Pollinator Kits

Fall 2021 Native Plant Sale

Thank you for purchasing a pollinator kit at the Fall Native Plant Sale for the benefit of Wild Ones Middle Tennessee Chapter and Owl's Hill Nature Sanctuary. We very gratefully acknowledge donations from GroWild, Inc., and two other donors in support of these pollinator kits.

This pollinator kit will function best when the plants are in Full Sun (meaning six or more hours of direct Sun per day when the plants are active). The following guidelines should help you get started with planting your pollinator kit.

Where to Begin

How Much Area?

The first step here will be to decide how large of an area you need to support the plants. The info sheets used at the plant sale are included for each of the plants in the kit. These sheets include the spread of the plant which is the diameter of the plant when fully grown. Since plants vary within a species, many of these spreads are listed as a range.

The standard nursery industry method for total area is to take the spread of each plant, square it, and add them all up. If you do that for the maximum spread of each plant you come up with about 110 $ft^{2;}$ if you use the average spread for each plant you get about 84 ft^2.

The above rule of thumb does not necessarily have to be followed with native plants. For example, you may choose to space your plants farther apart to let them fill in the space extra through seeding and/or vegetative growth (lateral roots giving rise to new plants). The extra space between plants will require more weeding, but ultimately you will have a larger massing effect. On the other hand, if you place your plants closer together, there will be less weeding in your future but with fewer total plants.

Flower Constancy

The concept of flower constancy has been observed for several pollinators where floral visits are restricted to a single species across a day. Honeybees, bumblebees, and some butterflies have been observed with this behavior. What this means in the garden is that individual species of plants should be grouped together when possible. If an individual plant is isolated, a pollinator may not see enough blooms to make a visit worthwhile. Exceptions to this non-isolation suggestion

are plants like Asters and Anise Hyssop which have enough blooms per plant to appear as a massing. Instead of thinking of your pollinator kit as 18 different plants, think of it as 8 different species. For cases where there are 3 plants in a species, plant them in a triangle or other adjacent configuration.

Continuous Bloom

Ideally, a pollinator garden will offer blooms for pollinators continuously throughout the season. One way to check for this is to create a bloom chart that shows graphically when each different species blooms. See the chart below. Bloom data for this chart was mined from iNaturalist using observations in Tennessee in 2020-2021. So this range is species-wide. Likely, no one plant would bloom this long, but collectively the species should. Also, the dates vary year-to-year due to many factors. The bloom chart illustrates how plants can be selected that have overlapping bloom periods.

No single plant can fulfill the needs of all pollinators, so the plant selection process can be complicated than simply ensuring a continuous bloom, but the bloom chart is a good start.

Other Design Considerations

In addition to keeping like species together as mentioned above, another layout consideration concerns plant height. There isn't much variation in the height of the plants in the pollinator kit, but potentially taller plants are New England Aster and Purple Coneflower. So, if the garden will be viewed primarily from one side, the taller plants should go in the back. If the garden is viewable

Pollinator Kit Bloom Chart — B&W

Common Name	Scientific Name	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Foxglove Beardtongue	*Penstemon digitalis*									
Purple Coneflower	*Echinacea purpurea*									
Beebalm	*Monarda fistulosa*									
Anise Hyssop	*Agastache foeniculum*									
Clustered Mountainmint	*Pycnanthemum muticum*									
New England Aster	*Symphyotrichum novae-angliae*									
Wrinkleleaf Goldenrod	*Solidago rugosa*									
Smooth Aster	*Symphyotrichum laeve*									

from all sided, then taller ones in the middle. Pulling together these ideas, one possible design for an 8-foot by 16-foot garden is illustrated below.

The Steps

1. Select location and size of garden
2. Remove all vegetation (this step is important to remove competition with other plants)
3. Select where the plants go. Some gardeners like to arrange the pots onsite until the layout looks aesthetically pleasing before planting anything.
4. Install plants, being careful to not get them too low. If you leave them just a little higher than grade, then you can add mulch to have them blend in. Also, the mulch will help minimize weeds while the plants are getting started.
5. Water the plants often at first, as needed.
6. Check periodically for weeds. It is important to remove competition in the early stages.
7. Next year if a plant flowers, cut the flower off (dead-head) just after it is finished blooming but before it goes to seed. This will keep the plant from using its energy to generate seeds and will allow it to use the energy for root development. There should be no need to do this in future years.
8. In future years, you can decide how much you want to let the plants fill-in from seeding and underground spreading.

Pollinator Kit Details

Common Name	Scientific Name	#	ht	sprd	Bloom (from TN iNat)
Foxglove Beardtongue	*Penstemon digitalis*	3	3-5	1.5-2	late Apr to mid Jun
Purple Coneflower	*Echinacea purpurea*	2	2-5	2	late May through early Sep
Beebalm	*Monarda fistulosa*	3	3-4	1.5-3	early Jun through early Sep
Anise Hyssop	*Agastache foeniculum*	2	2-4	2-3	mid Jun through late Sep
Clustered Mountainmint	*Pycnanthemum muticum*	3	2-3	2-3	Jul to late Sep
Wrinkleleaf Goldenrod	*Solidago rugosa*	3	3-5	1.5-2.5	late Aug through mid Oct
New England Aster	*Symphyotrichum novae-angliae*	1	3-6	2-3	Jul through Sep
Smooth Aster	*Symphyotrichum laeve*	1	2-4	1-2	Sep through Nov
Total		**18**			

Sample Layout

Foxglove Beardtongue
Penstemon digitalis

W.D. and Dolphia Bransford

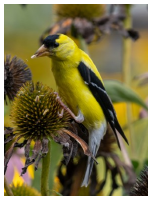
R.W. Smith

James L, Reveal

Family	Plantaginaceae (Plantain)
Height	3 to 5 feet
Spread	1.5 to 2 feet
Bloom Time	Late April to June
Flower	White, with purple lines in throat for bees
Light	Full sun, tolerates light shade
Water	Dry to medium
Soil	Average
Notes	Genus name comes from Greek words that mean five stamen (four fertile, one sterile but hairy, hence ‘beardtongue.’

Purple Coneflower
Echinacea purpurea

Richard Hitt



Family	Asteraceae (Aster)
Height	2 to 5 feet
Spread	1.5 to 2 feet
Bloom Time	Late May to early Sept.
Flower	Pink or purple, showy
Light	Full Sun to Part Shade
Water	Dry to medium
Soil	Average
Notes	Easily grown in average soil; best in full sun. Tolerates heat, draught and poor soil. Clumps should be divided when overcrowded (3-5 years). Host for Silvery Checkerspot butterfly.

Bee Balm, Wild Bergamot
Monarda fistulosa

Richard Hitt

Family	Lamiaceae (Mint)
Height	2 to 4 feet
Spread	2 feet
Bloom Time	May to August
Flower	Pink, lavender
Light	Full sun to part shade
Water	Dry to medium
Soil	Various
Notes	Tolerates poor soil and some drought. Subject to powdery mildew, so good air circulation is impor-tant. Leaves can be used in tea. Frequented by bees.

Anise Hyssop
Agastache foeniculum

Richard Hitt

Family	Lamiaceae (Mint)
Height	2 to 4 feet
Spread	1.5 to 3 feet
Bloom Time	Late May to September
Flower	Blue, Showy
Light	Full Sun to Part Shade
Water	Dry to medium
Soil	Average
Notes	While its native range is north of TN, this plant really performs well here with its long bloom time and popularity with many pollinators. The anise-scented leaves repel mammals.

Clustered Mountain Mint
Pycnanthemum muticum

Stephanie Brundage

Richard Hitt

Family	Lamiaceae (Mint)
Height	2 to 3 feet
Spread	2 to 3 feet
Bloom Time	July to September
Flower	Pink, showy
Light	Full sun to part shade
Water	Dry to medium
Soil	Average
Notes	A top pollinator magnet that attracts butterfiles, bees, wasps, flies, and more. Leaves have a pleasant mint aroma.

New England Aster
Symphyotrichum novae-angliae

James L Reveal

Family	Asteraceae (Aster)
Height	3 to 6 feet
Spread	2 to 3 feet
Bloom Time	June to October
Flower	Purple (varies), showy, 1.5 inches, good cut
Light	Full Sun
Water	Medium
Soil	Easily grown in average soil
Notes	Tolerates clay soil. Host to Pearl Crescent butterfly and others. Can self-seed.

Wrinkleleaf Goldenrod
Solidago rugusa

Stephanie Brundage

Family	Asteracea (Aster)
Height	3 to 5 feet
Spread	1.5 to 2.5 feet
Bloom Time	August to October
Flower	Yellow
Light	Full sun
Water	Medium to wet
Soil	Average to rich
Notes	Will tolerate light shade. Plant will spread in the garden by seeds and rhizomes. Does not cause hay fever. Tolerates deer, clay soil, wet soil.

Smooth Blue Aster
Symphyotrichum laeve

R.W. Smith

Great for Gardens

This Aster is a good performer in the garden setting. It has beautiful flowerheads and attractive smooth foliage with clasping leaves. The stems usually remain erect without support.

Family	Asteraceae (Aster)
Height	2 to 4 feet
Spread	1 to 2 feet
Bloom Time	September to Nov.
Flower	Purple (varies), showy, 1.5 inches, good cut
Light	Full Sun, likes some afternoon shade
Water	Dry to medium
Soil	Average
Notes	Easily self-seeds. Tolerates clay soil. Host to Pearl Crescent butterfly and others. Outstanding for pollinators.