	did not flower	n/a	none	3 in.	6 in.	none
**	South 4 in.	Salvia azurea var. grandiflora	blue	% in. wide	early Sep-late Oct	good	none	39 in.	16 in.	none
***	South 6 in.	Salvia azurea var. grandiflora	blue	% in. wide	early Sep-late Oct	good	none	54 in.	15 in.	none
***	South 8 in.	Salvia azurea var. grandiflora	blue	% in. wide	early Sep-late Oct	good	none	61 in.	14 in.	none
***	North 6 in.	Salvia officinalis	purple	1 in. long	early Jun-mid Jul	good	none	10 in.	16 in.	minor
***	North 8 in.	Salvia officinalis	purple	1 in. long	early Jun-mid Jul	good	none	14 in.	14 in.	minor
*	North 4 in.	Salvia pratensis 'Swan Lake'	white	8 in. long	early Jun-late Jun	poor	none	12 in.	12 in.	minor
r * *	North 6 in.	Salvia pratensis 'Swan Lake'	white	8 in. long	late May-late Jun	fair	none	9 in.	16 in.	minor
r *	North 8 in.	Salvia pratensis 'Swan Lake'	white	8 in. long	late May-late Jun	poor	none	15 in.	12 in.	minor
**	North 4 in.	Salvia×sylvestris 'East Friesland'	purple	4 in. long	late May-late Jun	good	none	8 in.	8 in.	minor
***	North 6 in.	Salvia×sylvestris 'East Friesland'	purple	7 in. long	early Jun-mid Jul	good	none	10 in.	10 in.	minor
r * *	North 6 in.	Saponaria ocymoides	pink	½ in. wide	late May-late Jun	excellent	none	10 in.	25 in.	minor
***	North 8 in.	Schizachyrium scoparium	purple-red	9½ in. long	early Aug-early Sep	excellent	moderate	41 in.	20 in.	minor
***	North 6 in.	Scilla numidica	light purple	½ in. wide	mid Sep-early Oct	good	none	7 in.	9 in.	none
*	North 8 in.	Scutellaria alpina	purple	1 in. long	mid Jun-mid Jul	poor	none	9 in	13 in.	modera
r * *	South 4 in.	Scutellaria resinosa	purple	1 in. long	mid Jun-early Aug	good	moderate	12 in.	12 in.	minor
r**	South 6 in.	Scutellaria resinosa	purple	1 in. long	mid Jun-early Aug	good	moderate	10 in.	9 in.	minor
**	South 8 in.	Scutellaria resinosa	purple	1 in. long	mid Jun-early Aug	good	moderate	19 in.	16 in.	minor
*	North 4 in.	Sedum acre 'Aureum'	yellow	¾ in. wide	mid Jun-late Jul	fair	none	1½ in.	7 in.	none
r *	North 6 in.	Sedum acre 'Aureum'	yellow	¾ in. wide	mid Jun-late Jul	excellent	none	2¼ in.	7 in.	none
r * *	North 8 in.	Sedum acre 'Oktoberfest'	white	¾ in. wide	mid Jun-late Jul	excellent	none	2 in.	7 in.	none
r *	North 8 in.	Sedum album	white	¼ in. wide	late Jun-late Jul	poor	none	2 in.	7 in.	none
	North 8 in.	Sedum album 'Chloroticum'	white	¼ in. wide	late Jun-late Jul	fair	none	2 in.	7 in.	none
r *	North 4 in.	Sedum album 'Coral Carpet'	white	¼ in. wide	late Jun-late Jul	fair	none	2 in.	6 in.	none
	North 6 in.	Sedum album 'Coral Carpet'	white	¼ in. wide	late Jun-late Jul	fair	none	2 in.	8 in.	none
***	North 6 in.	Sedum hybridum 'Immergrünchen'	yellow	% in. wide	Jun	good	none	5 in.	spreading	none
***	North 6 in.	Sedum kamtschaticum ssp. ellacombeanum	yellow	½ in. wide	mid Jun-late Jul	good	none	9 in.	spreading	none
***	North 6 in.	Sedum kamtschaticum var. floriferum 'Weihenstephaner Gold'	yellow	% in. wide	Jun	good	none	4 in.	spreading	none
***	North 4 in.	Sedum kamtschaticum 'Variegatum'	yellow	¾ in.	early Jun-early Jul	excellent	none	5 in.	spreading	none
r*	North 4 in.	Sedum pachyclados	n/a	n/a	did not flower	n/a	n/a	2 in.	12 in.	none
r*	North 6 in.	Sedum pachyclados	creamy white	½ in. wide	mid May-early Jun	poor	none	2 in.	10 in.	none
r*	North 8 in.	Sedum pachyclados	creamy white	½ in. wide	mid May-early Jun	poor	none	4 in.	16 in.	none
r***	North 4 in.	Sedum rupestre 'Angelina'	yellow	¾ in.	late Jun-late Jul	fair	none	4 in.	12 in.	none
** *	North 4 in.	Sedum rupestre 'Blue Spruce'	golden-yellow	1 in.	mid Jun-early Aug	good	none	5 in.	10 in.	none
**	North 6 in.	Sedum rupestre 'Blue Spruce'	golden-yellow	1 in.	mid Jun-early Aug	good	none	3 in.	10 in.	none
r**	North 4 in.	Sedum sexangulare	yellow	¾ in.	late Jun-late Jul	excellent	none	4 in.	spreading	
***	North 4 in.	Sedum spurium 'John Creech'	pink	3⁄4 in.	mid Jun-late Jul	good	none	3 in.	18 in.	none
***	North 4 in.	Sedum spurium var. album 'Leningrad White'	white	¾ in.	late Jun-early Aug	good	none	3 in.	7 in.	none
***	North 6 in.	Sedum spurium var. album 'Leningrad White'	white	¾ in.	late Jun-early Aug	good	none	4 in.	10 in.	none
***	North 8 in.	Sedum spurium var. album 'Leningrad White'	white	¾ in.	late Jun-early Aug	good	none	4 in.	spreading	none
* **	North 4 in.	Sedum ternatum 'Larenim Park'	white	½ in. wide	late May-Aug	poor	none	5 in.	30 in.	none
		Sempervivum 'Blue Boy'	pink, white	% in. wide	mid Jul-early Aug	good	none	8 in.	4 in.	minor

***	North A :-	Companyiyum'l o Clair's Farm'	white	11/ in wilda	mid lun mid lul	fair	nono	£ 0 in	4 E in	nonc
***	North 4 in.	Semperviyum 'Le Clair's Form'	white	1¼ in. wide	mid Jun-mid Jul	fair	none	6-8 in.	4-5 in.	none
	North 6 in.	Sempervivum 'Le Clair's Form'	white	1 in. wide	late Jul-mid Aug	poor	none	2-5 in.	2-5 in.	none
****	North 6 in.	Sesleria caerulea	green	n/a ¾ in. wide	mid May-Aug	fair	low	24 in.	12 in.	minor
**	South 4 in.	Sisyrinchium albidum	white		late Apr-early Jun	excellent	none	7 in.	8 in.	moderate
**	South 6 in.	Sisyrinchium albidum	white	¾ in. wide	late Apr-early Jun	excellent	none	7 in.	6 in.	moderate
****	South 8 in.	Solidago rigida	yellow	6 in. wide	mid Aug-mid Oct	good	none	58 in.	22 in.	minor
****	North 8 in.	Solidago 'Wichita Mountains'	yellow	6 in. long	mid Sep-mid Nov	excellent	none	33 in.	18 in.	minor
	North 6 in.	Sporobolus heterolepis	green, purple	n/a	Aug-Sep	fair	none	48 in.	42 in.	minor
	North 8 in.	Sporobolus heterolepis	green, purple	n/a	Aug-Sep	excellent	none	39 in.	35 in.	minor
****	South 4 in.	Sporobolus heterolepis	green, purple	n/a	Aug-Sep	excellent	none	37 in.	26 in.	moderate
****	South 6 in.	Sporobolus heterolepis	green, purple	n/a	Aug-Sep	good	none	40 in.	26 in.	minor
****	South 8 in.	Sporobolus heterolepis	green, purple	n/a	Aug-Sep	good	none	39 in.	36 in.	minor
	North 4 in.	Sporobolus heterolepis 'Tara'	green, purple	n/a	Aug-Sep	excellent	none	36 in.	44 in.	minor
	North 8 in.	Sporobolus heterolepis 'Tara'	green, purple	n/a	Aug-Sep	excellent	none	27 in.	30 in.	minor
**	North 8 in.	Stachys byzantina 'Big Ears'	n/a	n/a	did not flower	n/a	none	6 in.	14 in.	minor
**	North 4 in.	Stachys byzantina 'Silver Carpet'	n/a	n/a	did not flower	n/a	none	6 in.	12 in.	minor
***	South 6 in.	Symphyotrichum ericoides	white	¼ in. wide	early Aug-early Oct	excellent	none	33 in.	17 in.	moderate
***	South 8 in.	Symphyotrichum ericoides	white	¼ in. wide	early Aug-early Oct	excellent	none	28 in.	14 in.	moderate
****	North 4 in.	Symphyotrichum ericoides 'Snow Flurry'	white	¾ in. wide	mid Sep-early Nov	good	none	3 in.	11 in.	minor
****	North 6 in.	Symphyotrichum ericoides 'Snow Flurry'	white	% in. wide	mid Sep-early Nov	good	none	1 in.	12 in.	minor
**	North 8 in.	Symphyotrichum ericoides 'Snow Flurry'	white	½ in. wide	mid Sep-early Nov	poor	none	3 in.	16-25 in.	minor
***	South 8 in.	Symphyotrichum laeve	light purple	1 in. wide	mid Sep-mid Nov	excellent	none	52 in.	22 in.	moderate
**	South 6 in.	Symphyotrichum novae-angliae	light purple	1½ in. wide	mid Sep-mid Nov	good	none	24 in.	20 in.	moderate
**	South 8 in.	Symphyotrichum novae-angliae	light purple	1½ in. wide	mid Sep-mid Nov	fair	none	28 in.	20 in.	moderate
**	South 8 in.	Symphyotrichum oblongifolium	light purple	1 in. wide	Sep-Oct	fair	none	21 in.	8 in.	minor
**	North 4 in.	Symphyotrichum oolentangiense	lavender-blue	1 in. wide	mid Sep-late Oct	fair	none	12 in.	7 in.	moderate
***	South 4 in.	Symphyotrichum oolentangiense	lavender-blue	1 in. wide	early Sep-mid Oct	good	moderate	9 in.	3 in.	minor
**	South 8 in.	Symphyotrichum oolentangiense	lavender-blue	1 in. wide	early Sep-early Nov	fair	moderate	17 in.	7 in.	moderate
***	North 8 in.	Symphyotrichum sericeum	light purple	1¼ in. wide	mid Sep-late Oct	fair	moderate	25 in.	12 in.	moderate
***	South 4 in.	Talinum calycinum	magenta	¾ in. wide	late Jun-mid Sep	good	heavy	14 in.	4 in.	none
***	South 8 in.	Tetraneuris herbacea	yellow	1¼ in. wide	early May-early Jul	good	none	12 in.	8 in.	none
***	North 4 in.	Thymus praecox 'Coccineus'	purple	¼ in. wide	early Jun-early Aug	good	none	2 in.	24 in.	none
***	North 4 in.	Thymus pseudolanuginosus	light purple	½ in. wide	Jun	fair	none	2 in.	24 in.	minor
***	South 6 in.	Tradescantia ohiensis	lavender-blue	1½ in. wide	early Jun-late Jul	fair	low	8 in.	8 in.	minor
***	South 8 in.	Tradescantia ohiensis	lavender-blue	1½ in. wide	early Jun-early Jul	fair	low	10 in.	10 in.	minor
****	South 6 in.	Tradescantia tharpii	rosy purple	1¾ in. wide	mid May-early Jun	excellent	none	4 in.	12 in.	minor
**	South 4 in.	Verbena stricta	light purple	8 in. long	mid Jul-mid Sep	good	none	25 in.	3 in.	moderate
**	North 6 in.	Veronica prostrata 'Aztec Gold'	n/a	n/a	did not flower	n/a	none	7 in.	8 in.	moderate
***	South 4 in.	Viola sagittata	purple	¾ in. wide	late Apr-early Jun	good	moderate	6 in.	7 in.	moderate
****	South 6 in.	Viola sagittata	purple	1 in. wide	late Apr-early Jun	good	moderate	6 in.	10 in.	moderate
***	South 8 in.	Viola sagittata	purple	1 in. wide	late Apr-early Jun	excellent	moderate	8 in.	9 in.	moderate
***	North 6 in.	Zizia aptera	yellow	2 in. wide	late May-late Jun	good	low	20 in.	13 in.	moderate
	NOTED UIT.	Διδιά αρισία	yGIIOVV	∠ III. VVIUC	iate iviay-iate Juli	guuu	1044	20 111.	10 111.	mouerate

Ratings: $\star\star\star\star\star$ excellent, $\star\star\star\star$ good, $\star\star\star$ fair, $\star\star$ poor, \star very poor

 $^{1}Reseeding$ Levels: low <25%; moderate 25-60%; heavy >60%

²Heat/Drought Stress: minor <25%; moderate 25-60%; severe >60%



Table 2: Taxa that did not complete the five-year trial

Roof	Depth	Plant Name	Year Died	Winters Survived
North	4 in., 6 in.	Agastache astromontana 'Pink Pop'	2014	4
North	4 in., 6 in.	Armeria maritima 'Alba'	2013	3
North	6 in.	Armeria maritima 'Rubrifolia'	2013	3
North	6 in.	Aster alpinus var. albus	2014	4
North	8 in.	<i>Buddleja davidii</i> 'Blue Chip'	2013	3
South	8 in.	Campanulastrum americanum	2011	1
South	6 in.	Echinacea purpurea	2014	4
South	4 in., 8 in.	Erigeron caespitosa	2013	3
North	4 in.	Erigeron scopulinus	2012	2
North	4 in., 8 in.	Eriogonum umbellatum	2013	3
North	4 in., 6 in.	Hylotelephium sieboldii	2013	3
North	4 in.	Lewisia longipetala 'Little Plum'	2014	4
North	4 in.	Linum flavum 'Compactum'	2013	3
South	6 in.	Lupinus perennis	2011	0
North	4 in., 8 in.	Oenothera fruticosa 'Fireworks'	2013	3
North	6 in., 8 in.	Origanum libanoticum	2012	2
North	6 in., 8 in.	Origanum vulgare 'Aureum'	2013	3
North	8 in.	Pachysandra procumbens	2013	2
North	8 in.	Penstemon×mexicali 'Red Rocks'	2012	2
South	4 in., 6 in., 8 in.	Rudbeckia fulgida	2013	3
South	8 in.	Rudbeckia hirta	2013	3
North	6 in.	Salvia argentea	2014	4
North	4 in., 6 in., 8 in.	Sedum pachyclados	2013	3
North	4 in.	Sempervivum 'Blue Boy'	2013	3
North	4 in., 6 in.	Sempervivum 'Le Clair's Form'	2013	3
South	4 in., 6 in.	Sisyrinchium albidum	2013	2
North	8 in.	Stachys byzantina 'Big Ears'	2013	3
North	4 in.	Stachys byzantina 'Silver Carpet'	2013	2
South	4 in.	Verbena stricta	2013	2
North	6 in.	Veronica prostrata 'Aztec Gold'	2011	1