

Plant Select®

2014-2015 Plant Evaluations



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Denver Botanic Gardens Chatfield Farms



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December 2015

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Executive Summary

In June of 2014 plants of nineteen taxa were planted at Denver Botanic Gardens' Chatfield Farms (Littleton, CO) and Colorado State University's Plant Environmental Research Center (Fort Collins, CO) for evaluation for attributes desirable of plants in the Plant Select® Program. These taxa represented nineteen species, seventeen genera, and nine botanical families.

Within months of planting, staff at DBG dictated that all plants of *Dieteria bigelovii* ssp. *begelovii* (*Machaeranthera pattersonii*) be removed from the evaluation areas and destroyed.

The remaining eighteen taxa were left in the ground and evaluated the following spring for overwinter survival. One taxa, *Salvia* WINDWALKER® Coral Pink Salvia, and introduction from Timberline Gardens, had no plants surviving after the winter of 2014-2015. Another taxa, *Stipa gigantea* UNDAUNTED® 'Lauren's Hardy', had no plants surviving at CSU-PERC after the winter of 2014-2015, however a few plants did survive at DBG-Chatfield Farms.

The remaining seventeen taxa were evaluated and periodically measured throughout the 2015 growing season. Of those seventeen taxa, three displayed attributes desirable of plants in the Plant Select® Program: *Limonium minutum*, *Lavandula angustifolia* 'Wee One' and *Sorghastrum nutans* 'Thin Man'. Of the remaining fourteen taxa, specific plants of three of those taxa were selected and additional plants from these plants will be propagated during the fall and winter of 2015-2016, and plants of these selections will be planted in 2016 for evaluation during 2016 and 2017. The species for which selections were made are *Scutellaria scordiifolia*, *Teucrium hircanicum*, and *Trachelium jacquinii* ssp. *rumelianum*.

This report is a compilation of the research data collected from the evaluations at DBG-Chatfield Farms and CSU-PERC.

Lydia Abernethy
Ronda Koski

Alyssum markgrafii

Observations:

*DBG-Chatfield ~

- ◇ Plants severely damaged by grasshopper feeding (must be caged to prevent predation).
- ◇ Plant growth quite different compared to plants at CSU-PERC.
- ◇ Plants at DBG-Chatfield much smaller than those at CSU-PERC.

+CSU-PERC ~

- ◇ Mounds of fine-texture foliage covered with tiny yellow flowers.
- ◇ Plants cutback to within a few inches of the ground in early July did not regrow.
- ◇ Plants die when cut back to ground in July.
- ◇ New growth occurred in September in center of plants that were not cutback.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	06/20/15	8/NA (3.0/NA)	2/NA (0.9/NA)	NA	NA
	09/28/15	25/NA (10.0/NA)	9/NA (3.4/NA)	NA	NA
CSU-PERC	06/24/15	40/40 (15.7/15.7)	80/80 (31.4/31.4)	NA	NA
	09/10/15	38/38 (15.1/15.1)	82/82 (32.4/32.4)	Dead	Dead

Alyssum markgrafii



Oct 10, 2014*



Jul 7, 2015*



Sep 28, 2015*

Are these even the same species?



May 28, 2015+



Aug 25, 2015+



Sep 15, 2015+

Helichrysum flanaganii

Observations:

*DBG-Chatfield ~

- ◇ Beautiful groundcover; striking while in bloom.
- ◇ Foliage became chlorotic and plants tended to die in their centers.

+CSU-PERC ~

- ◇ Plants form low mats of gray-green foliage.
- ◇ Foliage became chlorotic and plants tended to die in their centers.
- ◇ Plants cutback in early July did not rebloom.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	06/20/15	4 / 20 (1.5/8.0)	13/NA (5.0/NA)	NA	NA
	09/28/15	41/ 41 (16.0/16.0)	76/NA (30.0/NA)	NA	NA
CSU-PERC	06/24/15	7/18 (2.8/7.0)	55/55 (21.6/21.6)	NA	NA
	09/10/15	9/9 (3.5/3.5)	63/63 (24.6/24.6)	9/9 (3.7/3.7)	48/48 (19.0/19.0)

Helichrysum flanaganii



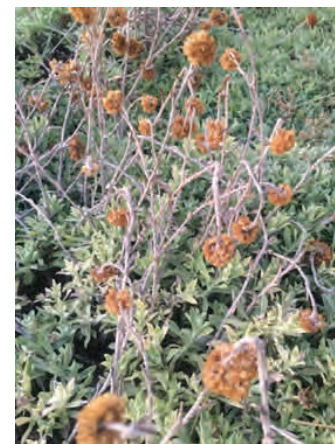
Oct 10, 2014*



Jun 11, 2015*



Sep 28, 2015*



May 28, 2015+



Jul 30 2015+



Aug 26, 2015+

Incarvillea olgae

Observations:

*DBG-Chatfield ~

- ◇ Beautiful pink blooms and growth habit.
- ◇ Great hummingbird attractant!
- ◇ However, plants were inconsistent in size and amount of blooms.

+CSU-PERC ~

- ◇ Attractive pink flowers in mid-July.
- ◇ Most plants grow to be large plants with long branches that arch over when weighted down with elongated fruits.
- ◇ One plant did not produce fruits; this was given to DBG for propagation for evaluation in 2016.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	77/ 101 (30.3/39.9)	NA/145 (57.0/57.0)	NA	NA
	09/28/15	80/NA (31.4/NA)	NA/168 (66.2/66.2)	NA	NA
CSU-PERC	06/24/15	75/NA (29.7/NA)	68/68 (26.8/26.8)	NA	NA
	09/10/15	124/124 (48.6/48.6)	203/203 (79.8/79.8)	NA	NA

Incarvillea olgae



Oct 10, 2014*



Jul 27, 2015*



Sep 28, 2015*



Jul 30, 2015+



May 28, 2015+



Aug 26, 2015+



Oct 05, 2015+
Plant that
produced no fruits

Lavandula angustifolia 'Wee One'

Observations:

*DBG-Chatfield ~

- ◇ Slight size variations due to watering differences as all are clones.
- ◇ Blooms repeatedly after deadheading; lovely smell!
- ◇ Great pollinator attractant!
- ◇ Plants form mounds about 30 cm tall with abundant spikes of fragrant light purple flowers.

+CSU-PERC ~

- ◇ Not grown.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width Cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	19/ 27 (7.6/10.8)	NA/28 (11.2/11.2)	NA	NA
	09/28/15	33/NA (12.8/NA)	NA/41 (16.2/16.2)	NA	NA
CSU-PERC	NA	NA	NA	NA	NA
	NA	NA	NA	NA	NA

Lavandula angustifolia 'Wee One'



Oct 10, 2014*



Sep 28, 2015*



Jul 27, 2015*

Limonium binervosum

Observations:

*DBG-Chatfield ~

- ◇ Flowers appear from July through September.
- ◇ Flower stalks lodge later in season.
- ◇ Foliage browns at tips later in season.

+CSU-PERC ~

- ◇ Attractive mound of foliage when not in bloom.
- ◇ Plants form mounds about 20 cm tall with taller cymes of light purple flowers.
- ◇ Flower stalks on some plants became floppy.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	7 / 30 (2.7/12.0)	17 / 21 (6.6/8.3)	NA	NA
	09/28/15	18/NA (7.1/NA)	12 / 42 (4.6/16.7)	NA	NA
CSU-PERC	06/24/15	8/43 (3.2/16.8)	23/23 (9.0/9.0)	NA	NA
	09/10/15	9/41 (3.4/16.1)	20/20 (7.8/7.8)	NA	NA

Limonium binervosum



Oct 10, 2014*



Jul 27, 2015*



Sep 25, 2015*



Sep 28 2015*



May 28, 2015+



Jul 30, 2015+



Aug 26, 2015+



Sep 01 2015+

Limonium minutum

Observations:

*DBG-Chatfield ~

- ◇ Gorgeous!
- ◇ Compact form with beautiful flowers.
- ◇ Possible Petites candidate.

+CSU-PERC ~

- ◇ Attractive mound of foliage when not in bloom.
- ◇ Plants form mounds about 8 cm tall with tightly clustered cymes of light purple flowers.
- ◇ Good candidate for Plant Select Petites Program.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	5/NA (2.0/NA)	NA/13 (NA/5.0)	NA	NA
	09/28/15	8/NA (3.0/NA)	NA/15 (NA/6.0)	NA	NA
CSU-PERC	06/24/15	5/10 (2.1/3.8)	13/13 (5.2/5.2)	NA	NA
	09/10/15	6/10 (2.4/3.9)	16/16 (6.3/6.3)	NA	NA

Limonium minutum



Oct 10, 2014*



Jul 27, 2015*



Sep 28, 2015*



May 28, 2015+



Jul 30, 2015+



Aug 26, 2015+



Lindelofia longiflora

Observations:

*DBG-Chatfield ~

- ◇ Foliage of plants damaged by grasshopper.
- ◇ Leaf margins tended to brown and become dry.

+CSU-PERC ~

- ◇ Plants form mounds 30-60 cm tall with attractive blue flowers in June.
- ◇ Spent flowers followed by small spiny fruits that attached to clothing.
- ◇ Plants cutback in early July did not rebloom; however cutback plants produced mounds with attractive foliage.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	34/NA (13.6/NA)	26/NA (10.1/NA)	NA	NA
	09/28/15	62/NA (24.3/NA)	60/NA (23.8/NA)	NA	NA
CSU-PERC	06/24/15	48/73 (18.8/28.8)	82/82 (32.3/32.3)	NA	NA
	09/10/15	48/48 (18.9/18.9)	101/101 (39.8/39.8)	44/44 (17.2/17.2)	90/90 (35.4/35.4)

Lindelofia longiflora



Oct 10, 2014*



Jun 04 2015*



Sep 28, 2015*



May 28, 2015+



Jul 30, 2015+



Aug 26, 2015+

Penstemon centranthifolius

Observations:

*DBG-Chatfield ~

- ◇ Great hummingbird attractant when in bloom!
- ◇ One plant did not flower this year.
- ◇ Should deadhead after bloom.
- ◇ Wide variation in shape and size.

+CSU-PERC ~

- ◇ Poor overwinter survival.
- ◇ Attractive blue-green foliage and orange-red tubular flowers in early June.
- ◇ Plants cutback in early July did not rebloom.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	29 / 44 (11.3/NA)	23 / 46 (9.0/18.3)	NA	NA
	09/28/15	24/NA (9.5/NA)	17 / 39 (6.5/15.3)	NA	NA
CSU-PERC	06/24/15	45/66 (17.8/25.8)	23/23 (9.1/9.1)	NA	NA
	09/10/15	10/10 (3.9/3.9)	24/24 (9.4/9.4)	10/10 (3.9/3.9)	24/24 (9.4/9.4)

Penstemon centranthifolius



Oct 10, 2014*



Jun 11, 2015*



Sep 28, 2015*



May 28, 2015+



Jul 30, 2015+



Aug 26, 2015+

Salvia moorcroftiana x indica

Observations:

*DBG-Chatfield ~

- ◇ Great hummingbird attractant when in bloom!
- ◇ Should deadhead after bloom.
- ◇ No self-seeding observed.
- ◇ Wide variation in shape and size.
- ◇ Spent inflorescences look much different compared to those of plants at CSU-PERC.

+CSU-PERC ~

- ◇ Attractive gray-green foliage and light purple flowers.
- ◇ Plants cutback in early July did not rebloom.
- ◇ Spent inflorescences look much different compared to those of plants at DBG-Chatfield.
- ◇ Prolific self-seeding observed; hundred of seedlings counted within 24”.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	06/20/15	20/102 (8.0/40.0)	29/93 (11.4/36.7)	NA	NA
	09/28/15	41/89 (16.0/35.0)	59/85 (23.4/33.3)	NA	NA
CSU-PERC	06/24/15	NA/135 (NA/53.1)	119/119 (46.7/46.7)	NA	NA
	09/10/15	41/NA (16.1/NA)	82/82 (32.3/32.3)	41/41 (16.3/16.3)	90/90 (35.2/35.2)

Salvia moorcroftiana x indica



Oct 10, 2014*



Jun 11, 2015*



Sep 28, 2015*



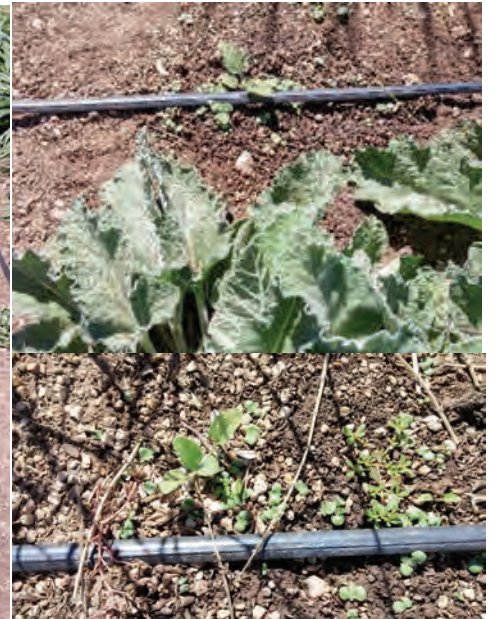
May 28, 2015+



Jul 30, 2015+



Sep 01, 2015+



Sep 15, 2015+

Scutellaria scordiifolia

Observations:

*DBG-Chatfield ~

- ◇ Great pollinator attractant!
- ◇ Blooms repeatedly after deadheading.
- ◇ Selection made; all other plants removed.

+CSU-PERC ~

- ◇ Attractive green foliage.
- ◇ Attractive purple flowers.
- ◇ Long bloom time from mid-June through September.
- ◇ Plants cutback in early July rebloomed through remainder of summer.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	13/19 (5.0/7.4)	15/30 (6.0/12.0)	NA	NA
	09/28/15	NA/44 (NA/17.4)	13/46 (5.0/18.0)	NA	NA
CSU-PERC	06/24/15	33/35 (13.1/13.6)	52/52 (20.3/20.3)	NA	NA
	09/10/15	32/32 (12.7/12.7)	71/71 (28.0/28.0)	27/27 (10.6/10.6)	53/53 (20.8/20.8)

Scutellaria scordiifolia



Oct 10, 2014*



Jun 25, 2015*



Sep 28, 2014*



May 28, 2015+



Jul 30, 2015+



Aug 26, 2015+



Oct 06, 2015+

Seseli elatum ssp. osseum

Observations:

*DBG-Chatfield ~

- ◇ Great pollinator attractant!
- ◇ Should deadhead after bloom.
- ◇ Flower stalks lodge and break.
- ◇ Possible prolific seeder.

+CSU-PERC ~

- ◇ Attractive airy green foliage and white inflorescences.
- ◇ Attractive to large assortment of insects.
- ◇ Only a few of the plants cutback in early July rebloomed.
- ◇ Most plants became tan in color after blooming and produced prolific amount of seeds.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	21/90 (8.1/35.6)	NA/85 (NA/33.5)	NA	NA
	09/28/15	32/141 (12.4/55.6)	NA/124 (NA/49.0)	NA	NA
CSU-PERC	06/24/15	NA/101 (NA/39.6)	115/115 (45.1/45.1)	NA	NA
	09/10/15	108/108 (42.3/42.3)	123/123 (48.3/48.3)	25/25 (9.8/9.8)	27/27 (10.5/10.5)

Seseli elatum ssp. osseum



Oct 10, 2014*



Jul 27, 2015*



Sep 28, 2015*



May 28, 2015+



Jul 30, 2015+



Aug 26, 2015+



Sep 01, 2015+

Sorghastrum nutans 'Thin Man'

Observations:

*DBG-Chatfield ~

- ◇ Plants uniform in shape and size.
- ◇ Beautiful orange seed heads.

+CSU-PERC ~

- ◇ Attractive blue-green foliage most of the summer.
- ◇ Bronze-colored inflorescences in later summer.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	86/NA (33.9/NA)	112/163 (44.1/64.2)	NA	NA
	09/28/15	54/NA (21.3/NA)	53 / 81 (21.0/31.8)	NA	NA
CSU-PERC	06/24/15	88/NA (34.6/NA)	93/93 (36.5/36.5)	NA	NA
	09/10/15	174/174 (68.4/68.4)	94/94 (37.1/37.1)	NA	NA

Sorghastrum nutans 'Thin Man'



Oct 10, 2014*



Sep 25, 2015*



May 28, 2015+



July 30, 2015+



Aug 26, 2015+



Sep 01, 2015+

Stachys dregeana

Observations:

*DBG-Chatfield ~

- ◇ Plants inconsistent in shape, size, and foliage color.
- ◇ Foliage browns and curls later in season.
- ◇ Selections could be made for preferred plants.

+CSU-PERC ~

- ◇ Attractive bright green foliage with sparse spike-like inflorescences of purplish-pink flowers.
- ◇ Plants cutback in early July did not rebloom.
- ◇ Plants that were cutback formed low mounds of attractive bright-green foliage.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	20/25 (7.8/9.8)	NA/25 (NA/9.8)	NA	NA
	09/28/15	25/NA (10.0/NA)	NA/26 (NA/10.1)	NA	NA
CSU-PERC	06/24/15	18/32 (7.1/12.5)	36/36 (14.1/14.1)	NA	NA
	09/10/15	23/23 (9.2/9.2)	26/26 (10.2/10.2)	8/8 (3.1/3.1)	30/30 (11.9/11.9)

Stachys dregeana



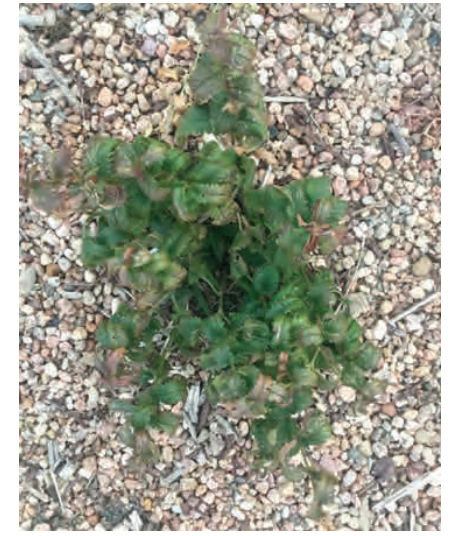
Oct 10, 2014*



Jun 11, 2015*



Jul 27, 2015*



Sep 28, 2015*



May 28, 2015+



Jul 30, 2015+



Aug 26, 2015+



Sep 15, 2015+



Stipa gigantea UNDAUNTED® ‘Lauren’s Hardy’

Observations:

*DBG-Chatfield ~

◇ Did not flower this year or last.

+CSU-PERC ~

◇ Plants did not survive winter of 2014-2015.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	06/20/15	25/NA (10.0/NA)	43/NA (17.0/NA)	NA	NA
	09/28/15	13/NA (5.0/NA)	61/NA (24.0/NA)	NA	NA
CSU-PERC	06/24/15	NA	NA	NA	NA
	09/10/15	NA	NA	NA	NA

Stipa gigantea UNDAUNTED® ‘Lauren’s Hardy’



Oct 10, 2014*



Jun 11, 2015*



Sep 28, 2015*

Teucrium hircanicum

Observations:

*DBG-Chatfield ~

- ◇ Great pollinator attractant!
- ◇ Blooms repeatedly after deadheading.
- ◇ Selections were made for continued evaluation.
- ◇ Hundred of seedlings counted within 24"; seedlings as far as 6'.

+CSU-PERC ~

- ◇ Attractive green foliage and reddish-purple flowers that are attractive to many species of pollinators.
- ◇ Plants bloomed throughout the Summer and early Fall.
- ◇ Plants cutback in early July did rebloom.
- ◇ Much variation in size among plants.
- ◇ A selection was made for continued evaluation.
- ◇ Self-seeding was not observed.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	06/20/15	43/51 (17.0/20.0)	37/41 (14.5/16.0)	NA	NA
	09/28/15	38/38 (15.0/15.0)	66/81 (26.0/32.0)	NA	NA
CSU-PERC	06/24/15	11/39 (4.3/15.3)	36/36 (14.0/14.0)	NA	NA
	09/10/15	47/47 (18.4/18.4)	74/74 (29.3/29.3)	45/45 (17.6/17.6)	69/69 (27.0/27.0)

Teucrium hircanicum



Oct 10, 2014*



Jul 27, 2015*



Sep 15, 2015+



May 28, 2015+



Jul 30, 2015+



Aug 26, 2015+



Sep 01, 2015+

Trachelium jacquinii ssp. rumelianum

Observations:

*DBG-Chatfield ~

- ◇ One plant, very small.
- ◇ Inflorescence of white flowers.
- ◇ Much more successful at CSU than DBG.

+CSU-PERC ~

- ◇ Attractive small mounds green foliage most of the summer.
- ◇ Produced umbels of light-purple flowers in later summer; these are attractive to many species of pollinators.
- ◇ Weight of inflorescences causes plants to become open in their centers.
- ◇ Plants became very unattractive after blooming.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	NA	3/3 (1.0/1.3)	NA	NA
	10/07/15	NA	6/20 (2.5/7.8)	NA	NA
CSU-PERC	06/24/15	10/NA (4.1/NA)	17/17 (6.8/6.8)	NA	NA
	09/10/15	9/9 (3.4/3.4)	27/27 (10.4/10.4)	NA	NA

Trachelium jacquinii ssp. *rumelianum*



Oct 10, 2014*



Sep 28, 2015*



May 28, 2015+



Jul 30, 2015+



Aug 26, 2015+

Verbascum atrovioleaceum

Observations:

*DBG-Chatfield ~

- ◇ Should deadhead after bloom.

+CSU-PERC ~

- ◇ Attractive flat rosettes of dark-green foliage.
- ◇ Produced racemes of dark-purple flowers in May and June.
- ◇ Flowers are attractive to many species of pollinators.
- ◇ Some plants cutback in early July did rebloom.

Evaluation Area	Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
DBG-Chatfield	07/22/15	5/49 (1.9/19.1)	NA/51 (NA/20.2)	NA	NA
	09/28/15	22/49 (8.8/19.1)	9/30 (3.6/12.0)	NA	NA
CSU-PERC	06/24/15	8/47 (3.0/18.5)	38/38 (14.8/ 14.8)	NA	NA
	09/10/15	3/42 (1.1/16.5)	13/13 (5.1/5.1)	4/17 (1.6/6.7)	15/15 (5.8/5.8)

Verbascum atroviolaceum



Oct 10, 2014*



Sep 25, 2015*



Sep 28, 2015*



May 28, 2015+



Not Cutback

Aug 26, 2015+



Cutback



Sep 01, 2015+



Plant Survival 2014-2015

Taxa Name	Denver Botanic Gardens Chatfield Farms			Colorado State University Plant Environmental Research Center		
	Date Planted	Number Planted	Number Alive (9/28/15)	Date Planted	Number Planted	Number Alive (9/10/15)
<i>Alyssum markgrafii</i>	07/16/14	10	2	06/13/14	10	5
<i>Helichysum flanaganii</i>	07/16/14	10	10	06/13/14	20	18
<i>Incarvillea olgae</i>	07/16/14	8	7	06/13/14	20	20
<i>Lavandula angustifolia</i> 'Wee One'*	07/16/14	5	5	NA	0	0
<i>Limonium binervosum</i>	07/16/14	8	7	06/13/14	20	14
<i>Limonium minutum</i>	07/16/14	9	1	06/13/14	10	9
<i>Lindelofia longiflora</i>	07/16/14	10	8	06/13/14	10	10
<i>Penstemon centranthifolius</i>	07/16/14	9	4	06/13/14	10	2
<i>Salvia moorcroftiana x indica</i>	07/16/14	10	8	06/13/14	20	20
<i>Scutellaria scordiifolia</i>	07/16/14	9	1	06/13/14	18	14
<i>Seseli elatum ssp. osseum</i>	07/16/14	10	8	06/13/14	20	11
<i>Sorghastrum nutans</i> 'Thin Man'	07/16/14	10	10	06/13/14	12	12
<i>Stachys dregeana</i>	07/16/14	10	10	06/13/14	10	10
<i>Stipa gigantea</i> UNDAUNTED® 'Lauren's Hardy'	07/16/14	5	1	06/13/14	7	0
<i>Teucrium hircanicum</i>	07/16/14	10	2	06/13/14	17	9
<i>Trachelium jacquinii ssp. rumelianum</i>	07/16/14	10	10	06/13/14	20	16
<i>Verbascum atrovioleaceum</i>	07/16/14	10	5	06/13/14	20	17

* Grown only at DBG-Chatfield due to security reasons

Plant Growth								
Taxa Name	DBG-Chatfield			CSU-PERC				
	Dates			Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
<i>Alyssum markgrafii</i>	06/20/15	8/NA (3.0/NA)	2/NA (0.9/NA)	06/24/15	40/40 (15.7/15.7)	80/80 (31.4/31.4)	NA	NA
	09/28/15	25/NA (10.0/NA)	9/NA (3.4/NA)	09/10/15	38/38 (15.1/15.1)	82/82 (32.4/32.4)	Dead	Dead
<i>Helichrysum flanaganii</i>	06/20/15	4 / 20 (1.5/8.0)	13/NA (5.0/NA)	06/24/15	7/18 (2.8/7.0)	55/55 (21.6/21.6)	NA	NA
	09/28/15	41/ 41 (16.0/16.0)	76/NA (30.0/NA)	09/10/15	9/9 (3.5/3.5)	63/63 (24.6/24.6)	9/9 (3.7/3.7)	48/48 (19.0/19.0)
<i>Incarvillea olgae</i>	07/22/15	77/ 101 (30.3/39.9)	NA/145 (57.0/57.0)	06/24/15	75/NA (29.7/NA)	68/68 (26.8/26.8)	NA	NA
	09/28/15	80/NA (31.4/NA)	NA/168 (66.2/66.2)	09/10/15	124/124 (48.6/48.6)	203/203 (79.8/79.8)	NA	NA

Plant Growth

Taxa Name	DBG-Chatfield			CSU-PERC				
	Dates			Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
<i>Lavandula angustifolia</i> 'Wee One'	07/22/15	19/ 27 (7.6/10.8)	NA/28 (11.2/11.2)	06/24/15	NA	NA	NA	NA
	09/28/15	33/NA (12.8/NA)	NA/41 (16.2/16.2)	09/10/15	NA	NA	NA	NA
<i>Limonium binervosum</i>	07/22/15	7 / 30 (2.7/12.0)	17 / 21 (6.6/8.3)	06/24/15	8/43 (3.2/16.8)	23/23 (9.0/9.0)	NA	NA
	09/28/15	18/NA (7.1/NA)	12 / 42 (4.6/16.7)	09/10/15	9/41 (3.4/16.1)	20/20 (7.8/7.8)	NA	NA
<i>Limonium minutum</i>	07/22/15	5/NA (2.0/NA)	NA/13 (NA/5.0)	06/24/15	5/10 (2.1/3.8)	13/13 (5.2/5.2)	NA	NA
	09/28/15	8/NA (3.0/NA)	NA/15 (NA/6.0)	09/10/15	6/10 (2.4/3.9)	16/16 (6.3/6.3)	NA	NA

Plant Growth

Taxa Name	DBG-Chatfield			CSU-PERC				
	Dates			Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
<i>Lindelofia longiflora</i>	07/22/15	34/NA (13.6/NA)	26/NA (10.1/NA)	06/24/15	48/73 (18.8/28.8)	82/82 (32.3/32.3)	NA	NA
	09/28/15	62/NA (24.3/NA)	60/NA (23.8/NA)	09/10/15	48/48 (18.9/18.9)	101/101 (39.8/39.8)	44/44 (17.2/17)	90/90 (35.4/35.4)
<i>Penstemon centranthifolius</i>	07/22/15	29 / 44 (11.3/NA)	23 / 46 (9.0/18.3)	06/24/15	45/66 (17.8/25.8)	23/23 (9.1/9.1)	NA	NA
	09/28/15	24/NA (9.5/NA)	17 / 39 (6.5/15.3)	09/10/15	10/10 (3.9/3.9)	24/24 (9.4/9.4)	10/10 (3.9/3.9)	24/24 (9.4/9.4)
<i>Salvia moorcroftiana x indica</i>	06/20/15	20/102 (8.0/40.0)	29/93 (11.4/36.7)	06/24/15	NA/135 (NA/53.1)	119/119 (46.7/46.7)	NA	NA
	09/28/15	41/89 (16.0/35.0)	59/85 (23.4/33.3)	09/10/15	41/NA (16.1/NA)	82/82 (32.3/32.3)	41/41 (16.3/16)	90/90 (35.2/35.2)

Plant Growth								
Taxa Name	DBG-Chatfield			CSU-PERC				
	Dates			Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
<i>Scutellaria scordiifolia</i>	07/22/15	13/19 (5.0/7.4)	15/30 (6.0/12.0)	06/24/15	33/35 (13.1/13.6)	52/52 (20.3/20.3)	NA	NA
	09/28/15	NA/44 (NA/17.4)	13/46 (5.0/18.0)	09/10/15	32/32 (12.7/12.7)	71/71 (28.0/28.0)	27/27 (10.6/10)	53/53 (20.8/20.8)
<i>Seseli elatum</i> ssp. <i>osseum</i>	07/22/15	21/90 (8.1/35.6)	NA/85 (NA/33.5)	06/24/15	NA/101 (NA/39.6)	115/115 (45.1/45.1)	NA	NA
	09/28/15	32/141 (12.4/55.6)	NA/124 (NA/49.0)	09/10/15	108/108 (42.3/42.3)	123/123 (48.3/48.3)	25/25 (9.8/9.8)	27/27 (10.5/10.5)
<i>Sorghastrum nutans</i> 'Thin Man'	07/22/15	86/NA (33.9/NA)	112/163 (44.1/64.2)	06/24/15	88/NA	93/93	NA	NA
	09/28/15	54/NA (21.3/NA)	53 / 81 (21.0/31.8)	09/10/15	174/174	94/94	NA	NA

Plant Growth								
Taxa Name	DBG-Chatfield			CSU-PERC				
	Dates			Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
<i>Stachys dregeana</i>	07/22/15	20/25 (7.8/9.8)	NA/25 (NA/9.8)	06/24/15	18/32 (7.1/12.5)	36/36 (14.1/14.1)	NA	NA
	09/28/15	25/NA (10.0/NA)	NA/26 (NA/10.1)	09/10/15	23/23 (9.2/9.2)	26/26 (10.2/10.2)	8/8 (3.1/3.1)	30/30 (11.9/11.9)
<i>Stipa gigantea</i> UNDAUNTED® 'Lauren's Hardy'	06/20/15	25/NA (10.0/NA)	43/NA (17.0/NA)	06/24/15	NA	NA	NA	NA
	09/28/15	13/NA (5.0/NA)	61/NA (24.0/NA)	09/10/15	NA	NA	NA	NA
<i>Teucrium hircanicum</i>	06/20/15	43/51 (17.0/20.0)	37/41 (14.5/16.0)	06/24/15	11/39 (4.3/15.3)	36/36 (14.0/14.0)	NA	NA
	09/28/15	38/38 (15.0/15.0)	66/81 (26.0/32.0)	09/10/15	47/47 (18.4/18.4)	74/74 (29.3/29.3)	45/45 (17.6/17)	69/69 (27.0/27.0)

Plant Growth								
Taxa Name	DBG-Chatfield			CSU-PERC				
	Dates			Dates	Plants NOT Cutback (July 7, 2015)		Plants Cutback (July 7, 2015)	
		Mean Plant Height cm (in)	Mean Plant Width cm (in)		Mean Plant Height cm (in)	Mean Plant Width cm (in)	Mean Plant Height cm (in)	Mean Plant Width cm (in)
		without/with inflorescence	without/with inflorescence		without/with inflorescence	without/with inflorescence	without/with inflorescence	without/with inflorescence
<i>Trachelium jacquinii</i> ssp. <i>rumelianum</i>	07/22/15	NA	3/3 (1.0/1.3)	06/24/15	10/NA (4.1/NA)	17/17 (6.8/6.8)	NA	NA
	10/07/15	NA	6/20 (2.5/7.8)	09/10/15	9/9 (3.4/3.4)	27/27 (10.4/10.4)	NA	NA
<i>Verbascum atrovioleaceum</i>	07/22/15	5/49 (1.9/19.1)	NA/51 (NA/20.2)	06/24/15	8/47 (3.0/18.5)	38/38 (14.8/	NA	NA
	09/28/15	22/49 (8.8/19.1)	9/30 (3.6/12.0)	09/10/15	3/42 (1.1/16.5)	13/13 (5.1/5.1)	4/17 (1.6/6.7)	15/15 (5.8/5.8)

Results From 2015 Evaluation Days at DBG and CSU

	Evaluation Area and Evaluation Dates	
Ranking	Denver Botanic Gardens Chatfield Farms July 01, 2015	Colorado State University Plant Environmental Research Center August 12, 2015
1	<i>Helichrysum flanaganii</i>	<i>Teucrium hircanicum</i>
2	<i>Scutellaria scordiifolia</i>	<i>Scutellaria scordifolia</i>
3	<i>Lavandula angustifolia</i> 'Wee One'*	<i>Trachelium jacquinii</i>
4	<i>Stachys dregeana</i>	<i>Limonium minutum</i>
5	<i>Salvia moorcroftiana x indica</i>	<i>Incarvillea olgae</i>
6	<i>Incarvillea olgae</i>	<i>Limonium binervosum</i>
7	<i>Seseli elatum</i> ssp. <i>osseum</i>	<i>Stachys dregeana</i>
8	<i>Teucrium hircanicum</i>	<i>Seseli elatum</i> ssp. <i>osseum</i>
9	<i>Penstemon centranthifolius</i>	<i>Lindelofia longiflora</i>
10	<i>Sorghastrum nutans</i> 'Thin Man'	<i>Sorghastrum nutans</i> 'Thin Man'
* Grown only at DBG-Chatfield due to security reasons		

