


Pollen source

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The term *pollen source* is often used in the context of [beekeeping](#) and refers to flowering plants as a source of [pollen](#) for bees or other insects. Bees collect pollen as a protein source to raise their brood. For the plant, the [pollinizer](#), this can be an important mechanism for [sexual reproduction](#), as the [pollinator](#) distributes its pollen. Few flowering plants [self pollinate](#); some can provide their own pollen (self fertile), but require a pollinator to move the pollen; others are dependent on [cross pollination](#) from a genetically different source of viable pollen, through the activity of pollinators. One of the possible pollinators to assist in cross-pollination are honeybees. The article below is mainly about the pollen source from a beekeeping perspective.

The pollen source in a given area depends on the type of [vegetation](#) present and the length of their bloom period. What type of vegetation will grow in an area depends on soil texture, soil pH, soil drainage, daily maximum and minimum temperatures, precipitation, extreme minimum winter temperature, and [growing degree days](#). The plants listed below are plants that would grow in [USDA Hardiness zone](#) [5](#). A good predictor for when a plant will bloom and produce [pollen](#) is a calculation of the growing degree days.

The color of pollen below indicates the color as it appears when the pollen arrives at the beehive. Bees mix dry pollen with [nectar](#) and/or [honey](#) to compact the pollen in the [pollen basket](#). Dry pollen, is a food source for bees, which contains 16 - 30% protein, 1 - 10% fat, 1 - 7% starch, many vitamins, but little sugar. The protein source needed for rearing one worker bee from larval to adult stage requires approximately 120 to 145 mg of pollen. An average bee colony will collect about 20 to 57 kg (44 to 125 pounds) of pollen a year.

Source: [THE R-VALUES OF HONEY: POLLEN COEFFICIENT](#)  accessed Feb 2005



Bee collecting pollen 



Bee on plum tree with pollen 

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Spring

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Trees and shrubs - Spring

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Common name	Latin name	Blooming months	Pollen color	Availability	Source for honeybees
Maple	<i>Acer</i> spp.	Feb - Apr	light yellow	feral	fair
Manitoba Maple (Box elder)	<i>Acer negundo</i>	Feb - Apr	light olive	feral	good
Norway maple	<i>Acer platanoides</i>	Apr - May	yellow green, olive	feral	fair
Red Maple	<i>Acer rubrum</i>	Mar - Apr	grey brown	feral	
Grey Alder	<i>Alnus incana</i>	Feb - Apr	brownish yellow	feral	
American Chestnut	<i>Castanea dentata</i>	May - Jun		mostly ornamental	
Sweet Chestnut	<i>Castanea sativa</i>	May		feral	good
Common Hackberry	<i>Celtis occidentalis</i>	Apr - May		feral	
Flowering Quince	<i>Chaenomeles japonica</i> , <i>Chaenomeles lagenaria</i> , <i>Chaenomeles speciosa</i> 'Nivalis', <i>Chaenomeles x superba</i>	Apr - May		feral	good
American Hazel	<i>Corylus americana</i>	Mar - Apr	light green	feral and ornamental	fair/good
Hawthorn	<i>Crataegus</i> spp.	Apr - May	yellow brown	feral	fair
White Ash	<i>Fraxinus americana</i>	Apr - May			
Honey Locust	<i>Gleditsia triacanthos</i>	May - Jun		feral	
American holly	<i>Ilex opaca</i>	Apr - Jun		feral	
Walnut	<i>Juglans</i> spp.	Apr - May		cultivated	fair
Tulip-tree	<i>Liriodendron tulipifera</i>	May - Jun		feral and ornamental	good
Crab Apple	<i>Malus</i> spp.	Mar - Jun	light olive	ornamental	
Apple	<i>Malus domestica</i> , <i>Malus sylvestris</i>	Apr - May	yellow white	cultivated and ornamental	very good
American Sycamore	<i>Platanus occidentalis</i>	Apr - May	light olive	feral	
Plum	<i>Prunus</i> spp.	Apr - May	light grey, grey	ornamental and cultivated	
			light brown to brown		

Almond	<i>Prunus amygdalus</i>	Feb	pollen - not considered a good pollen source but bees are the primary pollinator	cultivated mostly in California	fair
Wild Cherry	<i>Prunus avium</i>	Apr - May	yellow brown, light brown	feral	very good
Cherry Plum	<i>Prunus cerasifera</i>		light brown to brown	feral	fair
Sour Cherry	<i>Prunus cerasus</i>	Apr - May	dark yellow	ornamental and cultivated	very good
Peach	<i>Prunus persica</i>	Apr - May	reddish yellow	ornamental and cultivated	good
Black Cherry	<i>Prunus serotina</i>	Apr - May		feral	minor
Blackthorn	<i>Prunus spinosa</i>			feral	good
Pear	<i>Pyrus communis</i>	Apr - May	red yellow	ornamental and cultivated	good
Oak	<i>Quercus</i> spp.	May		feral	
Oak	<i>Quercus robur</i> , <i>Quercus pedunculata</i>	May	light olive	feral	minor
Black Locust	<i>Robinia pseudoacacia</i>	May - Jun		feral	
Blackberry	<i>Rubus</i> spp.	May - Jun	light grey	feral and cultivated	
Raspberry	<i>Rubus idaeus</i>	May - Jun		feral and cultivated	good
Willow	<i>Salix</i> spp.	Feb - Apr	lemon	feral	good
White Willow	<i>Salix alba</i>			feral	good
Goat Willow	<i>Salix caprea</i>	Mar - Apr		feral	very good
Violet Willow	<i>Salix daphnoides</i>	Mar - Apr		feral	very good
Pussy Willow	<i>Salix discolor</i>	Mar - Apr		feral and ornamental	
Basket Willow	<i>Salix purpurea</i>	Mar - Apr		feral	very good
Silky leaf osier, Smith's Willow	<i>Salix x smithiana</i>	Apr - May			very good
American mountain ash	<i>Sorbus americana</i>	May-Jun		feral	

American Elm	<i>Ulmus americana</i>	Feb - Apr	light grey	feral	
Winged Elm	<i>Ulmus alata</i>	Feb - Mar	pale yellow	feral	good
Europea field elm	<i>Ulmus americana</i>			feral	good

Pictures

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Flying [honeybee](#) with red pollen in [pollen basket](#) likely on [henbit](#)



Honeybees in May with red (likely [Chestnut](#)) pollen in [pollen basket](#)



Bees in April with blue [Siberian squill](#) pollen in [pollen basket](#)



Dandelion pollen

Flowers and annual crop plants - Spring

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Common name	Latin name	Blooming months	Pollen color	Availability	Source for honeybees
Ajuga (Bronze Bugle, Common Bugle)	<i>Ajuga reptans</i>	mid spring			
Chives	<i>Allium schoenoprasum</i>	May - Sep		cultivated?	
Asparagus	<i>Asparagus officinalis</i>	May - Jun	bright orange	cultivated	
Mustard	<i>Brassica arvensis</i>	Apr - May	lemon	cultivated and feral	
Canola	<i>Brassica napus</i>	May - Jun	lemon	extensively cultivated	very good
Yellow Crocus	<i>Crocus vernus</i> (syn. <i>Crocus aureus</i>)	April	orange yellow	feral and ornamental	fair
Leopard's Bane	<i>Doronicum cordatum</i>	Apr - May			
Winter aconite	<i>Eranthis hyemalis</i>	Mar - Apr	yellow	feral and ornamental	good
Snowdrop	<i>Galanthus nivalis</i>	Mar - Apr	orange, red		fair
Henbit	<i>Lamium amplexicaule</i>	April	orange red, red, purplish red	Apr - Jul	poor
White Sweet Clover	<i>Melilotus alba</i>	May - Aug	yellow to dark yellow	feral and cultivated	good
Yellow Sweet			yellow to dark	feral and	

Clover	<i>Melilotus officinalis</i>	May - Aug	yellow	cultivated	
Sainfoin	<i>Onobrychis viciifolia</i>	May - Jul	yellow brown		very good
Raspberry	<i>Rubus idaeus</i>	May - Jul	white grey	feral and cultivated	good
Siberian squill	<i>Scilla sibirica</i>	Mar - Apr	steel blue	feral and ornamental	good
White mustard	<i>Sinapis alba</i>	June	lemon	feral and cultivated	good
Chick weed ✚	<i>Stellaria media</i>	Apr - Jul	yellowish	feral	minor
Dandelion	<i>Taraxacum officinale</i>	Apr - May	red yellow, orange	feral	very good

Summer

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Trees and shrubs - Summer

[\[edit\]](#)

Common name ✚	Latin name ✚	Blooming months ✚	Pollen color ✚	Availability ✚	Source for honeybees ✚
Horse chestnut	<i>Aesculus hippocastanum</i>	May - Jun after 80-110 growing degree days.	red	feral	good
Southern Catalpa	<i>Catalpa bignonioides</i>	Jun - Jul		ornamental	fair
Northern Catalpa	<i>Catalpa speciosa</i>	Jun - Jul		ornamental	
Bluebeard	<i>Caryopteris x clandonensis</i> 'Heavenly Blue'	Aug - Sep			very good
Virginia creeper	<i>Parthenocissus quinquefolia</i>	Jul - Aug			good
Boston Ivy 'Veitchii'	<i>Parthenocissus tricuspidata</i> 'Veitchii'	Jun - Jul			good
Sumac	<i>Rhus glabra</i>	Jun - Jul			
Elder	<i>Sambucus canadensis</i>	Jun - Jul			
Basswood or American Linden	<i>Tilia americana</i>	Jun - Jul	yellow to light orange	feral and ornamental	
Blueberry	<i>Vaccinium myrtillus</i>	Jun	red yellow, orange	cultivated	poor

Flowers and annual crop plants - Summer

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		Blooming	Pollen	Availability	Source for
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Common name 	Latin name 	months 	color 		honeybees 
Allium	<i>Allium</i> spp.			feral and cultivated	
Onion	<i>Allium cepa</i>		light olive	cultivated	
Chives	<i>Allium schoenoprasum</i>	May - Sep		feral and cultivated	
Garlic chives	<i>Allium tuberosa</i>	Aug - Sep		feral and cultivated	
Leadwort syn. Indigobush 	<i>Amorpha fruticosa</i>	Jun - Jul		ornamental?	
Aster	<i>Aster</i> spp.	Sep-Frost	reddish yellow	feral and ornamental	
Land-in-blue 	<i>Aster x dumosus</i>	Aug - Sep		feral	
Borage	<i>Borago officinalis</i>	Jun - Frost		ornamental	
Marigold	<i>Calendula officinalis</i>	Jun - Sep			
Heather	<i>Calluna vulgaris</i>	Jul - Aug			good
Hemp	<i>Cannabis sativa</i>	Aug	yellow green		good source
Blue Thistle	<i>Carduus</i> spp.				
Star thistle	<i>Centaurea</i> spp.	Jul - Sep			
Knapweed	<i>Centaurea macrocephala</i>	Jul - Aug			good
Knapweed	<i>Centaurea nigra</i>		very light olive		
Chicory	<i>Cichorium intybus</i> L.		white		
Cotoneaster	<i>Cotoneaster</i> spp.				good
Cucumber	<i>Cucumis</i> spp.		pale yellow	cultivated	
Melons	<i>Cucumis melo</i>	Jun-Frost	pale yellow	cultivated	
Pumpkin	<i>Cucurbita pepo</i>	Jun-Frost	bright yellow	cultivated	
Fireweed	<i>Epilobium angustifolium</i>	Jul - Aug	blue	feral	
Joe-Pye weed	<i>Eutrochium</i> spp.	Aug - Sep			
Buckwheat	<i>Fagopyrum esculentum</i>	Jul - Aug	light yellow to light green	cultivated	good source
Blue vine 	<i>Gonolobus laevis</i> syn. <i>Cynanchum laeve</i>				
Sunflower	<i>Helianthus annuus</i>	Jun - Sep	golden	feral and cultivated	
Jewelweed	<i>Impatiens capensis</i>		yellowish white		
Alyssum 	<i>Lobularia maritima</i>	Jun - Sep			

Mallow	<i>Malva alcea</i>	Jun - Sep			
Alfalfa	<i>Medicago sativa</i>	July - Aug	greyish yellow	feral and cultivated	
Clover	<i>Melilotus</i> spp. and <i>Trifolium</i> spp.	May - Aug		feral and cultivated	
White Sweet Clover	<i>Melilotus alba</i>			feral and cultivated	
Yellow Sweet Clover	<i>Melilotus officinalis</i>			feral and cultivated	
Basil	<i>Ocimum basilicum</i>			ornamental	
Poppy	<i>Papaver somniferum</i>	May - Jun	grey	feral and ornamental	very good source
Smartweed ↗	<i>Polygonum</i> spp.	Aug - Sep			
Chickweed ↗	<i>Stellaria media</i>	Apr - Jul			minor source
Germander ↗	<i>Teucrium chamaedrys</i>	Jul - Aug			
Alsike Clover	<i>Trifolium hybridum</i>		yellow brown		good source
Crimson Clover	<i>Trifolium incarnatum</i>		dark brown		
White Clover	<i>Trifolium repens</i>	Jun - Jul	yellow brown		good source
Cat-tail	<i>Typha latifolia</i>	Jun - Jul			
Common vetch [<i>verification needed</i>]	<i>Vicia cracca</i>	Jul - Aug			
Spring Vetch [<i>verification needed</i>]	<i>Vicia sativa</i>	Jul - Aug			
Sweet Corn	<i>Zea mays</i>	Jun - Jul	yellowish white	cultivated	

Fall

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Trees and shrubs - Fall

[\[edit\]](#)

Common name ↗	Latin name ↗	Blooming months ↗	Pollen color ↗	Availability ↗	Source for honeybees ↗
Chinese Elm , Lacebark Elm	<i>Ulmus parvifolia</i>	Aug - Sep		ornamental	good

Flowers and annual crop plants - Fall

[\[edit\]](#)

Common name ↗	Latin name ↗	Blooming months ↗	Pollen color ↗	Availability ↗	Source for honeybees ↗
Aster	<i>Aster</i> spp.	Sep-Frost	reddish yellow		
Borage	<i>Borago</i>	Jun - Frost			

	<i>officinalis</i>				
Melons	<i>Cucumis melo</i>	Jun-Frost		cultivated	
Sweet autumn clematis 	<i>Clematis ternifolia</i>	late Sept	white	ornamental	
Pumpkin	<i>Cucurbita pepo</i>	Jun-Frost	bright yellow	cultivated	
Ivy	<i>Hedera</i> spp.	Sep - Oct	dull yellow or black?	ornamental (not native to America)	
Goldenrod	<i>Solidago</i> spp.	Sep - Oct	golden	feral	

Source: Bienenweide Arbeitsblatt 207, Bieneninstitut Kirchhain, 2001

See also

[edit]

- [Nectar source](#)
- [Forage \(honeybee\)](#)
- [List of honey plants](#)

External links

[edit]

- [Some Ohio Nectar and Pollen Producing Plants](#) [Ohio State University](#) Extension Fact Sheet, 2000, Dr. James Tew
- [Honey Plants Flowering Plants/Trees](#) Dana Stahlman, 2004
- The pollen loads of the honeybee, Dorothy Hodges, Bee Research Association Limited, London, 1952
- [Bienenährpflanzen 1 : Gehölze](#) Nov 1999, Thomas Lamp; accessed 05/2005

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