

# Perennial Plants for Pollinators in New Mexico

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New Mexico has many native perennial flowering plants that can be grown for their aesthetic beauty and value in supporting our native pollinators. This guide will share the attractiveness of these flowers by insect group based on visual observations at NMSU's Agricultural Science Center (ASC) in Los Lunas in 2018 and 2019. There are many annual (plants that complete their lifecycle in one year) native flower species that can be beneficial for pollinators in your landscape, but this guide will focus on perennial species (plants that live more than two years) that are native to New Mexico (USDA PLANTS Database; <https://plants.usda.gov>). This list is not conclusive or representative of all potential perennial pollinator plants in New Mexico, and other plants not included in this evaluation may also provide valuable pollinator resources. The plants in this guide were selected because of their uses in landscape planting and because they can likely be found at your local nursery.

Using perennial plants can have additional benefits in your garden, especially once they have become established. Perennial plants 1) provide floral resources yearly (some perennials may take several years before they produce flowers—just be patient with them), 2) are often drought-tolerant or can survive on lower amounts of water because they are adapted to our climate, 3) have lower maintenance since there is no need to replant them each year, and 4) can also attract other beneficial insects that can help suppress pest populations.

While this guide's main focus is on native bees for our pollinator groups, they are not the only insect pollinators (for example, butterflies, flies, and beetles also pollinate plants). However, bees are considered to be the most efficient pol-



**Figure 1.** Tubular-shaped flowers, such as penstemons (*Penstemon* spp.), are accessible by moths, butterflies, and some long-tongued bees because these insects have a long feeding proboscis (tubular mouthpart) that can reach nectar resources (photo by Miranda L. Kersten).

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**Figure 2.** Disk-shaped flowers, such as lanceleaf coreopsis (*Coreopsis lanceolata*), are open, making them accessible to many pollinator species (photo by Miranda L. Kersten).

linators. They are the only pollinators that feed on pollen/nectar as larvae and adults. Some of our native bees are generalists that visit many types of flowers, while others are specialists that visit a specific genus or species of flower. For example, many bumble bees (*Bombus* spp.) are generalists that are active from early spring to late fall, while different species of native bees are active at different times of the year. For example, long-horned bees in the genus *Eucera* are active in the spring and early summer, while long-horned bees in the genus *Melissodes* are active in the late summer and early fall.

**Note on managed pollinators:** Honey bees (*Apis mellifera*) are non-native generalists. Their activity is based on temperature, so they may be seen when temperatures are between 55 and 100°F (13–38°C). While honey bees can be extremely valuable pollinators for agronomic crops, many of our native bee species are more efficient at pollinating native plants. Honey bees can compete with and crowd out native bees when resources are limited, so it is important to provide many diverse floral resources for pollinators.

We evaluated 22 perennial native plant species for their attractiveness to different beneficial insect groups (Table 1). These insects provide ecosystem services such as pollination and natural pest suppression. To best encourage these beneficial insects (i.e., natural enemies), plant a diversity of

plants that bloom at different times of the year to provide for insects that are active early in the year and those active in the fall. Plant diversity is important because pollinators and natural enemies use color and flower shape to navigate while searching for resources. Insect vision perceives colors differently than human vision, often on the ultraviolet spectrum, and having many colors of blooms available can help attract different insects. Pollinator and natural enemy biology has evolved with plants, making some flower shapes preferred (Figures 1 and 2).

These insects also need overwintering habitat, which includes plants that have varying sizes and textures. To learn more about identifying these beneficial insect groups, see NMSU Extension Guide H-172, *Backyard Beneficial Insects in New Mexico* ([https://pubs.nmsu.edu/\\_h/H172/](https://pubs.nmsu.edu/_h/H172/)). Natural enemies feed on their insect prey as larvae, adults, or both stages, but supplement their diets with pollen and/or nectar. They can be encouraged to stay in your landscape by practicing conservation biological control (manipulating habitat to favor existing natural enemies). To learn more about conservation biological control and integrated pest management (IPM), see NMSU Extension Circular 655, *Integrated Pest Management (IPM) for Home Gardeners* ([https://pubs.nmsu.edu/\\_circulars/CR655/](https://pubs.nmsu.edu/_circulars/CR655/)).

#### FURTHER READING

For more information on pollinators, beneficial insects, and their habitat needs, visit these resources.

- Grasswitz, T.R., and D.R. Dreesen. 2012. *Pocket guide to the beneficial insects of New Mexico* [Online]. Las Cruces: New Mexico State University Cooperative Extension Service. <https://pubs.nmsu.edu/insects/index.html>
- Grasswitz, T.R., and D.R. Dreesen. 2012. *Pocket guide to the native bees of New Mexico* [Online]. Las Cruces: New Mexico State University Cooperative Extension Service. <https://pubs.nmsu.edu/bees/index.html>
- Grissell, E. 2010. *Bees, wasps, and ants: The indispensable role of Hymenoptera in gardens*. Portland, OR: Timber Press.
- Holm, H. 2017. *Bees: An identification and native plant forage guide*. Minnetonka, MN: Pollination Press LLC.
- Wilson, J.S., and O.J. Messinger Carril. 2016. *The bees in your backyard: A guide to North America's bees*. Princeton, NJ: Princeton University Press.

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**Table 1. Perennial Plants and the Main Beneficial Insect Groups They Attracted in Our Observations at ASC Los Lunas<sup>1</sup>**

<b>Common Name (<i>Binomial name</i>)</b>	<b>Family</b>	<b>Plant Height</b>	<b>Flower Color</b>	<b>Flower Shape</b>	<b>Flowering Season</b>	<b>Insects Attracted</b>
Giant hyssop ( <i>Agastache pallidiflora</i> )	Lamiaceae (Mint family)	1–3 ft	Purple	Tubular	Summer	Large bees <sup>2</sup> , small bees, bumble bees
Broadleaf milkweed ( <i>Asclepias latifolia</i> )	Asclepiadaceae (Milkweed family)	2–3 ft	Pale green	Sickle	Summer	Large wasps, large bees, small bees
Showy milkweed ( <i>Asclepias speciosa</i> )	Asclepiadaceae (Milkweed family)	1.5–3 ft	Pink	Sickle	Summer	Large bees, small bees, large wasps, small wasps, ladybugs
Horsetail milkweed ( <i>Asclepias subverticillata</i> )	Asclepiadaceae (Milkweed family)	1–3 ft	White	Ovate	Summer	Large wasps, small wasps, large bees, small bees
Butterfly milkweed ( <i>Asclepias tuberosa</i> )	Asclepiadaceae (Milkweed family)	1–2.5 ft	Orange	Trumpet	Summer to fall	Small bees, small wasps
Damianita ( <i>Chrysactinia mexicana</i> )	Asteraceae (Aster family)	1–2 ft	Yellow	Disk	Summer	Small bees, large wasps, small wasps
Lanceleaf coreopsis ( <i>Coreopsis lanceolata</i> )	Asteraceae (Aster family)	1–2.5 ft	Yellow	Disk	Late spring to summer	Large bees, small bees, large wasps, small wasps
White prairie clover ( <i>Dalea candida</i> )	Fabaceae (Pea/legume family)	1–2 ft	White	Cylinder	Summer	Large bees, small bees, small wasps
Purple prairie clover ( <i>Dalea purpurea</i> )	Fabaceae (Pea/legume family)	1–3 ft	Purple	Cylinder	Summer	Large bees, small bees, bumble bees, large wasps
Engelmann's daisy ( <i>Engelmannia peristenia</i> )	Asteraceae (Aster family)	1.5–2 ft	Yellow	Disk	Spring to fall	Large bees, small bees, large wasps, syrphid flies
James' buckwheat ( <i>Eriogonum jamesii</i> )	Polygonaceae (Buckwheat family)	0.5–1 ft	White	Bell	Summer	Large wasps, small wasps, small bees
Red dome blanketflower ( <i>Gaillardia pinnatifida</i> )	Asteraceae (Aster family)	2 ft	Yellow	Disk	Spring to fall	Large bees, small bees, large wasps
Wild bergamot ( <i>Monarda fistulosa</i> )	Lamiaceae (Mint family)	2–4 ft	Purple	Tubular	Summer	Large bees, small bees, bumble bees, large wasps
Palmer's penstemon ( <i>Penstemon palmeri</i> )	Scrophulariaceae (Figwort family)	4–7 ft	White	Tubular	Late spring to early summer	Large wasps, small wasps, small bees, bumble bees, ladybugs, syrphid flies

**Table 1 (continued). Perennial Plants and the Main Beneficial Insect Groups They Attracted in Our Observations at ASC Los Lunas<sup>1</sup>**

Common Name ( <i>Binomial name</i> )	Family	Plant Height	Flower Color	Flower Shape	Flowering Season	Insects Attracted
Desert penstemon ( <i>Penstemon pseudospectabilis</i> )	Scrophulariaceae (Figwort family)	2–3 ft	Pink	Tubular	Spring to summer	Large wasps, small wasps, small bees, bumble bees, ladybugs
Rocky Mountain penstemon ( <i>Penstemon strictus</i> )	Scrophulariaceae (Figwort family)	1–3 ft	Purple	Tubular	Late spring to early summer	Large wasps, small wasps, small bees, bumble bees, ladybugs
Upright prairie coneflower ( <i>Ratibida columnifera</i> )	Asteraceae (Aster family)	1–3 ft	Yellow to red	Disk	Spring to fall	Large bees, small bees, large wasps
Blue sage ( <i>Salvia azurea</i> var. <i>grandiflora</i> )	Lamiaceae (Mint family)	3–5 ft	Blue	Tubular	Late summer to fall	Large bees, small bees, bumble bees
Mule's ear ( <i>Scabrethia scabra</i> )	Asteraceae (Aster family)	1–2 ft	Yellow	Disk	Summer	Large bees, small bees, large wasps, small wasps
Riddell's ragwort ( <i>Senecio riddellii</i> )	Asteraceae (Aster family)	1–3 ft	Yellow	Disk	Fall	Large wasps, small bees, bumble bees, ladybugs, syrphid flies
Copper globemallow ( <i>Sphaeralcea angustifolia</i> )	Malvaceae (Mallow family)	2–3 ft	Orange	Bowl	Spring to fall	Large bees, small bees, large wasps, small wasps
MacDougal verbena ( <i>Verbena macdougalii</i> )	Verbenaceae (Verbena family)	2–3 ft	Purple	Tubular	Late spring to fall	Large bees, small bees, large wasps

<sup>1</sup>Many of these plants may also support other pollinators, such as hummingbirds, butterflies, and moths, as well as other natural enemies; however, these were not counted in our study.

<sup>2</sup>Large bees and wasps are those that are larger than 3/8 in. (10 mm), while small bees and wasps are smaller than 3/8 in.



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