

The USDA logo is located in the top left corner, featuring the letters "USDA" in a bold, sans-serif font. To the right of the logo, the text "United States Department of Agriculture" is written in a smaller, stacked font. The background of the entire page is a vibrant, colorful illustration of various wildflowers, including purple, blue, yellow, and orange blooms, with several monarch butterflies and bees scattered throughout.

United States  
Department of  
Agriculture

# How to Choose

# A GOOD POLLINATOR SEED MIX

## CORVALLIS PLANT MATERIALS CENTER

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Illustrations by Cat Bailey

## GETTING STARTED

**PLANTING A WILDFLOWER SEED MIX IS A GREAT WAY TO CREATE HABITAT FOR NATIVE POLLINATORS**, beneficial insects, and honeybees. However, choosing which seed mix to buy can be a daunting task, as there are many different mixes available on the commercial market that vary widely in price and species composition. The following tips were compiled based on four years of trials at the Corvallis Plant Materials Center and should generally apply to most parts of western Oregon and Washington.

Natural Resources Conservation Service

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# WHAT YOU NEED TO KNOW WHEN PICKING YOUR MIX

**Percent of each species in the mix and total seeds per pound for the mix.** Some vendors do not publish this information on their website or the seed label but will provide it if you ask them. If they are unable to supply this information, we recommend that you find another vendor who can tell you what you're buying. Use the percentages to determine the balance of annuals, short-lived perennials, and long-lived perennials in the mix (aim for 20-40% of each group).

## \*VENDORS

PRO TIME LAWN

<https://ptlawnseed.com/>

STEELE ACRES

<https://www.steeleacres.com/>

NORTHWEST MEADOWSCAPES

<https://northwestmeadowscapes.com/>

WILLAMETTE WILDINGS

<https://willamettewildlings.com/>

## FURTHER READING

Comparison of Commercially Available Pollinator Seed Mixes for Western Oregon

[https://www.nrcs.usda.gov/Internet/FSE\\_PLANTMATERIALS/publications/orpmcsr13455.pdf](https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/orpmcsr13455.pdf)

[http://www.xerces.org/wp-content/uploads/2013/01/InstallGuideJobSheet\\_WORandWA\\_CnsrvCvr.pdf](http://www.xerces.org/wp-content/uploads/2013/01/InstallGuideJobSheet_WORandWA_CnsrvCvr.pdf)

\*This partial list of seed vendors is provided for informational purposes. It does not constitute an endorsement of the vendors, nor does it guarantee the reliability or quality of products.

# COMPONENTS OF A GOOD POLLINATOR SEED MIX

1.

Establishing season-long bloom is important for sustaining pollen and nectar resources for pollinators throughout the growing season. Specifications by the Natural Resources Conservation Service (NRCS) generally require establishment of at least three species from each bloom period: early (approximately February through April), mid (May through June), and late season (July through September). Ideally, you should have both annuals and perennials in each bloom period to ensure season-long bloom over the life of the planting (three or more years).

2.

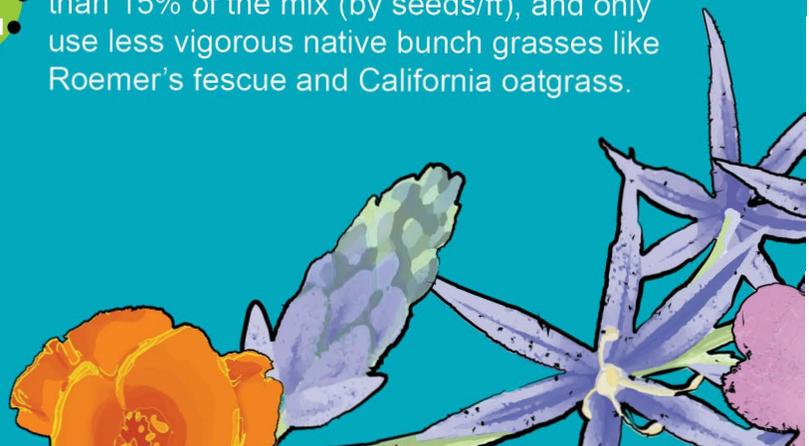
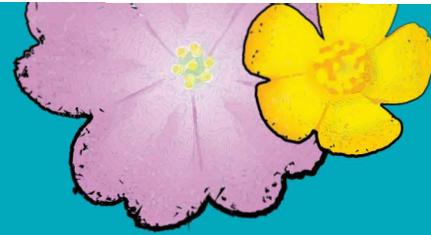
Look for a balance of annuals, short-lived perennials, and long-lived perennials (see back page for Bloom Calendar). Annuals provide first year bloom and cover while the perennials are becoming established, but usually fall out completely by the third year. Short-lived perennials bloom heavily in the second year, usually re-seed, and continue to fill in bare areas in the planting. Long-lived perennials will continue to bloom every year and expand over time.

3.

Watch out for species that may dominate a mix. Biennial lupines (river lupine and sickle-keeled lupine ) should be less than 10% of a mix (by weight).

4.

Grasses can be included if they are less than 15% of the mix (by seeds/ft), and only use less vigorous native bunch grasses like Roemer's fescue and California oatgrass.



# SEEDING RATE

Seeding rate should be high enough to establish a solid stand of your planted species so weeds don't have space to move in. We suggest a sowing rate of approximately 50-60 seeds/ft<sup>2</sup>.

For small amounts of seed, many vendors sell a packet of a given weight and provide a suggested area of coverage, but their rates may be too high or too low. **Use the example calculations below** to determine how much seed you will need to cover the area you intend to plant at a rate of 50-60 seeds/ft<sup>2</sup>.

## Useful conversion factors

1 pound = 16 ounces = 453.6 grams  
1 acre = 43,560 square feet

### Example 1

You want to plant a 1,000-square foot area with a seed mix that has an average of 150,000 seeds per pound.

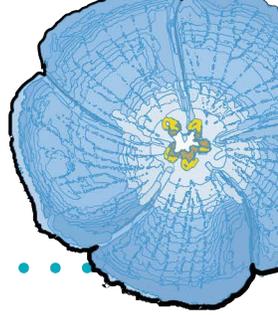
$50 \text{ to } 60 \text{ seeds/ft}^2 \div 150,000 \text{ seeds/lb} \times 1000 \text{ ft}^2 = 0.3 \text{ to } 0.4 \text{ lb}$  (or 151 to 181 g) of seed needed

### Example 2

You buy a 7.5-g seed mix packet that has an average of 160,000 seeds per pound. How much area will it cover?

$7.5 \text{ g} \times 160,000 \text{ seeds/lb} \div 453.6 \text{ g/lb} \div 50 \text{ to } 60 \text{ seeds/ft}^2 \approx 50 \text{ ft}^2$  (or a typical 5- by 10-ft garden bed)

# NATIVE VS. NON-NATIVE



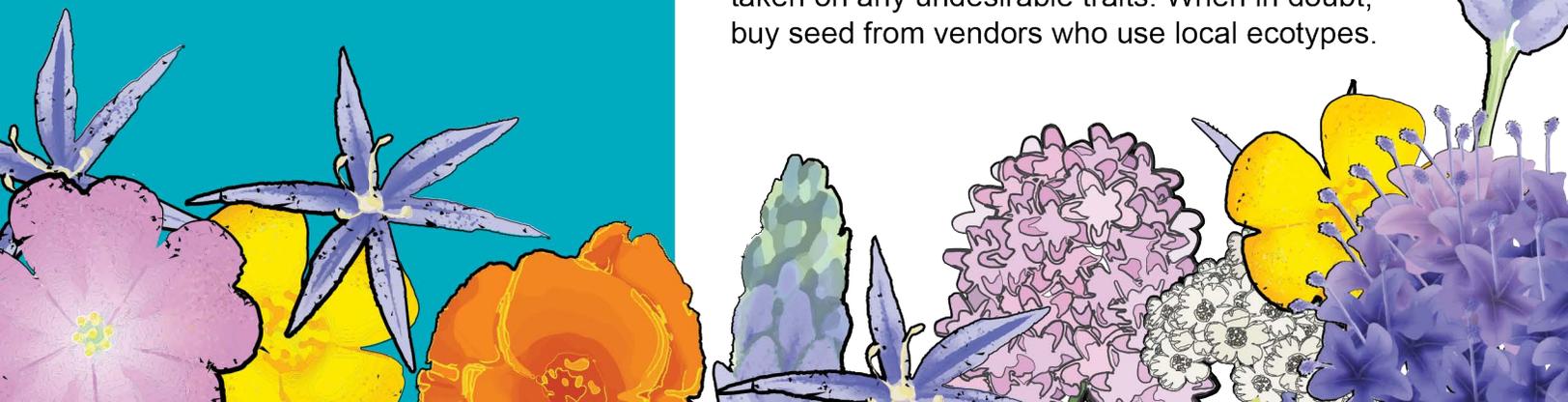
Mixes don't need to be exclusively comprised of species native to western Oregon to provide good habitat for pollinators and beneficial insects. However, native species often establish and persist better over time, particularly perennials.

In general, non-native **annuals** (whether from California or the Midwest) establish and re-seed at about the same rates as western Oregon natives and provide good first-year forage for native pollinators and European honeybees.

Non-native perennials (such as blanketflower, coreopsis, black-eyed Susan, and purple coneflower) often do not establish and persist well from a seed mix, so should generally be avoided or only be included as a minor component of a mix.

Be aware that even though mixes may have names like "Pacific Northwest Native Wildflower Mix," they may primarily include species that are not native to western Oregon. It's important to review the list of species in the mix and check it against the core list of recommended species in the table on page 4.

Some native species in the flower seed trade have been bred or selected to have traits that are undesirable for pollinator mixes. Yarrow can be very aggressive, and Clarkias are sometime bred to have "double" flowers, making it difficult for bees to access. Other species in the flower seed trade, like California poppies, are bigger and brighter than the native ones, but do not seem to have taken on any undesirable traits. When in doubt, buy seed from vendors who use local ecotypes.



# BLOOM Calendar

COLOR INDICATES THE SEASON EACH FLOWER IS IN BLOOM

	YEAR 1			YEAR 2			YEAR 3				
	early	mid	late	early	mid	late	early	mid	late		
 <b>FAREWELL TO SPRING</b> <i>Clarkia amoena</i>		mid			mid					ANNUAL	
 <b>DENSE WILLOWHERB</b> <i>Epilobium densiflorum</i>			late								
 <b>CALIFORNIA POPPY</b> <i>Eschscholzia californica</i>	early	mid	late	early	mid	late					
 <b>GLOBE GILIA</b> <i>Gilia capitata</i>	early										
 <b>SHOWY TARWEED</b> <i>Madia elegans</i>			late			late					
 <b>FIVE SPOT</b> <i>Nemophila maculata</i>	early										
 <b>BABY BLUE EYES</b> <i>Nemophila menziesii</i>	early										
 <b>SEA BLUSH</b> <i>Plectritis congesta</i>	early										
 <b>WESTERN YARROW</b> <i>Achillea millefolium</i>					mid			mid			SHORT-LIVED PERENNIAL
 <b>PUGET SOUND GUMWEED</b> <i>Grindelia integrifolia</i>						late			late		
 <b>RIVERBANK LUPINE</b> <i>Lupinus rivularis</i>				early							
 <b>SELF HEAL</b> <i>Prunella vulgaris</i>					mid			mid			
 <b>WESTERN BUTTERCUP</b> <i>Ranunculus occidentalis</i>				early			early				
 <b>LARGE CAMAS</b> <i>Camassia leichtlinii</i>							early				
 <b>OREGON SUNSHINE</b> <i>Eriophyllum lanatum</i>					mid			mid			
 <b>SLENDER CINQUEFOIL</b> <i>Potentilla gracilis</i>					mid			mid			
 <b>MEADOW CHECKERMALLOW</b> <i>Sidalcea campestris</i>					mid			mid			
 <b>ROSE CHECKERMALLOW</b> <i>Sidalcea virgata</i>				early			early				
 <b>CANADA GOLDENROD</b> <i>Solidago canadensis</i>									late	LONG-LIVED PERENNIAL	
 <b>PACIFIC ASTER</b> <i>Symphyotrichum chilense</i>						late			late		
 <b>HALL'S ASTER</b> <i>Symphyotrichum hallii</i>						late			late		