



Pollinator Friendly Trees and Shrubs

Honey bees and native bees pollinate an estimated \$16 billion worth of crops annually, including more than 70% of our fruits and vegetables. One out of every three bites of food in the United States is benefited by honey bees and other pollinators. Since 2006, approximately 30 percent of all U.S. honey bee colonies die every winter due to disease, parasites, lack of plant diversity, pesticides and reduced pollinator habitat. Honey bee colony numbers are not declining because beekeepers are able to divide surviving colonies to make up losses, but honey bees are experiencing health challenges that impact the economics of pollination services. Some native bees, butterflies and other insects, also are suffering significant declines in recent years. Native bees in particular are very beneficial pollinators of fruits, vegetables and wildflowers.

Marla Spivak, University of Minnesota Bee Lab MacArthur Fellow and Distinguished McKnight Professor in Entomology, tells landowners: "Plant flowers, and keep those flowers free of pesticide contamination. Flowers provide all bees with critical nutrition—protein from pollen and carbohydrates from nectar." Flowering plants like wildflowers, and cover crops like buckwheat, mustard, clover and sunflowers provide high value food for pollinators. Plantings of flowering trees and shrubs support a diversity of pollinators that are needed to pollinate flowers in the environment. In turn, flowering trees and shrubs offer important early and mid-season flowering food sources to pollinators.

We can improve our bee friendly habitat for all bees and pollinators by planting a wide range of diverse flowering plants including trees and shrubs.

FINANCIAL ASSISTANCE PROGRAMS

There are many pollinator incentive programs that assist landowners in establishing pollinator plantings. Landowners should contact federal, state and local agencies or organizations to verify cost-share programs for flowering trees and shrubs. The USDA Conservation Reserve Program (CRP), continuous sign up offers cost-share, annual payments and incentive payments. Contact your county Farm Service Agency (FSA) office for more details. The Environmental Quality Incentives Program (EQIP) has programs through the Natural Resources Conservation Service (NRCS). Local sources of funding include Soil and Water Conservation Districts (SWCD), watershed and conservation organizations.

Minnesota Board of Water and Soil Resources – Pollinator Tool Box (funding opportunities)

www.bwsr.state.mn.us/practices/pollinator/pollinator-toolbox.pdf

References and Web Links:

University of Minnesota Bee Lab: www.beelab.umn.edu/

UM Bee Lab – Honey Bees: www.extension.umn.edu/garden/honey-bees/

Xerces Society: www.xerces.org/

National Agroforestry Center – Pollinators: <http://nac.unl.edu/issues/pollinators.htm>

North American Pollinator Protection Campaign: www.pollinator.org

Farm Bill Conservation Programs for Pollinator Conservation: <http://1.usa.gov/1QceeZk>

(Book) Holm, Heather, *Pollinators of Native Plants*, Pollination Press LLC, Minnetonka, MN. 2014

University of Minnesota Monarch Lab: www.monarchlab.org

TREES AND SHRUBS FOR POLLINATOR

Common Name	Scientific Name	MN Native	Edible	Zone	Bloom Time	Height	Width
Use Gathering and Growing Edible Fruits and Nuts and add these Trees and Shrubs http://z.umn.edu/umfruit							
Apple	<i>Malus</i> spp.		X	3-10	Spring	30'	20'
Basswood, Linden	<i>Tilia americana</i>	X		3-8	Early to Mid -Summer	80'	40'
Basswood, Little Leaf	<i>Tilia cordata</i>			3-7	Early to Mid -Summer	60'	25'
Catalpa	<i>Catalpa</i> spp.			4-8	Late Spring	80'	30'
Crabapple (many - Plant scab -resistant)	<i>Malus</i> spp.			3-8	Early to mid Spring	30'	20'
Dogwood (many)	<i>Cornus</i> ssp.			2-7	Late Spring to Early Sum	15'	10'
Elm (some DED resistant)	<i>Ulmus americana</i>	X		4-9	Early Spring	60'	35'
Hackberry, Common	<i>Celtis occidentalis</i>	X		3-9	Spring	70'	50'
Hawthorn	<i>Crataegus</i> spp.	X		4-8	Mid to late Spring	30'	25'
Honey Locust	<i>Gleditsia triacanthos</i>			4-9	Late Spring to Early Sum	80'	40'
Honeysuckle (northern bush)	<i>Diervilla lonicera</i>	X		3-7	Early Summer	4'	2'
Leadplant, false indigo	<i>Amorpha</i> spp.	X		4-9	Mid Summer	10'	10'
Lilac (Common Purple)	<i>Syringa vulgaris</i>			3-7	Late Spring	15'	10'
Magnolia (star)	<i>Magnolia stellata</i>			4-9	Early Spring	20'	10'
Maple (boxelder, red, silver, sugar)	<i>Acer</i> spp.	X		4-8	Early to mid Spring	60' - 100'	40'
Mock Orange	<i>Philadelphus coronarius</i>			4-8	Early Summer	12'	10'
Mulberry (red)	<i>Morus rubra</i>	X	X	5-10	Late Spring	60'	30'
Ninebark (Common)	<i>Physocarpus opulifolius</i>	X		2-7	Late Spring to Early Sum	10'	10'
Oak (many)	<i>Quercus</i> spp.	X		3-9	Mid Spring	100'	50'
Poplar, Tulip	<i>Liriodendron tulipifera</i>			4-9	Late Spring to Early Sum	100'	40'
Privet	<i>Lignstrum</i> spp.			4-8	Late Spring	12'	6'
Red Bud	<i>Cercis canadensis</i>			4-9	Early Spring	30'	25'
Rhododendron, Azalea	<i>Rhododendron</i> spp.			4-8	Mid Spring	4'	2'
Snowberry, Common	<i>Symphoricarpos albus</i>	X		2-7	Early Summer	6'	3'
Spirea, (Anthony Waterer)	<i>Spiraea bumalda</i>			4-9	Early Summer	3'	3'
Sumac, Skunkbrush	<i>Rhus trilobata</i>			4-8	Late Spring	8'	12'
Sumac, Smooth	<i>Rhus glabra</i>	X		4-8	Mid to Late Summer	10'	15'
Sumac, Staghorn	<i>Rhus typhina</i>	X		4-8	Mid Summer	25'	20'
Thimbleberry	<i>Rubus parviflorus</i>	X	X	4-9	Early Spring	6'	10'
Viburnum, (Common, Arrowwood)	<i>Viburnum</i> spp.	X		3-8	Early Fall	15'	15'
Weigela	<i>Weigela</i> spp.			5-9	Late Spring	10'	10'
Wild Cherry (black, fire, more)	<i>Prunus</i> spp.	X		3-8	Late Spring	100'	40'
Willow, (Shrub - many)	<i>Salix</i> spp.	X		3-8	Very Early Spring	30'	15'