

## Trees and Bees

### **Trees can provide large quantities of nectar and pollen to pollinators across the seasons.**

#### **Why do bees need nectar and pollen?**

Nectar provides an important energy source while pollen gives vital protein and fats.

#### **There are many types of bees.**

**Bumblebees** use pollen and nectar but do not make honey. They harvest nectar (carbohydrates) and pollen (protein) from flowering plants. **Bumblebees** are social insects that live in colonies. Queen bumblebees will very quickly seek nectar when they emerge early in the year – usually it will still be cold, and the bumblebee queen will need to boost her energy resources very quickly. She will seek out quality pollen from pussy willows, winter flower bulbs and other good bee plants.

**Solitary bees** provision each separate egg cell essentially with a nectar and pollen mixture, which the developing larvae will consume as they grow.

**Honey bees** need nectar and pollen for much the same reason as bumblebees and solitary bees.

Honeybees begin their year on those first warm spring days, seeking the pollen of wind pollinated trees such as, Willow, Elm, and Red Maple. This pollen flow is the rich food that initiates brood production by the queen. Pollen is crucial for honey bee brood development, and is made into bee bread.

Nectar is collected and turned into honey. An adult bee's diet is primarily made up of honey, nectar and pollen.

Pollen is collected as a protein source to raise their brood.

Late summer and fall sources of pollen are important to a healthy hive. Any hive that fails to store extra pollen during the Fall is at risk.

## Trees For Bees

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Species	Bloom Period	Provenance		Nectar	Pollen
Acer rubrum	ESP	native		x	x
Alnus spp.	ESP	varies			x
Cornus mas	ESP	non		x	x
Corylus americana	ESP	native			x
Salix spp.	ESP	varies		x	x
Amelanchier spp.	ESP-SP	native		x	x
Magnolia spp.	ESP-SP	varies			x
Prunus spp.	ESP-SP	varies		x	x
Aesculus x carnea	SP	non		x	x
Aesculus glabra	SP	native		x	x
Betula spp.	SP	native			x
Carya spp.	SP	native			x
Celtis occidentalis	SP	native		x	x
Cercis canadensis	SP	native		x	x
Crataegus spp.	SP	native		x	x
Gleditsia triacanthos	SP	native		x	x
Ilex opaca	SP	native		x	x
Malus spp.	SP	varies			x
Nyssa sylvatica	SP	native		x	x
Populus spp.	SP	variable			x
Prunus serotina	SP	native		x	x
Quercus spp.	SP	varies			x
Sassafras albidum	SP	native		x	x
Ulmus americana	SP	native			x
Catalpa speciosa	SP-ESU	native		x	x
Aesculus parviflora	ESU	native		x	x
Liriodendron tulipifera	ESU	native		x	x
Cladrastis kentukea	ESU	native		x	
Ptelea trifoliata	ESU	native		x	
Robinia pseudoacacia	ESU	native		x	x
Castanea mollissima	SU	non		x	x
Diospyros virginiana	SU	native		x	
Koelreutaria paniculata	SU	non		x	
Maackia amurensis	SU	non		x	x
Tilia spp.	SU	varies		x	x
Aralia spinosa	LSU	native		x	
Evodia daniellii	LSU	non		x	x
Heptacodium miconioides	LSU	non		x	x
Oxydendron arboreum	LSU	native		x	
Sophora japonica	LSU	non		x	
Ulmus parvifolia	LSU	non			x
<b>ESP Early Spring</b>	<b>SP Spring</b>	<b>SU Summer</b>			
<b>ESU Early Summer</b>	<b>LSU Late Summer</b>	<b>F Fall</b>			