

## Pollinator Trial Results 2013

### **Introduction:**

Flowering herbaceous perennial plant species growing on or near farms fulfill dietary needs of pollinators and other beneficial insects that should be part of ecologically-based Integrated Pest Management (IPM) programs for crop production. Despite their economic and environmental importance, there is little information regarding the level of insect attractiveness of various perennial plant species or cultivars. Through this project, 88 pollinator-rewarding herbaceous perennial plants were assessed and promoted to growers, landscapers, nursery operators, and homeowners. Aside from monitoring and identifying what insect pollinators visit them, the study evaluated flowering plant species for establishment potential, weed-suppression abilities, maintenance requirements, bloom abundance and longevity, and aesthetic appeal. The results of this project have and will continue to be disseminated through outreach programs and educational materials throughout Pennsylvania and the Mid-Atlantic region. By encouraging use of the best pollinator-rewarding plant species on farms, commercial, and residential land, the recommendations from this research will provide an elegant and sustainable solution to the ongoing pollinator crisis that our agricultural system faces. Furthermore, this project will boost local greenhouse and landscaping businesses by promoting production and commercialization of feasible-to-cultivate, pollinator-rewarding plants.

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Here is a list of some great plants to incorporate into pollinator habitat:

#### *Best plants for flowering longevity*

1. Clustered mountain mint (*Pycnanthemum muticum*): 10 weeks peak bloom
2. Summer sun smooth oxeye (*Heliopsis helianthoides* 'Summer Sun'): 10 weeks peak bloom
3. Dwarf blazing star (*Liatris microcephala*): 9 weeks peak bloom
4. Smooth oxeye (*Heliopsis helianthoides*): 8 weeks peak bloom
5. Ohio spiderwort (*Tradescantia ohioensis*): 8 weeks peak bloom (note: closes flowers after noon)

#### *Best plants for pollinator visitor diversity*

1. Clustered mountain mint (*Pycnanthemum muticum*)
2. Coastal plain joe pye weed (*Eupatoriadelphus dubius*)
3. Stiff goldenrod (*Solidago rigida*)
4. Swamp milkweed (*Asclepias incarnata*)
5. Gray goldenrod (*Solidago nemoralis*)
6. Rattlesnake master (*Eryngium yuccifolium*)
7. Flat topped aster (*Doellingeria umbellata*)
8. Spotted joe pye weed (*Eupatoriadelphus maculatus* 'Bartered Bride')

*Best plants for sheer number of insect visitors*

1. Clustered mountain mint (*Pycnanthemum muticum*): 78 insects\*
2. Gray goldenrod (*Solidago nemoralis*): 36 insects
3. Coastal plain joe pye weed (*Eupatoriadelphus dubius*): 30 insects
4. Thoroughwort (*Eupatorium hyssopifolium*): 28 insects
5. Swamp milkweed (*Asclepias incarnata*): 24 insects
6. Stiff goldenrod (*Solidago rigida*): 23 insects

\*Mean number of insects observed per plot in 2 minutes

*Best plants for sheer # of bee and syrphid visitors*

1. Clustered mountain mint (*Pycnanthemum muticum*): 19 bees/syrphids\*
2. Gray goldenrod (*Solidago nemoralis*): 14 bees/syrphids
3. Pink tickseed (*Coreopsis rosea*): 14 bees/syrphids
4. Lance-leaved coreopsis (*Coreopsis lanceolata*): 13 bees/syrphids
5. Spotted joe pye weed (*Eupatoriadelphus maculatus* 'Bartered Bride'): 12 bees/syrphids
6. Rattlesnake master (*Eryngium yuccifolium*): 12 bees/syrphids

\*Mean number of bees/syrphids observed per plot in 2 minutes

*Best plants for attracting butterflies*

1. Coastal plain joe pye weed (*Eupatoriadelphus dubius*): 17 butterflies/skippers\*
2. Blue mistflower (*Conoclinium coelestinum*): 5 butterflies/skippers
3. Showy aster (*Eurybia spectabilis*): 4 butterflies/skippers
4. Sweet joe pye weed (*Eutrochium purpureum* subsp. *maculatum* 'Gateway'): 3 butterflies/skippers
5. Dwarf blazing star (*Liatris microcephala*): 3 butterflies/skippers

\*Mean number of butterflies/skippers observed per plot in 2 minutes

*Best plants for attracting bumble bees*

1. Lemon queen sunflower (*Helianthus 'Lemon Queen'*): 8 bumble bees\*
2. New England aster (*Symphotrichum novae-angliae*): 8 bumble bees
3. Purplestem aster (*Symphotrichum puniceum*): 7 bumble bees
4. Stiff goldenrod (*Solidago rigida*): 6 bumble bees
5. Coastal plain joe pye weed (*Eupatoriadelphus dubius*): 6 bumble bees
6. Wild bergamot (*Monarda fistulosa*): 6 bumble bees

\*Mean number of bees observed per plot in 2 minutes

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