

# Relative Ranking of Ornamental Flower Plants to Foraging Honey Bees (With Notes on Favorability to Bumble Bees)

Whitney Cranshaw  
Colorado State University

Observations were made during the 2007-2009 growing seasons on the relative attractiveness of various flowering ornamental plants to honey bees (*Apis mellifera*). This information was collected so that honey bee favorability - or lack of favorability - may be considered in plant selection.

The study was conducted by repeated visits to public garden plantings in Larimer, Denver, Adams, and Cheyenne counties. Gardens were chosen that had large mass plantings of numerous flowering plants so that comparisons could be made and included the Denver Botanic Garden, gardens at Colorado State University (PERC, Flower Demonstration Planting), Welby Gardens, and Cheyenne Botanic Garden. These sites also were chosen because plantings had identification labeling. Plantings were visited between 2 and 12 times between mid-June and mid-September.

Evaluations were made by examining plants that were in flower for the presence of honey bees. A planting was then given a relative ranking based on honey bee numbers. A 0-3 scale was used:

- 3 - Heavily visited by foraging honey bees
- 2 - Moderately visited by honey bees and foraged
- 1 - Honey bees seen occasionally visiting flowers
- 0 - Honey bees do not forage at these flowers

Data were collected from a total of 319 different plant entries during this study. Variation in rankings between dates did occur; where this occurred from multiple ratings the final ranking was rounded up to a whole number.

Numerous other bees and other insects were commonly seen on many plants. Notes were taken on plants that were heavily visited by bumble bees (*Bombus* spp.).

## Results and Discussion

Of the 319 entries (Appendix I), 41 were considered to be heavily visited by honey bees (3 ranking). About half were in two plant families - Asteraceae (Aster Family) and Lamiaceae (Mint Family).

Over twice this number (98) were never observed to be visited by honey bees (Table 2), indicating plants that might be useful in sites where bee visitation was not considered desirable. Certain breeding practices (e.g., flower doubling) were noted to eliminate honey bee attractiveness in some species.

Incidental observations identified 13 flowering plants that were most consistently seen to be

visited by foraging bumble bees (Table 3). An additional 19 were noted to be “frequently” visited. A few of these (*Solidago*, *Nepeta*, *Echinops*) were heavily visited by both honey bees and bumble bees. However, other plants (*Hypericum frondosum*, *Sesili gummiferum*, *Veonicastrum virginicum*) visited by bumble bees were largely avoided by honey bees.

**Table 1.** Plants observed to be most heavily visited by honey bees. (Favorability Ranking 3.)

| Cultivar  | Plant Family     |
|---|------------------|
| <i>Allium tangiticum</i>                          | Alliaceae        |
| <i>Agastache foeniculum</i>                       | Lamiaceae        |
| <i>Aster novae-angliae</i>                        | Asteraceae       |
| <i>Berkheya purpurea</i>                          | Asteraceae       |
| <i>Berlandiera lyrata</i>                         | Asteraceae       |
| <i>Calamintha nepeta</i> ssp. <i>glandulosa</i>   | Lamiaceae        |
| <i>Caryopteris</i> ‘Blue Mist Spirea’             | Verbenaceae      |
| <i>Chamaebatiaria millefolium</i>                 | Rosaceae         |
| <i>Chrysanthemum serotinum</i> ‘Herbstern’        | Asteraceae       |
| <i>Cleome</i>                                     | Cleomaceae       |
| <i>Cotoneaster</i>                                | Rosaceae         |
| <i>Echinops exalta</i>                            | Asteraceae       |
| <i>Eremurus stenophyllus</i>                      | Lilliaceae       |
| <i>Ericameria nauseosa</i>                        | Asteraceae       |
| <i>Eriogonum jamesii</i>                          | Polygonaceae     |
| <i>Eryngium giganteum</i> “Miss Willmott’s Ghost” | Apiaceae         |
| <i>Euphorbia</i> “Diamond Frost”                  | Euphorbiaceae    |
| <i>Gaillardia aristata</i>                        | Asteraceae       |
| <i>Geranium</i> ‘Jolly Bee’                       | Geraniaceae      |
| <i>Geranium himalayense</i>                       | Geraniaceae      |
| <i>Heliotropium</i>                               | Boraginaceae     |
| <i>Inula royleana</i>                             | Asteraceae       |
| <i>Kniphofia typhoides</i>                        | Asphodelaceae    |
| <i>Malva alcea</i>                                | Malvaceae        |
| <i>Nepeta cataria</i>                             | Lamiaceae        |
| <i>Nepeta</i> x <i>fausonii</i>                   | Lamiaceae        |
| <i>Ocimum</i>                                     | Lamiaceae        |
| <i>Penstemon eatonii</i>                          | Scrophulariaceae |
| <i>Rhus typhina</i>                               | Anacardiaceae    |
| <i>Salvia nemorosa</i>                            | Lamiaceae        |
| <i>Sedum spectabile</i>                           | Crassulaceae     |
| <i>Senecio</i>                                    | Asteraceae       |
| <i>Silphium laciniatum</i>                        | Asteraceae       |
| <i>Solidago</i>                                   | Asteraceae       |
| <i>Spirea</i> x <i>bumalda</i>                    | Rosaceae         |
| <i>Teucrium chamaedrys</i>                        | Lamiaceae        |
| <i>Teucrium orientale</i>                         | Lamiaceae        |

|   |                  |
|---|------------------|
| <i>Thymus kotschyanus</i>                   | Lamiaceae        |
| <i>Tilia americanum</i>                     | Malvaceae        |
| <i>Veronica spicata</i> ‘Sunny Border Blue’ | Scrophulariaceae |
| <i>Veronica longifolia</i> “Lavender Charm” | Scrophulariaceae |

**Table 2.** Plants not observed to be visited by honey bees. (Favorability Ranking 0.)

|  |  |
|--|--|
| <i>Acanthus hungaricus</i>                 | <i>Achillea filipendula</i> “Coronation Gold”    |
| <i>Achillea millefolium</i> “Moonshine”    | <i>Achillea ptarmica</i>                         |
| <i>Achillea taygetea</i>                   | <i>Alcea rugosa</i>                              |
| <i>Alyssum</i>                             | <i>Allium moly</i>                               |
| <i>Amaranthus caudatus</i>                 | <i>Ameria meritima</i> ‘Victor Reiter’           |
| <i>Anemone coronaria</i>                   | <i>Anemone sylvestris</i>                        |
| <i>Angelonia</i>                           | <i>Anthemis tinctoria</i>                        |
| <i>Aquilegia caerulea</i>                  | <i>Aquilegia flavescens</i>                      |
| <i>Arabis</i>                              | <i>Argyranthemum</i>                             |
| <i>Artemesia</i> ‘Bwis Castle’             | <i>Aster sericeus</i>                            |
| <i>Aster dumosus</i>                       | <i>Aster x Finalist</i>                          |
| <i>Begonia tuberhybrida</i>                | <i>Brachycone</i>                                |
| <i>Callistephus chinensis</i>              | <i>Camassia quamash</i>                          |
| <i>Campanula carpatica</i>                 | <i>Catharanthus roseus</i>                       |
| <i>Celosia</i> (most)                      | <i>Centranthus ruber</i>                         |
| <i>Cerastrium tomentosum</i> ‘Silver Cape’ | <i>Chrysanthemum</i> (most)                      |
| <i>Clematis</i>                            | <i>Cornus kousa</i>                              |
| <i>Crossandra</i>                          | <i>Cosmos</i> (doubled flowers)                  |
| <i>Dahlia</i> (doubled flowers)            | <i>Delosperma dyeri</i>                          |
| <i>Delosperma floribundum</i>              | <i>Delosperma rugigenum</i>                      |
| <i>Delphinium</i>                          | <i>Dianthus</i> (most)                           |
| <i>Diascia integerrima</i>                 | <i>Eustoma</i>                                   |
| <i>Galium verum</i>                        | <i>Ganzia krebsiana</i>                          |
| <i>Geranium</i> (ivy)                      | <i>Geranium richardsonii</i>                     |
| <i>Geranium sanguineum</i>                 | <i>Gomphrena globosa</i>                         |
| <i>Goodenia</i>                            | <i>Helichrysum basalticum</i>                    |
| <i>Helleborus orientalis</i>               | <i>Heuchera x bressingham</i>                    |
| <i>Hosta</i>                               | <i>Hyacinthoides hispanica</i>                   |
| <i>Hypericum frondosum</i>                 | <i>Hypericum perforatum</i>                      |
| <i>Ismelia carinata</i>                    | <i>Lathyrus latifolius</i>                       |
| <i>Laurentia</i>                           | <i>Leucanthemum</i>                              |
| <i>Manicaria chamomilia</i>                | <i>Mercardonia</i>                               |
| <i>Mirabilis multiflora</i>                | <i>Nemesia fruticans</i>                         |
| <i>Nicotiana</i>                           | <i>Nierembergia</i>                              |
| <i>Nymphaea</i> ‘William McClane’          | <i>Oenothera missouriensis</i>                   |
| <i>Osteospermum barberiae compactivum</i>  | <i>Penstemon pinifolius</i>                      |
| <i>Penstemon rostriflores</i>              | <i>Penstemon</i> ‘Phoenix Violet, Red’           |
| <i>Petunia</i>                             | <i>Philadelphus cornonarius</i> ‘Silver Showers’ |

|   |  |
|---|--|
| <i>Phlox paniculata</i>                 | <i>Phlox subulata</i>                          |
| <i>Pinellia.</i>                        | <i>Platycodon</i>                              |
| <i>Polygonum</i>                        | <i>Portulaca</i> (most)                        |
| <i>Pycnanthemum</i>                     | <i>Rheum arstrale</i>                          |
| <i>Rudbeckia triloba</i>                | <i>Rudbeckia</i> “Denver Daisy”                |
| <i>Ruta graveolens</i>                  | <i>Sanvitalia</i>                              |
| <i>Scrophularia macranth</i>            | <i>Stachys officinalis</i>                     |
| <i>Syringa villosa</i> x <i>reflexa</i> | <i>Teucrium lucidum</i>                        |
| <i>Verbena</i> (all)                    | <i>Veronica austriaca</i> ssp. <i>teucrium</i> |
| <i>Veronica pectinata</i>               | <i>Veronicastrum virginicum</i>                |
| <i>Vinca</i> (all)                      | <i>Viola</i> (all)                             |

**Table 3.** Plants incidentally noted to be heavily visited by bumble bees.

Plants Noted to be Most Heavily Visited by Bumble Bees

*Agastache rupestris*  
*Anemone nemororosa*  
*Cuphea*  
*Echinacea purpurea*  
*Echinops*  
*Hypericum frondosum*  
*Nepeta*  
*Penstemon x. mexicali*  
*Perovskia atriplicifolia*  
*Sesili gummiferum*  
*Solidago*  
*Symphylum officinale*  
*Veronicastrum virginicum*

Plants Noted to be Visited Frequently by Bumble Bees

*Antirrhinum*  
*Caryopteris*  
*Clematis stans*  
*Cleome*  
*Epilobium*  
*Euonymous alata*  
*Helenium*  
*Heliopsis*  
*Hypericum perforatum*  
*Inula royleana*  
*Lavatera ingernina*  
*Liatris*  
*Nepeta racemosa*  
*Origanum majorana*  
*Penstemon campanulatus*  
*Rosa* (some)

*Thermopsis montana*  
*Veronica spicata*  
*Zauschneria*

**Appendix I.** Relative favorability of different flowering ornamental plants to honey bees. Rankings were based on repeated observations made of formal garden plantings during 2007-2009. Cultivar names reflect identification tags.

| Cultivar                                      | Honey Bee Favorability Ranking <sup>a</sup> | Plant Family     |
|---|---|------------------|
| <i>Acanthus hungaricus</i>                    | 0   | Acanthaceae      |
| <i>Achillea</i> ‘Gypsy White’                 | 1   | Asteraceae       |
| <i>Achillea filipendula</i> ‘Parkers Variety’ | 1   |                  |
| <i>Achillea filipendula</i> “Coronation Gold” | 0   |                  |
| <i>Achillea millefolium</i> “Moonshine”       | 0   |                  |
| <i>Achillea millefolium</i> “Roseum”          | 2   |                  |
| <i>Achillea ptarmica</i>                      | 0   |                  |
| <i>Achillea taygetea</i>                      | 0   |                  |
| <i>Alcea rosea</i>                            | 2   | Malvaceae        |
| <i>Alcea rugosa</i>                           | 0   |                  |
| <i>Allium tangiticum</i>                      | 3   | Alliaceae        |
| <i>Alyssum</i>                                | 0   | Brassicaceae     |
| <i>Agastache cana</i>                         | 2   | Lamiaceae        |
| <i>Agastache rupestris</i>                    | 2   |                  |
| <i>Agastache foeniculum</i>                   | 3   |                  |
| <i>Agastache foeniculum</i> ‘Golden Jubilee’  | 2   |                  |
| <i>Ageratum</i>                               | 1   | Asteraceae       |
| <i>Allium moly</i>                            | 0   | Alliaceae        |
| <i>Amaranthus caudatus</i>                    | 0   | Amaranthaceae    |
| <i>Amaranthus</i> sp.                         | 0   |                  |
| <i>Amsonia illustris</i>                      | 1   | Apocynaceae      |
| <i>Anagallis</i>                              | 1   | Myrsinaceae      |
| <i>Anchusa azurea</i>                         | 1-2   | Boraginaceae     |
| <i>Anemone coronaria</i>                      | 0   | Ranunculaceae    |
| <i>Anemone nemorosa</i>                       | 2   |                  |
| <i>Anemone sylvestris</i>                     | 0   |                  |
| <i>Angelonia</i>                              | 0   | Scrophulariaceae |
| <i>Anisodentea</i> ‘Elegant Lady Improved’    | 2   | Malvaceae        |
| <i>Anthemis tinctoria</i>                     | 0   | Asteraceae       |
| <i>Antirrhinum</i>                            | 1,2   | Plantaginaceae   |
| <i>Aquilegia</i>                              | 2   | Ranunculaceae    |
| <i>Aquilegia caerulea</i>                     | 0   |                  |
| <i>Aquilegia flavescens</i>                   | 0   |                  |
| <i>Arabis</i>                                 | 0   | Brassicaceae     |

|   |   |                  |
|---|---|------------------|
| <i>Argyranthemum</i>                            | 0 | Asteraceae       |
| <i>Armeria meritima</i> 'Victor Reiter'         | 0 | Plumbaginaceae   |
| <i>Artemisia</i> 'Bwis Castle'                  | 0 | Asteraceae       |
| <i>Asclepias tuberosa</i>                       | 2 | Apocynaceae      |
| <i>Asclepias incarnata</i>                      | 2 |                  |
| <i>Aster novae-angliae</i>                      | 3 | Asteraceae       |
| <i>Aster novae-belgii</i>                       | 2 |                  |
| <i>Aster sericeus</i>                           | 0 |                  |
| <i>Aster dumosus</i>                            | 0 |                  |
| <i>Aster</i> x Finalist                         | 0 |                  |
| <i>Astericus</i>                                | 1 | Asteraceae       |
| <i>Astrania major</i>                           | 1 | Apiaceae         |
| <i>Bacopa</i>                                   | 1 | Scrophulariaceae |
| <i>Baptista australis</i>                       | 1 | Fabaceae         |
| <i>Begonia boliviensis</i>                      | 1 | Begoniaceae      |
| <i>Begonia tuberhybrida</i>                     | 0 |                  |
| <i>Berkheya purpurea</i>                        | 3 | Asteraceae       |
| <i>Berlandiera lyrata</i>                       | 3 | Asteraceae       |
| <i>Bidens</i>                                   | 1 | Asteraceae       |
| <i>Brachycone</i>                               | 0 | Asteraceae       |
| <i>Brachteantha</i>                             | 1 | Asteraceae       |
| <i>Buddleja</i>                                 | 1 | Scrophulariaceae |
| <i>Bulbine frutescens</i>                       | 3 | Asphodelaceae    |
| <i>Brunnera macrophylla</i>                     | 1 |                  |
| <i>Calibrachoa</i>                              | 1 | Solanaceae       |
| <i>Calamintha nepeta</i> ssp. <i>glandulosa</i> | 3 | Lamiaceae        |
| <i>Callirhoe involucrata</i>                    | 1 | Malvaceae        |
| <i>Callistephus chinensis</i>                   | 0 | Asteraceae       |
| <i>Camassia quamash</i>                         | 0 | Agavaceae        |
| <i>Campanula carpatica</i>                      | 0 | Campanulaceae    |
| <i>Campanula glomerata</i>                      | 1 |                  |
| <i>Campanula persicifolia</i>                   | 2 |                  |
| <i>Campanula rotundifolia</i>                   | 2 |                  |
| <i>Capsicum</i> (ornamental)                    | 2 | Solanaceae       |
| <i>Caryopteris</i> 'Blue Mist Spirea'           | 3 | Verbenaceae      |
| <i>Caryopteris clandonensis</i>                 | 2 |                  |
| <i>Catharanthus roseus</i>                      | 0 |                  |
| <i>Ceratostigma plumbaginoides</i>              | 1 | Plumbaginaceae   |
| <i>Celosia</i> (most)                           | 0 | Amaranthaceae    |
| <i>Celosia plumosa</i> 'Fresh Look'             | 2 |                  |
| <i>Centaurea montana</i>                        | 1 | Asteraceae       |
| <i>Centaurea simplicicaulis</i>                 | 1 |                  |
| <i>Centranthus ruber</i>                        | 0 | Valarianaceae    |
| <i>Cerastrium tomentosum</i> 'Silver Cape'      | 0 | Carpophyllaceae  |

|  |   |                  |
|--|---|------------------|
| <i>Chamaebatiaria millefolium</i>                    | 3 | Rosaceae         |
| <i>Chelone lyoni</i>                                 | 1 | Scrophulariaceae |
| <i>Chelone obliqua</i>                               | 1 |                  |
| <i>Chrysanthemum</i> (most)                          | 0 | Asteraceae       |
| <i>Chrysanthemum serotinum</i> ‘Herbstern’           | 3 |                  |
| <i>Chrysocephalum apiculatum</i>                     | 1 | Asteraceae       |
| <i>Clematis</i>                                      | 0 | Ranunculaceae    |
| <i>Cleome</i>  | 3 | Cleomaceae       |
| <i>Cornus kousa</i>                                  | 0 | Cornaceae        |
| <i>Coreopsis</i>                                     | 2 | Asteraceae       |
| <i>Coreopsis auriculata</i> ‘Nana’                   | 1 |                  |
| <i>Coreopsis verticillata</i>                        | 1 |                  |
| <i>Coreopsis grandiflora</i>                         | 1 |                  |
| <i>Cotoneaster</i>                                   | 3 | Roseaceae        |
| <i>Crossandra</i>                                    | 0 | Acanthaceae      |
| <i>Cychnis chalcedonica</i>                          | 1 | Caryophyllaceae  |
| <i>Cosmos</i> (doubles)                              | 0 | Asteraceae       |
| <i>Cosmos</i> (single)                               | 2 |                  |
| <i>Cuphea</i>  | 1 | Lythraceae       |
| <i>Dahlia</i> (single flowers)                       | 1 | Asteraceae       |
| <i>Dahlia</i> (doubled)                              | 0 |                  |
| <i>Delosperma cooperi</i>                            | 2 | Aizoaceae        |
| <i>Delosperma dyeri</i>                              | 0 |                  |
| <i>Delosperma floribundum</i>                        | 0 |                  |
| <i>Delosperma rugigenum</i>                          | 0 |                  |
| <i>Delosperma</i> ‘Mesa Verde’                       | 2 |                  |
| <i>Delphinium</i>                                    | 0 | Ranunculaceae    |
| <i>Digitalis</i>                                     | 1 | Scrophulariaceae |
| <i>Dianthus</i>                                      | 0 | Caryophyllaceae  |
| <i>Dianthus giganteus</i>                            | 2 |                  |
| <i>Diascia</i>                                       | 1 | Scrophulariaceae |
| <i>Diascia integerrima</i>                           | 0 |                  |
| <i>Doronicum carpaticum</i>                          | 1 | Asteraceae       |
| <i>Echinacea purpurea</i>                            | 2 | Asteraceae       |
| <i>Echinacea purpurea</i> “Sunrise”                  | 1 |                  |
| <i>Echinops exalta</i>                               | 3 | Asteraceae       |
| <i>Epilobium canum</i>                               | 2 | Onagraceae       |
| <i>Eremurus stenophyllus</i>                         | 3 | Liliaceae        |
| <i>Ericameria nauseosa</i>                           | 3 | Asteraceae       |
| <i>Eriogonum glaucus</i> ‘Olga’                      | 2 | Polygonaceae     |
| <i>Eriogonum jamesii</i>                             | 3 |                  |
| <i>Eryngium bourgatii</i>                            | 1 | Apiaceae         |
| <i>Eryngium giganteum</i><br>“Miss Willmott’s Ghost” | 3 |                  |

|  |   |                   |
|--|---|-------------------|
| <i>Erysimum</i> spp.                           | 1 | Brassicaceae      |
| <i>Euphorbia</i> “Diamond Frost”               | 3 | Euphorbiaceae     |
| <i>Eustoma</i>                                 | 0 | Gentianaceae      |
| <i>Galium verum</i>                            | 0 | Rosaceae          |
| <i>Gaillardia aristata</i>                     | 3 | Asteraceae        |
| <i>Gaillardia pulchella</i> “Sundance Bicolor” | 2 |                   |
| <i>Ganzia</i>                                  | 0 | Asteraceae        |
| <i>Ganzia krebsiana</i>                        | 0 |                   |
| <i>Ganzia linearis</i>                         | 1 |                   |
| <i>Gaura linheimeri</i>                        | 2 | Onagraceae        |
| <i>Genista sylvestris</i> var. <i>pungens</i>  | 1 | Fabaceae          |
| <i>Geranium</i> (ivy)                          | 0 | Geraniaceae       |
| <i>Geranium</i> (zonal)                        | 1 |                   |
| <i>Geranium</i> ‘Jolly Bee’                    | 3 |                   |
| <i>Geranium</i> x <i>cantabrigiense</i>        | 1 |                   |
| <i>Geranium himalayense</i>                    | 3 |                   |
| <i>Geranium richardsonii</i>                   | 0 |                   |
| <i>Geranium sanguineum</i>                     | 0 |                   |
| <i>Gomphocarpus physocarpus</i>                | 2 | Apocynaceae       |
| <i>Gomphrena globosa</i>                       | 0 | Amaranthaceae     |
| <i>Goodenia</i>                                | 0 | Goodeniaceae      |
| <i>Gypsophila paniculata</i>                   | 2 | Caryophyllaceae   |
| <i>Halimodendron halodendron</i>               | 1 | Fabaceae          |
| <i>Helenium</i>                                | 1 | Asteraceae        |
| <i>Helianthus annuus</i>                       | 2 | Asteraceae        |
| <i>Helianthus maximillanii</i>                 | 1 |                   |
| <i>Helianthus</i> ‘Lemon Queen’                | 3 |                   |
| <i>Helichrysum basalticum</i>                  | 0 | Asteraceae        |
| <i>Heliopsis</i>                               | 1 | Asteraceae        |
| <i>Heliotropium</i>                            | 3 | Boraginaceae      |
| <i>Helleborus orientalis</i>                   | 0 | Ranunculaceae     |
| <i>Hemerocallis</i>                            | 1 | Hemerocallidaceae |
| <i>Heuchera sanguinea</i>                      | 1 | Saxifragaceae     |
| <i>Heuchera</i> x <i>bressingham</i>           | 0 |                   |
| <i>Hibiscus</i>                                | 1 | Malvaceae         |
| <i>Hosta</i>                                   | 0 | Liliaceae         |
| <i>Hyacinthoides hispanica</i>                 | 0 | Hyacinthaceae     |
| <i>Hydrangea</i>                               | 1 | Hydrangeaceae     |
| <i>Hypericum frondosum</i>                     | 0 | Clusiaceae        |
| <i>Hypericum koutchense</i>                    | 2 |                   |
| <i>Hypericum perforatum</i>                    | 0 |                   |
| <i>Impatiens</i>                               | 1 | Balsaminaceae     |
| <i>Inula royleana</i>                          | 3 | Asteraceae        |

|                                       |     |                  |
|---------------------------------------|-----|------------------|
| <i>Iris</i> sp.                       | 2   | Iridaceae        |
| <i>Iris lactea</i>                    | 1   |                  |
| <i>Ismelia carinata</i>               | 0   | Asteraceae       |
| <i>Kitagawia terebinthinaceum</i>     | 1   | Apiaceae         |
| <i>Knautia macedonia</i>              | 1   | Dipsacaceae      |
| <i>Kniphofia typhoides</i>            | 3   | Asphodelaceae    |
| <i>Kniphofia</i> “Border Ballet”      | 1   |                  |
| <i>Lantana</i>                        | 2   | Verbenaceae      |
| <i>Lathyrus latifolius</i>            | 0   | Fabaceae         |
| <i>Laurentia</i>                      | 0   | Lobeliaceae      |
| <i>Lavandula angustifolia</i>         | 1,2 | Lamiaceae        |
| <i>Lavandula</i> x. <i>intermedia</i> | 2   |                  |
| <i>Lavatera thuringiaca</i>           | 2   | Saxifragaceae    |
| <i>Leonitis leonurus</i>              | 1   |                  |
| <i>Leucanthemum</i>                   | 0   | Asteraceae       |
| <i>Liatris</i>                        | 2   | Asteraceae       |
| <i>Limonium gmellinii</i>             | 2   | Plumbaginaceae   |
| <i>Limonium platyphyllum</i>          | 1   |                  |
| <i>Linum perenne</i>                  | 2   | Linaceae         |
| <i>Lipinus perene</i>                 | 2   | Fabaceae         |
| <i>Lobelia</i>                        | 1,2 | Lobeliaceae      |
| <i>Manicaria chamomilia</i>           | 0   | Apiaceae         |
| <i>Malva alcea</i>                    | 3   | Malvaceae        |
| <i>Mentha pulegium</i>                | 1   | Lamiaceae        |
| <i>Mercardonia</i> sp.                | 0   | Scrophulariaceae |
| <i>Mirabilis multiflora</i>           | 0   | Nyctinginaceae   |
| <i>Monarda didyma</i>                 | 1   | Lamiaceae        |
| <i>Monardella</i> ‘Baby Canyon’       | 2   |                  |
| <i>Nasturtium</i>                     | 1   | Brassicaceae     |
| <i>Nemesia</i>                        | 1   | Scrophulariaceae |
| <i>Nemesia interspecific</i>          | 0   |                  |
| <i>Nemesia fruticans</i>              | 0   |                  |
| <i>Nepeta</i>                         | 3   | Lamiaceae        |
| <i>Nepeta cataria</i>                 | 3   |                  |
| <i>Nepeta</i> x <i>fausonii</i>       | 3   |                  |
| <i>Nepeta racemosa</i>                | 2   |                  |
| <i>Nicotiana</i>                      | 0   | Solanaceae       |
| <i>Nierembergia</i>                   | 0   | Solanaceae       |
| <i>Nymphaea</i> ‘William McClane’     | 0   |                  |
| <i>Ocimum</i>                         | 3   | Lamiaceae        |
| <i>Oenothera macrocarpa</i>           | 1   | Onagraceae       |

|  |     |                  |
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| <i>Oenothera missouriensis</i>                   | 0   |                  |
| <i>Origanum</i>                                  | 3   | Lamiaceae        |
| <i>Origanum</i> “Hopley’s Purple”                | 3   |                  |
| <i>Osteospermum</i>                              | 1   | Asteraceae       |
| <i>Osteospermum barberiae compactivum</i>        | 0   |                  |
| <i>Osteospermum ecklonis</i>                     | 1   |                  |
| <i>Paeonia</i>                                   | 1   | Paeoniaceae      |
| <i>Pentas</i>                                    | 2   | Rubiaceae        |
| <i>Penstemon digitalis</i>                       | 2   | Scrophulariaceae |
| <i>Penstemon eatonii</i>                         | 3   |                  |
| <i>Penstemon grandiflorus</i>                    | 1   |                  |
| <i>Penstemon heterophyllus</i>                   | 1   |                  |
| <i>Penstemon linaroides</i>                      | 2   |                  |
| <i>Penstemon x mexicali</i>                      | 2   |                  |
| <i>Penstemon pinifolius</i>                      | 0   |                  |
| <i>Penstemon rostriflores</i>                    | 0   |                  |
| <i>Penstemon virgatas</i> ‘Elle Bucele’          | 2   |                  |
| <i>Penstemon</i> ‘Phoenix Violet, Red’           | 0   |                  |
| <i>Penstemon</i> ‘Lilliput Rose’                 | 1   |                  |
| <i>Perovskia atriplicifolia</i>                  | 2   | Lamiaceae        |
| <i>Peroskia</i> ‘Longin’                         | 2   |                  |
| <i>Petunia</i>                                   | 0   | Solanaceae       |
| <i>Philadelphus cornonarius</i> ‘Silver Showers’ | 0   | Hydrangeaceae    |
| <i>Phlomis cashmeriana</i>                       | 1   | Lamiaceae        |
| <i>Phlox</i>                                     | 1   | Polemoniaceae    |
| <i>Phlox bifida</i>                              | 2   |                  |
| <i>Phlox paniculata</i>                          | 0   |                  |
| <i>Phlox subulata</i>                            | 0   |                  |
| <i>Phystostegia</i>                              | 2   | Lamiaceae        |
| <i>Pinellia</i> spp.                             | 0   | Araceae          |
| <i>Platycodon</i>                                | 0   | Campanulaceae    |
| <i>Polygonum</i>                                 | 0   | Polygonaceae     |
| <i>Portulaca</i> (most)                          | 0   | Portulacaceae    |
| <i>Portulaca grandiflora</i>                     | 1   |                  |
| <i>Pycnanthemum</i>                              | 0   | Lamiaceae        |
| <i>Rheum arstrale</i>                            | 0   | Polygonaceae     |
| <i>Rhus typhina</i>                              | 3   | Anacardiaceae    |
| <i>Rosa</i>                                      | 0,1 | Rosaceae         |
| <i>Rudbeckia</i>                                 | 1   | Asteraceae       |
| <i>Rudbeckia fulgida</i>                         | 1   |                  |
| <i>Rudbeckia hirta</i> ‘Prairie Sun’             | 2   |                  |
| <i>Rudbeckia triloba</i>                         | 0   |                  |
| <i>Rudbeckia</i> “Denver Daisy”                  | 0   |                  |
| <i>Ruta graveolens</i>                           | 0   | Rutaceae         |

|   |      |                  |
|---|------|------------------|
| <i>Salvia coccinea</i>                      | 2    | Lamiaceae        |
| <i>Salvia farinacea</i>                     | 2    |                  |
| <i>Salvia hybrida</i>                       | 1    |                  |
| <i>Salvia greggii</i>                       | 2    |                  |
| <i>Salvia nemorosa</i>                      | 3    |                  |
| <i>Salvia pachyphylla</i>                   | 2    |                  |
| <i>Salvia splendens</i>                     | 1    |                  |
| <i>Salvia verticillata</i>                  | 2    |                  |
| <i>Sanvitalia</i>                           | 0    | Asteraceae       |
| <i>Satureja montana</i>                     | 3    | Lamiaceae        |
| <i>Scabiosa</i>                             | 3    | Dipsacaceae      |
| <i>Scabiosa ochroleuca</i>                  | 2    |                  |
| <i>Scaevola</i>                             | 3    | Goodeniaceae     |
| <i>Scaveola</i> ‘Bombay White’              | 1    |                  |
| <i>Scaveola</i> ‘Bombay Blue’               | 1    |                  |
| <i>Scaveola</i> ‘Topaz Pink’                | 1    |                  |
| <i>Scrophularia macranth</i>                | 0    | Scrophulariaceae |
| <i>Scutellaria</i>                          | 1    | Lamiaceae        |
| <i>Sedum aizoon</i>                         | 1    | Crassulaceae     |
| <i>Sedum kantschaticum</i> ‘Floritreum’     | 1    |                  |
| <i>Sedum litterale</i>                      | 2    |                  |
| <i>Sedum spectabile</i>                     | 3    |                  |
| <i>Sedum spurium</i>                        | 1    |                  |
| <i>Sedum telphinum</i>                      | 2    |                  |
| <i>Senecio</i>                              | 3    | Asteraceae       |
| <i>Seseli gummiferum</i>                    | 0    | Apiaceae         |
| <i>Silphium laciniatum</i>                  | 3    | Asteraceae       |
| <i>Solidago</i>                             | 3    | Asteraceae       |
| <i>Spirea x bumalda</i>                     | 3    | Rosaceae         |
| <i>Spirea japonica</i>                      | 1, 2 |                  |
| <i>Stachys</i>                              | 1    | Lamiaceae        |
| <i>Stachys officinalis</i>                  | 0    |                  |
| <i>Symphytum officinale</i>                 | 1    | Boraginaceae     |
| <i>Syringa villosa x reflexa</i>            | 0    | Oleaceae         |
| <i>Syringa pekingensis</i>                  | 1    |                  |
| <i>Syringa reticulata</i>                   | 2    |                  |
| <i>Syringa</i>                              | 3    | Oleaceae         |
| <i>Tagetes</i>                              | 1,2  | Asteraceae       |
| <i>Tanacetum</i>                            | 2    | Asteraceae       |
| <i>Tanaretum coccineum</i> ‘Robinson’s Red’ | 1    |                  |
| <i>Teucrium chamaedrys</i>                  | 3    | Lamiaceae        |
| <i>Teucrium canadense</i>                   | 2    |                  |
| <i>Teucrium lucidum</i>                     | 0    |                  |
| <i>Teucrium orientale</i>                   | 3    |                  |
| <i>Thalictrum aquilegifolium</i>            | 1    |                  |

|  |   |                  |
|--|---|------------------|
| <i>Thymus</i>                                  | 2 | Lamiaceae        |
| <i>Thymus</i> ‘Clear Gold’                     | 2 |                  |
| <i>Thymus</i> x <i>citriodorus</i>             | 2 |                  |
| <i>Thymus kotschyanus</i>                      | 3 |                  |
| <i>Tilia americanum</i>                        | 3 | Malvaceae        |
| <i>Torenia</i>                                 | 1 | Scrophulariaceae |
| <i>Triteleia</i>                               | 1 |                  |
| <i>Trollius europaeus</i> ‘Orange Princess’    |   |                  |
| <i>Verbena</i> (all)                           | 0 | Verbenaceae      |
| <i>Verbena bipinnatifida</i>                   | 0 |                  |
| <i>Verbena hybrida</i> “Quartz Burgundy”       | 1 |                  |
| <i>Veronica austriaca</i> ssp. <i>teucrium</i> | 0 | Scrophulariaceae |
| <i>Veronica spicata</i> (most)                 | 2 |                  |
| <i>Veronica spicata</i> ‘Rosea’                | 2 |                  |
| <i>Veronica spicata</i> ‘Sunny Border Blue’    | 3 |                  |
| <i>Veronica liwanensis</i>                     | 2 |                  |
| <i>Veronica longifolia</i> “Lavender Charm”    | 3 |                  |
| <i>Veronica pectinata</i>                      | 0 |                  |
| <i>Veronicastrum virginicum</i>                | 0 | Scrophulariaceae |
| <i>Vinca</i> (all)                             | 0 | Apocynaceae      |
| <i>Viola</i> (all)                             | 0 | Violaceae        |
| <i>Zauschneria garrettii</i>                   | 2 | Onagraceae       |
| <i>Zinnia</i> (most)                           | 1 | Asteraceae       |
| <i>Zinnia</i> ‘Zowie’                          | 1 |                  |
| <i>Zinna</i> ‘Profusion Fire’                  | 2 |                  |

<sup>a</sup> **Ranking Scale:** 3 - Heavily visited by foraging honey bees; 2 - Moderately visited by honey bees and foraged; 1 - Honey bees seen occasionally visiting flowers; 0 - Honey bees do not forage at these flowers