



## Monarch and Bumblebee Seed Mix

**Available at a 50% Discount for Agricultural Land in Pennsylvania in 2021-2022**

### Overview

Audubon Society of Western Pennsylvania (ASWP), in partnership with Ernst Conservation Seeds, developed a custom native seed mix to support Monarch butterflies, bumblebees, and other imperiled pollinators. With funding from the National Fish and Wildlife Foundation's Monarch Butterfly and Pollinators Conservation fund, ASWP is able to cover 50% of the cost of the seed mix for agricultural land in Pennsylvania during 2021-2022.



### Seed Mix

- Little Bluestem
- Virginia Wildrye
- Wild Senna
- Marsh Blazing Star
- Appalachian Beardtongue
- Mistflower
- Aromatic Aster
- Zigzag Aster
- Purple Coneflower
- Lanceleaf Coreopsis
- Butterfly Milkweed
- Golden Alexanders
- Gray Goldenrod
- Swamp Milkweed
- Common Milkweed
- Hairy Beardtongue
- Smooth Blue Aster
- New England Aster
- Blackeyed Susan
- Oxeye Sunflower
- Licorice Scented Goldenrod
- Narrowleaf Mountainmint
- Partridge Pea
- Ohio Spiderwort
- Wild Bergamo

*Alternative seed blends may be available*

### Costs

- Cost per pound: \$47.02\*
- Recommended seeding rate: 6 lbs. / acre – on slopes <3:1
- Total cost per acre: \$282.12/acre\*
- Total cost per acre after discount: \$141.06 plus shipping

\* Costs and seed formula may change based on availability

### How It Works

Interested parties should contact Sarah Koenig, ASWP Conservation Director, at [skoenig@aswp.org](mailto:skoenig@aswp.org) or (412) 963-6100 x26. The discounted seed is only available for agricultural properties, including urban farms. The seed blend can be made available to anyone who may be interested.

ASWP is able to cover the cost of 50% of the seed blend (not including shipping) for agricultural land in Pennsylvania during 2021-2022. The remaining costs can be covered with private funds or funding from other programs and projects. ASWP will ship the seed mix to your location.

**Additional Details About Seed Mix**

Common Name	Scientific Name	Monarch Host Plant	Bumblebee Superfood	Bumblebee Immunity Support	Spring Nectar	Summer Nectar	Fall Nectar	Clump Forming Grass (Bumblebee Nesting Habitat)
Little Bluestem	<i>Schizachyrium scoparium</i>							◆
Virginia Wildrye	<i>Elymus virginicus</i>							◆
Purple Coneflower	<i>Echinacea purpurea</i>		◆		◆			
Lanceleaf Coreopsis	<i>Lanceleaf coreopsis</i>				◆			
Blackeyed Susan	<i>Rudbeckia hirta</i>				◆			
Oxeye Sunflower	<i>Heliopsis helianthoides</i>				◆			
Ohio Spiderwort	<i>Tradescantia ohioensis</i>					◆		
Wild Bergamot	<i>Monarda fistulosa</i>			◆	◆			
Wild Senna	<i>Senna hebecarpa</i>					◆		
Marsh Blazing Star	<i>Liatris spicata</i>				◆			
Appalachian Beardtongue	<i>Penstemon laevigatus</i>				◆			
Mistflower	<i>Eupatorium coelestinum</i>						◆	
Aromatic Aster	<i>Aster oblongifolius</i>		◆				◆	
Zigzag Aster	<i>Aster prenanthoides</i>		◆				◆	
Butterfly Milkweed	<i>Asclepias tuberosa</i>	◆				◆		
Narrowleaf Mountainmint	<i>Pycnanthemum tenuifolium</i>				◆			
Golden Alexanders	<i>Zizia aurea</i>				◆			
Gray Goldenrod	<i>Solidago nemoralis</i>		◆				◆	
Swamp Milkweed	<i>Asclepias incarnata</i>	◆				◆		
Common Milkweed	<i>Asclepias syriaca</i>	◆				◆		
Hairy Beardtongue	<i>Penstemon hirsutus</i>					◆		
Smooth Blue Aster	<i>Aster laevis</i>		◆					
New England Aster	<i>Aster novae-angliae</i>		◆					
Licorice Scented Goldenrod	<i>Solidago odora</i>		◆				◆	
Partridge Pea	<i>Chamaecrista fasciculata</i>					◆		

## **Planting Information**

The following is an outline of the planting process. *It is strongly recommended that the information in the Additional Resources and References section is reviewed in detail prior to planting.*

### *Site Prep*

Prior to planting, the thorough and complete removal of noxious, invasive, or undesirable species is critical for a successful pollinator meadow. Solarization and herbicide treatment are frequently used for site prep. If using herbicide, please be sure to follow label instructions and best practices from the Xerces Society, available here: <https://xerces.org/sites/default/files/publications/19-045.pdf>. Additional information on site preparation can be found here: <https://www.ernstseed.com/resources/planting-guides/uplands-meadows-and-pollinators-planting-guide/>

### *Seed Sowing (Pollinator Seed Mix & Cover Crop)*

Following site preparation, the seeds may be sown in either spring (after chance of frost) or fall (after the first frost). Seeding options include hand-seeding, broadcast seeding, or no-till drill seeding. Seeds should be planted at a rate of 6 pounds/acre and should be mixed with an appropriate cover crop at a rate of 30 lbs. per acre. The native seed mix and cover crop should be seeded at the same time.

Cover crop helps stabilize the soil and minimize competition from undesirable species.

- If planting between 1/1 - 7/31, cover crop should be oats at 30 lbs. / acre.
- If planting between 8/1 – 12/31, cover crop should be cereal rye at 30 lbs. / acre.

### *Maintenance / Establishment*

During the first year of growth, when the vegetation reaches 14-16", it should be mowed to a height of 8-10" with a string trimmer or other equipment capable of mowing at this height. Mowing lower than 8" is detrimental to planted species and can promote growth of undesirable species. Mowing is necessary only once per year starting in year 2 of growth, preferably at the end of winter or very early spring. Targeted invasive species management (manual or spot spraying with herbicide) should be conducted during year 1. Monitoring of the meadow and pressure from invasive plants during years 2 and beyond helps to ensure long-term success of the meadow.

## **Additional Resources and References**

**Promote Pollinators in Agricultural Landscapes** (NRCS): includes background on the importance of helping native pollinators on farms and how/where that can be done:

<https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/plantsanimals/pollinate/farmers/>

**Organic Site Preparations for Wildflower Establishment** (Xerces Society): includes step by step instructions, regional timelines, and checklists. <https://xerces.org/publications/guidelines/organic-site-preparation-for-wildflower-establishment>

**Uplands, Meadows, & Pollinator Planting Guide** (Ernst Conservation Seed): includes details on site preparation and maintenance. <https://www.ernstseed.com/resources/planting-guides/uplands-meadows-and-pollinators-planting-guide/>

**Guide to the Life Cycle of a Meadow** (Ernst Conservation Seed): includes information on cover crops, life cycle of a meadow, and barriers to successful establishment.

<https://www.ernstseed.com/resources/planting-guides/life-cycle-of-a-meadow/>

**Monarch Butterflies, Weeds, and Herbicide** (Xerces Society): includes best practices for herbicide application to avoid harming pollinators. <https://xerces.org/sites/default/files/publications/19-045.pdf>