



Types Pollinators

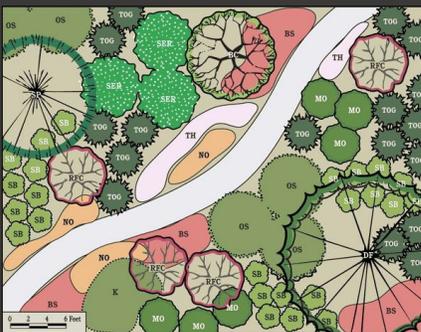


Benefits of Planting Native Plants for Pollinators

- Reduce pesticide use
- Stabilize soil and provide ground cover
- Act as windbreaks and shelter breaks
- Provide wildlife habitat

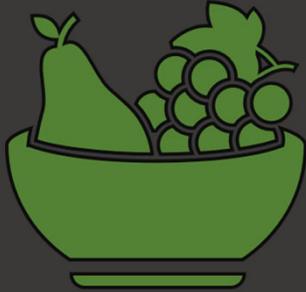
Getting Started

Thoroughly evaluate site before buying plants



- a. type of soil
- b. amount of sunlight
- c. water runoff/availability/drainage

Basic needs for pollinators



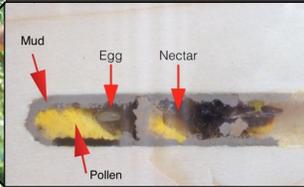
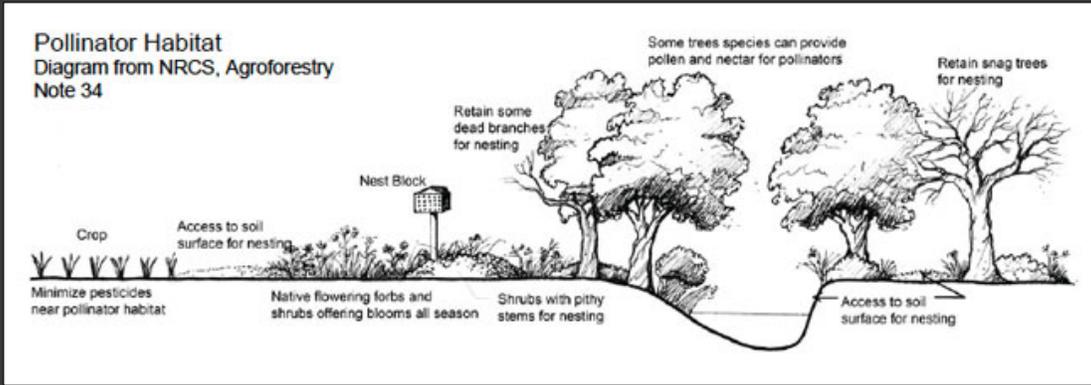
Providing Water



- Most insects can get a lot of water necessary for their diet from the food they eat
- Pollen and nectar are both deficient in water for bees
- Water provides nutrients (leaching from organic materials)



Providing Habitat



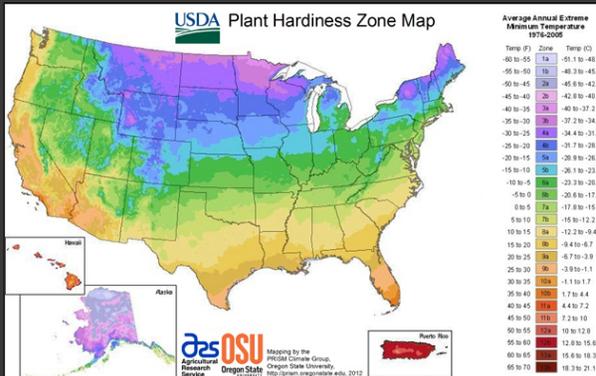


Varied diet through proper nutrition=healthy bees:

- Carbohydrates, proteins, lipids and micronutrients (vitamins and minerals)
 - Nectar
 - Pollen
 - Vitamins and Minerals: atypical foraging

Pollen

- varied diet of different pollen types is very important
- Pollen shortages or poor-quality pollen leads to decline, poor health, decreased worker longevity
- **Almond, canola, clover and vetch are very good pollens



Fun Fact

Plants have evolved differing flowering times that occur throughout the growing season to decrease competition for pollinators and to provide pollinators with a constant supply of food. From the first hints of warmth in late winter through spring and summer, until last call in autumn, flowering plants are available to their pollinators providing pollen and nectar in exchange for the pollination service.

 February: skunk cabbage. Photo by Charles Peirce.	 March-May: white trillium. Photo by Charles Peirce.	 March-May: red columbine. Photo by Larry Stritch.	 March-May: Canadian violet. Photo by Larry Stritch.	 June-August: Michigan lily. Photo by Charles Peirce.
 June-August: black-eyed Susan. Photo by Larry Stritch.	 June-August: blue vervain. Photo by Charles Peirce.	 August-Sept: prairie sunflower. Photo by Larry Stritch.	 August-Sept: blazing star. Photo by Larry Stritch.	 August-Sept: cardinal flower. Photo by Larry Stritch.
 August-Sept: beggars tick. Photo by Charles Peirce.	 Sept-October: late purple aster. Photo by Larry Stritch.	 Sept-October: blue gentian. Photo by Charles Peirce.	 Sept-October: blue goldenrod. Photo by Larry Stritch.	 October-Nov: witch hazel. Photo by Larry Stritch.



GARDEN PLANTS FOR BEES		
Scientific Name	Common Name	Family
Trees		
<i>Malus</i>	Apple	Rosaceae
<i>Pyrus</i>	Pear	Rosaceae
<i>Prunus</i>	Almond, Cherry, Peach, Apricot, Plum	Rosaceae
<i>Diopyros</i>	Persimmon	Ebenaceae
Vines and Herbaceous Plants		
<i>Cucurbita</i>	Zucchini, Squash, Pumpkin, Watermelon	Cucurbitaceae
<i>Cucumis</i>	Cucumber, Honeydew	Cucurbitaceae
<i>Citrullus</i>	Watermelon	Cucurbitaceae
<i>Solanum lycopersicum</i>	Tomato	Solanaceae
<i>Capsicum</i>	Pepper	Solanaceae
<i>Allium</i>	Onion	Amaryllidaceae
<i>Fragaria</i>	Strawberries	Rosaceae
<i>Phaseolus vulgaris</i>	String bean	Fabaceae
<i>Lathyrus odoratus</i>	Sweet pea	Fabaceae
Herb Plants		
<i>Ocimum</i>	Basil	Lamiaceae
<i>Organum</i>	Oregano	Lamiaceae
<i>Thymus</i>	Thyme	Lamiaceae
<i>Rosemarinus</i>	Rosemary	Lamiaceae
<i>Mentha</i>	Mint	Lamiaceae
<i>Allium</i>	Chives	Amaryllidaceae
<i>Anethum</i>	Dill	Apiaceae
Brushes and Shrubs		
<i>Vaccinium</i>	Blueberry	Ericaceae
<i>Rubus</i>	Blackberry, Raspberry	Rosaceae
<i>Sambucus</i>	Elderberry	Adoxaceae



United States Department of Agriculture
Natural Resources Conservation Service
March 2012
NRCSS

Montana Native Plants for Pollinator-Friendly Plantings

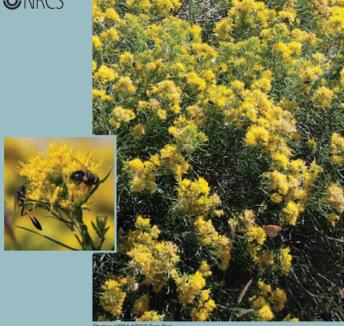


Photo: USDA NRCS Tom Puck

Bloom Period of Common Montana Native Plants

	April	May	June	July	August	Sept	Oct
Shrubs							
American Plum							
Golden Currant							
Chokecherry							
Redosier Dogwood							
Serviceberry							
Common Snowberry							
Blue Elderberry							
Woods Rose							
Rabbitbrush							
Flowers							
Lewis Flax							
Fuzzytongue Penstemon							
Prairie Coneflower							
Wild Beebalm							
Slender White Prairie Clover							
Common Yarrow							
Blanketflower							
Maximilian Sunflower							
Dotted Gayfeather							
Purple Coneflower							
Smooth Blue Aster							



Montana Native Plant Retailers		
Business Name	Location	Notes
Great Bear Native Plants	Hamilton	
Pipilo Native Plants	Missoula	
Windhorse Galler and Gardens	Billings	
Glacier Nursery	Kalispell	Wholesale; some native perennials, shrubs and trees
Center for Native Plants	Whitefish	
The Garden Barn	Bozeman	
Cashman's Nursery	Bozeman	
Westscope Native Nursery	Bozeman	Wholesale
Visser Greenhouses	Bozeman	Wholesale, usually grows some native perennials
Gardenwerks	Helena	
Montana Nursery and Landscape Supply	Helena	(Formerly Windmill Nursery)



- Requirements for a home differ depending on the insect
 - Ground nesting bees vs. twig nesting bees
 - Lepidoptera vs. Coleoptera vs. Diptera
- Greater diversity in landscape will result in a greater diversity of pollinators
 - Mix up flower families, flower colors, and flower shapes
 - Plant flowers that bloom at different times of the year
 - Bees prefer large clusters of flowers
- Avoid using pesticides
 - If pesticides cannot be avoided, try to spray in the evening when pollinators are less active, and humidity is low
 - Choose plants that have not been treated with pesticides
- Select native plants, if possible
 - Cultivars > ornamentals (modified flower shapes and petals)

Resources

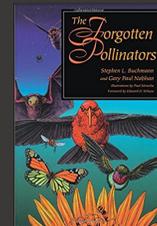
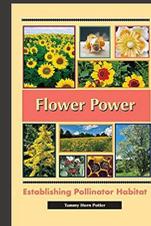
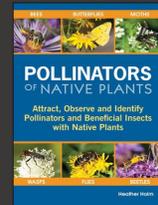
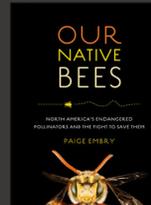
<http://www.pollinator.org/>

<http://www.epa.gov/pollinator-protection>

<http://www.montana.edu/pollinators/>

<http://www.xerces.org/>

<https://www.mtnativeplants.org/>



<http://www.montana.edu/pollinators/>

Resources

Research News & Events People Resources Funding Bee Campus USA

Video 1 - Honey Bee Research at MSU
 Video 2 - Honey Bee Pathogens
 Video 3 - Honey Bee Pathogen Detection
 Pollinator Friendly Plants - MT Native Plants USDA NRCS
 Pollinator Friendly Plants - Pollinator Partnership and NAPPCC
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 Pollinator Friendly Plants - MT Native Plants USDA NRCS
 Pollinator Friendly Plants - Pollinator Partnership and NAPPCC
 Pollinator Friendly Plants - USDA - Utah, Idaho, and Colorado
 Montana Bee Identification Guide
 Montana Department of Agriculture, Apiary Program
 Honey Bee Health Coalition
 Honey Bee Health Coalition - Tools for Varroa Management
 Scientific Beekeeping
 Montana State Beekeepers Association
 Project Apis m.
 Xerces Society
 Bumble Bees of Montana
 Bumble Bees of The Western United States
 Western Integrated Pest Management Center
 Monoguide Bumble bees in Montana
 Insects of the Greater Yellowstone
 Honey Bee Research Center and Pollinator Garden at MSU
 Pollination Podcast with Dr. Andron Melathopoulos OSU

MSU researcher publishes paper on bee disorder
 October 3, 2019

MSU student wins fellowship for honey bee research
 July 24, 2019

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MSU recognized for commitment to pollinators
 January 30, 2019

MSU to host August pollinator symposium
 July 11, 2018

MSU celebrates national pollinator week
 June 22, 2018

