NORTHWEST ARKANSAS
BEEKEEPERS
ASSOCIATION

WELCOME

NORTHWEST ARKANSAS BEEKEEPERS ASSOCIATION

Tonight's Agenda

- **Welcome**
- **Door Prizes**
- **Announcements**
  - NWABA at the Fair
  - NA Honey Bee Expo
  - October Picnic
- **What's Feeding Our Bees –** Roy Pearson
- **Featured Presentation –** James Raheem
  - Natural Mite Mitigation
  - Trapping Bees
  - Upcoming Conference

- **Q & A**

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Washington County Fair
FAYETTEVILLE, ARKANSAS

Big Thanks to all the
Volunteers !!!

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The Fair just started. Of course it’s raining !!!

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Thanks to our Storm Troopers !!!

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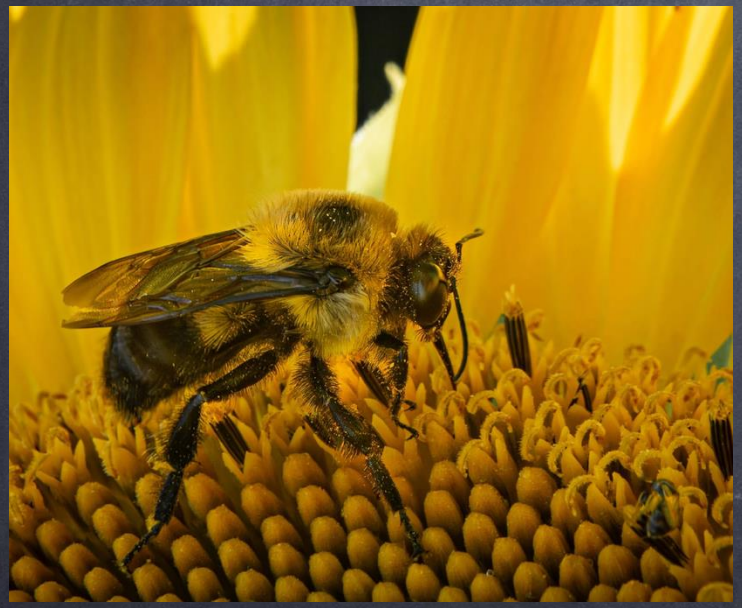
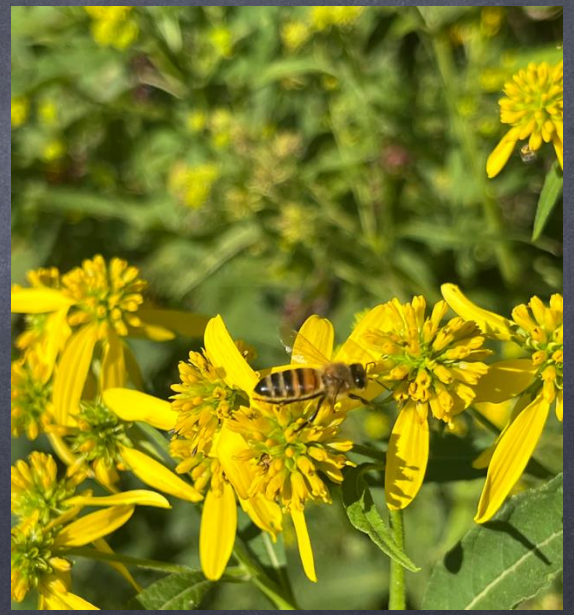
What feeding the bees?

Roy Pearson

Board Member
NWA Beekeepers Association

September
What are our bees foraging





http://www.uaex.edu/...ranch/special-programs/beekeeping/honey-plants.aspx

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Honey Bee-Friendly Plants and Flowers

Beekeepers often ask, "What can I plant for my bees?" Unfortunately the answer is "Not enough!"

- Honey bees are generalist feeders, and will visit most any type of flower that rewards them with nectar and/or pollen.
- A single bee colony may forage as far as ***3 miles away from its hive for food***, giving a colony a potential territory of more than 28 square miles, or a little over 18,000 acres.
- Because honey bees cover such a vast area in search of food, it is rarely economical trying to plant an area to improve one's honey flow unless the beekeeper is also growing a commercial crop.
- Many wild and cultivated plants are extremely attractive to honey bees.
- Bees will scout the territory around their hives and report back to their nest mates where the best floral sources can be found.

Recent research shows what plants honey bees prefer in Arkansas

Using special devices to collect pollen directly from foraging honey bees returning to their hives, Arkansas researchers were able to tell exactly what plants these bees were visiting on different dates throughout a whole season, as well as determine what pesticide residues may be present in bee pollen diets. Two locations were sampled. One apiary was located in the middle of agricultural production in Lonoke County, while the other was located near an urban area in Pulaski County.

Figures 2 and 3 of the published study on pollen collection show which plants were

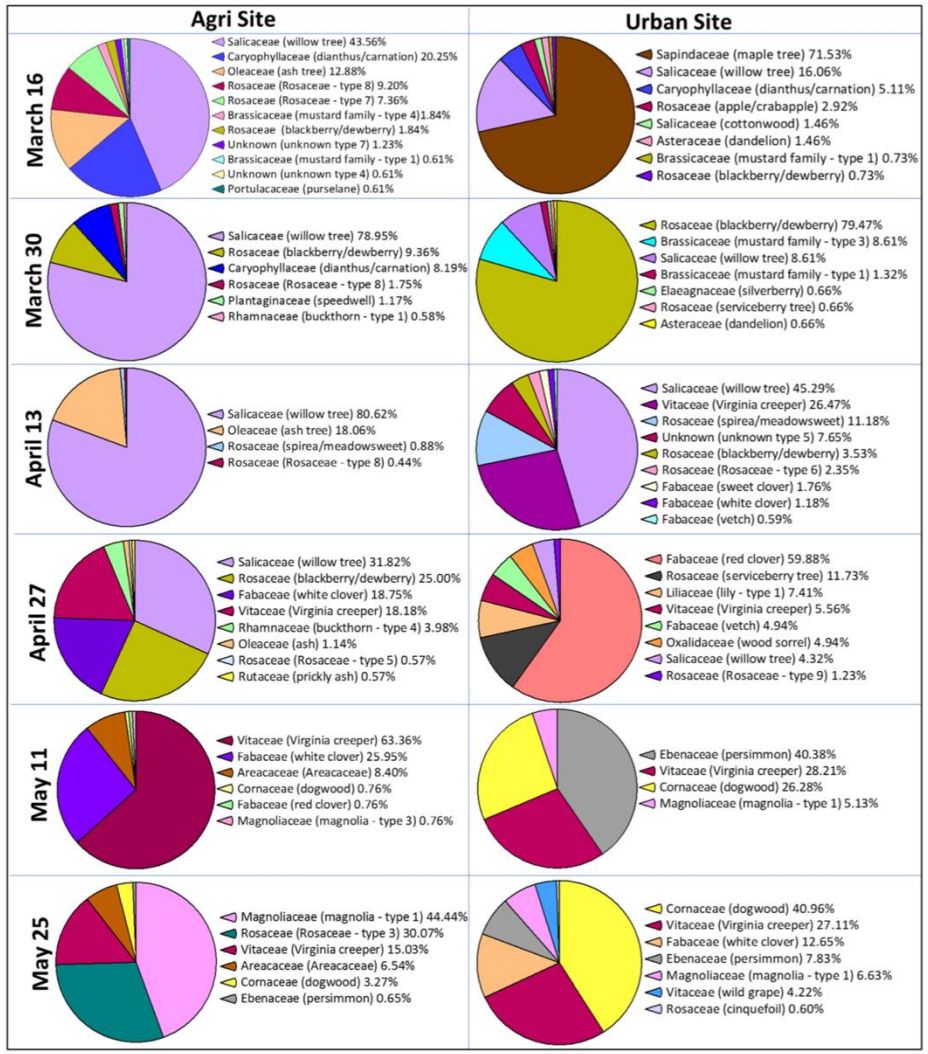

Fig 2. Relative proportion of plant taxa in pollen samples from two apiaries on dates indicated. Agri site was located in Lonoke County, AR; Urban site was located in Pulaski County, AR.

Zawislak, Jon, Gus Lorenz, John Adamczyk, Robert Wiedenmann, and Neelendra K. Joshi. "Proportion of commodity crop pollens and pesticide contamination in honey bee diets in two different landscapes." Environmental Advances 5 (2021): 100116.

https://doi.org/10.1016/j.envadv.2021.100116

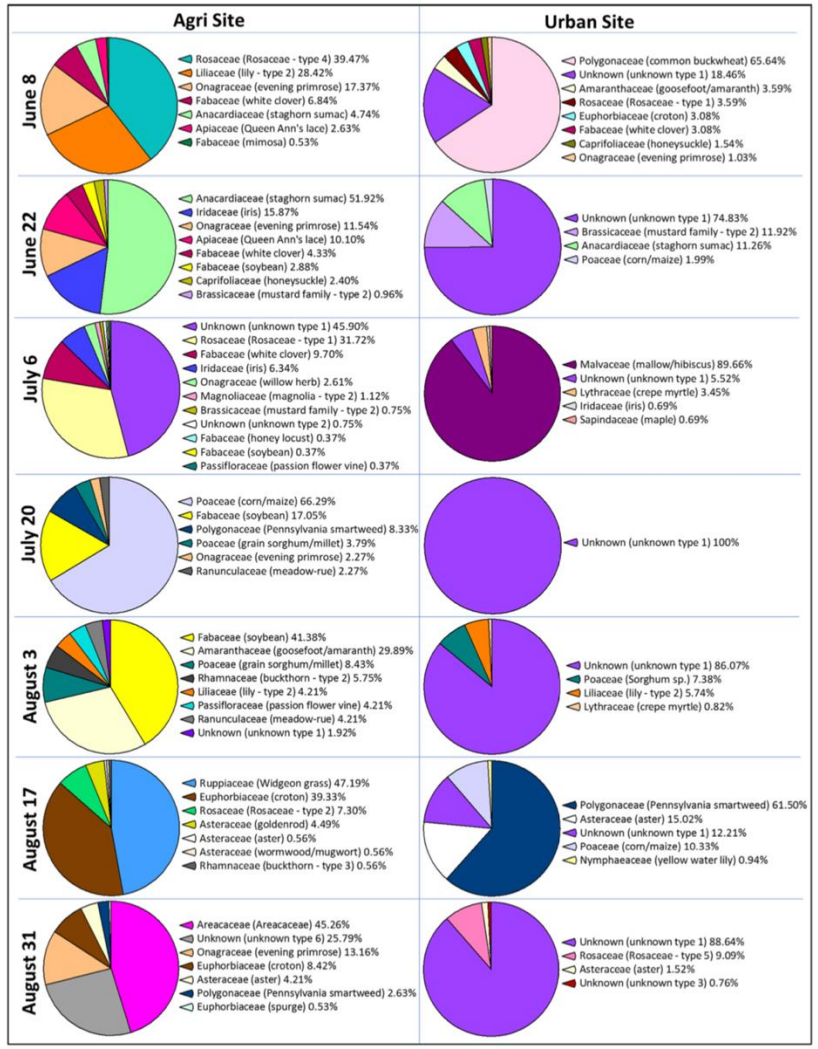

Fig 3. Relative proportion of plant taxa in pollen samples from two apiaries on dates indicated. Agri site was located in Lonoke County, AR; Urban site was located in Pulaski County, AR.

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Scroll down to
Planting to Attract
Pollinators

Click on
Ozark Highland Plateau
Or
Boston Mountain

Select Plants for
Pollinators
Go to Bloom Periods

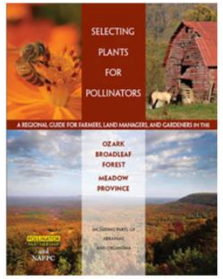
Planting to Attract Pollinators

No one plant provides all the nutrients honey bees require. Bee colonies are healthiest when they have a variety of flowering plants from which to collect their food. Even when placed near a large monoculture crop, honey bees will actively seek wildflowers to make up for nutritional protein deficiencies found in a single crop pollen. Beekeepers, conservationists, farmers and other landowners are encouraged to maintain property with flowering plants that will support and benefit many species. Doing so will encourage honey bees, native bees and butterflies, birds, and other wildlife, and maintain an overall healthier landscape For beekeepers, encouraging a diversity of flowering plants also enhances the complex flavor of varietal honeys, and can give the honey from each apiary a unique flavor, color and aroma at different times fo the season. This practice also can also help maintain an environment with more plants in bloom for bees throughout the season.

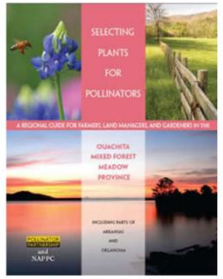
Arkansas has numerous distinct **ecoregions**, with varying geology and soil conditions, altitudes and micro-climates. All of these factors affect which species of plants and animals naturally occur and thrive. Beekeepers can consult multiple references when considering what plants to add and encourage in their landscape, but should use caution to avoid introducing or spreading invasive plant species that can have significant negative effects on native plants and animals.

The Pollinator Partnership has region-specific planting guides to attract bees and other pollinators. View or download one of the guides below, based on your location.

Ozark Highlands Plateau



Boston Mountains



Ouachita Mountains

BLOOM PERIODS
FOR THE EASTERN BROADLEAF FOREST, CONTINENTAL PROVINCE

The following chart lists plants and the time they are in bloom throughout the growing seasons. Choose a variety of flower colors and make sure something is blooming at all times! Note for all charts: When more than one species of the same genus is useful, the genus name is followed by "spp."

Botanical Name	Common Name	March	April	May	June	July	Aug	Sept	Oct
Trees & Shrubs									
Acer spp.	Maples	red, greenish yellow	red, greenish yellow						
Amelanchier spp.	service berry	white	white						
Aronia melanocarpa	black chokeberry			white	white				
Catalpa speciosa	northern catalpa			white	white	white			
Cercis canadensis	eastern redbud		pink to lavender	pink to lavender					
Cornus spp.	dogwood			white	white	white			
Lindera benzoin	spicebush	yellow green	yellow green	yellow green					
Physocarpus opulifolius	eastern ninebark			white	white	white			
Prunus pensylvanica	black cherry			white	white				
Rhus spp.	sumacs			yellow green	yellow green	yellow green	yellow green	yellow green	
Salix spp.	willows	yellow green	yellow green	yellow green	yellow green				
Sambucus spp.	elderberry			white	white	white			
Sassafras albidum	sassafras	yellow green	yellow green	yellow green	yellow green				
Tilia americana	basswood		yellow white	yellow white	yellow white				
Vaccinium spp.	blueberry		white to pink	white to pink	white to pink	white to pink			
Viburnum spp.	viburnum		white	white	white	white			
Perennial Flowers									
Aquilegia canadensis	red columbine		red with yellow	red with yellow	red with yellow				
Erigeron spp.	daisy fleabanes			white, yellow	white, yellow	white, yellow	white, yellow	white, yellow	
Erythronium americanum	trout lily		yellow	yellow	yellow				
Eupatorium spp.	joe-pye-weed						pink to lavender	pink to lavender	pink to lavender
Gentiana spp.	gentians						blue, violet	blue, violet	blue, violet
Helianthus spp.	sunflowers					yellow	yellow	yellow	yellow
Sanguinaria canadensis	bloodroot		white	white	white				
Viola spp.	violets		white, blue, yellow	white, blue, yellow	white, blue, yellow	white, blue, yellow			
Perennial Flowers continued									
Coreopsis spp.	tickseed			yellow	yellow	yellow	red, blue, yellow	red, blue	red blue
Iris spp.	iris			blue, yellow, white	blue, yellow, white	blue, yellow, white			
Lobellia spp.	lobelia						white, blue, yellow	white, blue, yellow	white, blue, yellow
Monarda spp.	beebalm			red, lavender, pinkish blue	red, lavender, pinkish blue	red, lavender, pinkish blue			
Packera spp.	ragworts			yellow	yellow	yellow			
Penstemon spp.	beardtongue			white, light violet	white, light violet	white, light violet			
Phlox spp.	phlox		white, light blue, pink	white, light blue, pink	white, light blue, pink	white, light blue, pink			
Rudbeckia spp.	black-eyed Susans				yellow, brown	yellow, brown	yellow, brown	yellow, brown	
Solidago spp.	goldenrods				yellow	yellow	yellow	yellow	yellow
Symphyotrichum spp.	aster			purple	purple	purple	purple		
Tradescantia virginiana	spiderworts			violet, purple	violet, purple	violet, purple			
Trillium spp.	trillium			purple, white, greenish white, dark red	purple, white, greenish white, dark red	purple, white, greenish white, dark red			
Vines									
Campsis radicans	trumpet creeper				orange-red	orange-red	orange-red	orange-red	orange-red
Clematis virginiana	virgin's bower						white	white	
Lonicera sempervirens	trumpet honeysuckle				orange-red, red	orange-red, red	orange-red, red		
Parthenocissus quinquefolia	Virginia creeper			greenish white	greenish white				
Vitis spp.	grapes			greenish yellow	greenish yellow				

PLANTS THAT ATTRACT POLLINATORS
IN THE EASTERN BROADLEAF FOREST, CONTINENTAL PROVINCE

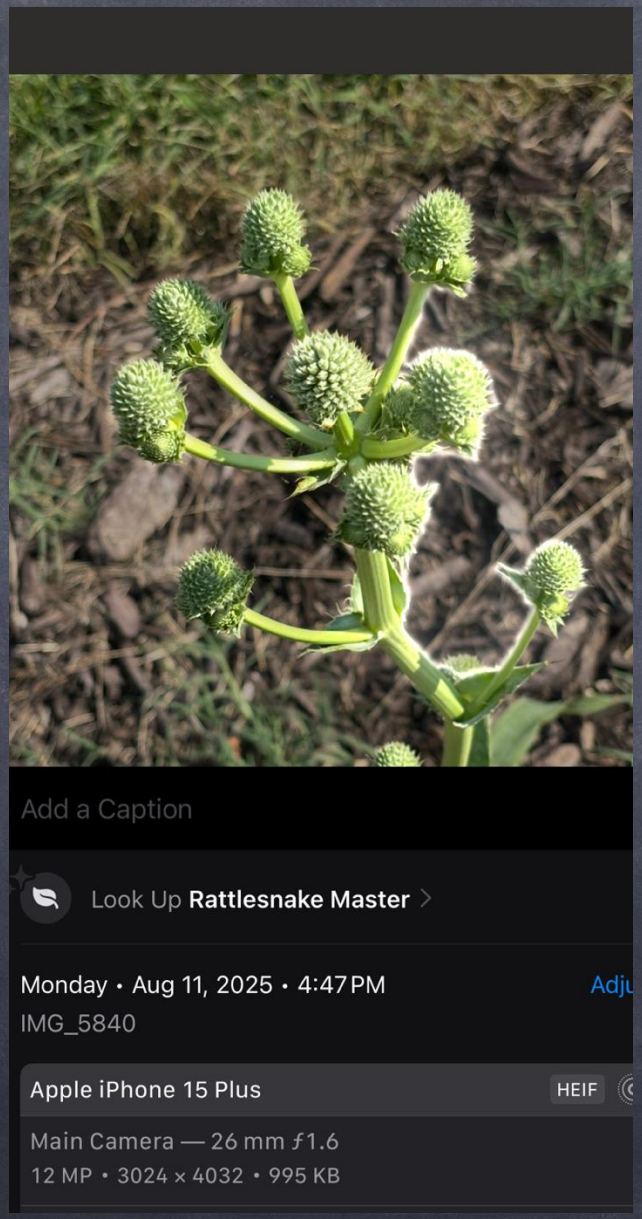
The following chart lists plants that attract pollinators. It is not exhaustive, but provides guidance on where to start. Annuals, herbs, weeds, and cover crops provide food and shelter for pollinators, too.

Botanical Name	Common Name	Color	Height	Flower Season	Sun	Soil	Visitation by Pollinators	Iso a host plant. See pgs 20-21
Trees & Shrubs								
Acer spp.	Maples	red, greenish yellow	40-70'	Mar-Apr	sun to partial shade	dry to wet	bees	X
Amelanchier spp.	service berry	white	6-40'	Mar-Apr	sun to partial shade	moist, well drained	bees, flies	X
Aronia melanocarpa	black chokeberry	white	6-7'	May-June	sun to partial sun	dry to moist	bees, beetles, flies	X
Catalpa speciosa	northern catalpa	white	60-80'	May-July	sun to partial shade	moist, well drained	bees, moths	X
Cercis canadensis	eastern redbud	pink to lavender	10-30'	Apr-May	sun to partial shade	moist, well drained	bees	X
Cornus alternifolia	dogwood	white	6-18'	Apr-July	sun to shade	dry to wet	bees, beetles, flies, butterflies	X
Lindera benzoin	spicebush	yellow green	4-6'	Mar-May	sun to shade	moist	butterflies	X
Physocarpus opulifolius	eastern ninebark	white	6-8"	May-June	sun to partial shade	dry to wet	bees, butterflies	X
Prunus pensylvanica	pin cherry	white	25-40'	May-June	sun	dry to moist, well drained	bees	X
Rhus aromatica	aromatic sumac	yellow green	4-6'	Apr-May	sun to partial shade	dry to moist, well drained	butterflies, bees	X
Salix nigra	black willow	yellow green	12-50'	Apr-June	sun to shade	moist to wet	bees,	X
Sambucus racemosa	red elderberry	white	5-7'	May-June	sun to partial shade	dry to wet	bees, beetles, flies	X
Sassafras albidum	sassafras	yellow green	35-60'	Mar-June	sun to partial shade	dry to wet	flies	X
Tilia americana	basswood	yellow white	80'+	Apr-June	sun to partial shade	moist, well drained	bees, flies, moths	X
Vaccinium macrocarpon	cranberry	white to pink	1-4"	Apr-June	sun to partial shade	dry to moist, well drained	bees	X
Viburnum prunifolium	black haw	white	5-12'	Apr-June	sun to shade	dry to moist, well drained	flies, beetles	X
Perennial Flowers								
Actaea racemosa	black cohosh	white	36-60"	June-July	shade to partial sun	moist	bees, flies	X
Aquilegia canadensis	red columbine	red with yellow	12-36"	Apr-July	partial shade to sun	moist, well drained	hummingbirds, bees	X
Asclepias hirtella	green milkweed	green	12-48"	June-Aug	sun to partial shade	dry to wet	bees, beetles, flies, butterflies	X
Coreopsis spp.	tickseeds	yellow	12-30"	May-Aug	sun to partial sun	moist to dry	bees, butterflies	
Erigeron spp.	daisy fleabanes	white, yellow	18-30'	May-Sept	partial sun to sun	moist to wet	bees, butterflies, moths	X
Erythronium americanum	yellow trout lily	yellow	3-6"	Apr-June	shade	moist	bees	

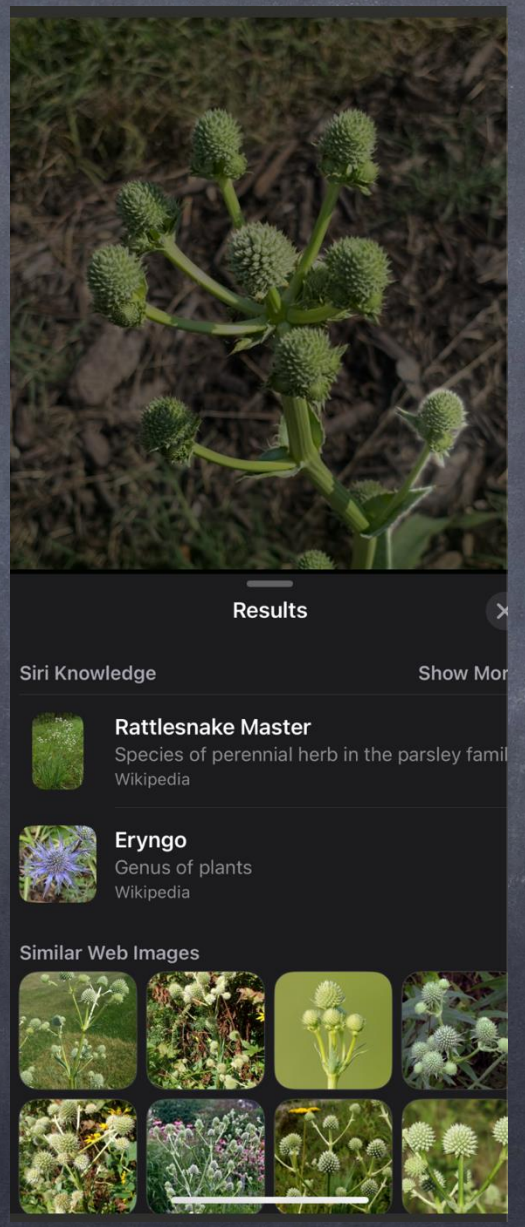
Botanical Name	Common Name	Color	Height	Flower Season	Sun	Soil	Visitation by Pollinators	Iso a host plant. See pgs 20-21
Perennial Flowers continued								
Eupatorium purpureum	sweet scented joe-pye-weed	pink to lavender	24-72"	July-Aug	partial shade to sun	moist to wet	bees, butterflies, moths	X
Gentiana alba	plain gentian	creamy white	24-36"	Aug-Oct	partial sun to sun	moist	bees	X
Helenium autumnale	sneezeweed	yellow, brown	36-60"	July-Sept	sun to partial shade	moist to wet	bees, wasps, flies, butterflies	X
Helianthus hirsutus	hairy sunflower	yellow	48-60"	July-Sept	sun to partial sun	moist to wet	bees, bee flies, wasps, beetles, and butterflies	X
Heuchera americana	alumroot	yellow-green	12-24"	May-July	sun to partial shade	moist to dry	bees	
Iris virginica var. shrevei	Shreve's iris	blue, yellow, white	12-36"	May-July	sun to partial shade	wet to moist	bees	
Liatris spicata	blazing star	pinkish purple	24-48"	June-July	sun to partial sun	moist to wet	bees, butterflies, hummingbirds	X
Lobelia cardinalis	cardinal flower	red	24-60"	Aug-Oct	sun to partial shade	moist to wet	bees, hummingbirds	
Mertensia virginica	Virginia bluebells	light blue	14-20"	May-July	partial sun to shade	moist	bees, butterflies, moths, hummingbirds	X
Monarda punctata	spotted beebalm	pinkish white	6-36"	May-Sept	sun to partial shade	moist	bees, butterflies	X
Packera plattensis	prairie groundsel	yellow	12-24"	May-July	sun to shade	moist to wet	bees, flies, butterflies, moths	
Penstemon pallidus	pale beardtongue	white, light violet	12-36"	May-July	sun to partial shade	moist	bees, wasps, butterflies	X
Phlox bifida	cleft phlox	white, light blue, pink	4-12"	Apr-May	sun to partial sun	moist	bees, butterflies	
Polemonium reptans	Jacob's ladder	light blue	10-16"	May-June	partial sun to partial shade	moist	bees, butterflies, moths	
Rudbeckia laciniata	cutleaf coneflower	yellow, brown	20-120"	June-Sept	sun to partial shade	moist to dry	bees, butterflies, beetles, wasps	X
Solidago speciosa	showy goldenrod	yellow	12-72"	June-Oct	sun to shade	moist to dry	bees, butterflies, beetles, wasps	
Symphyotrichum ericoides	heath aster	white	6-36'	Aug-Oct	sun to partial sun	moist to wet	bees, butterflies, beetles, wasps	X
Tiarella cordifolia	foamflower	white	4-14"	Apr-May	sun to shade	moist	bees, bee flies	
Tradescantia virginiana	spiderworts	violet, purple	12-24"	Apr-July	sun to shade	moist	bees	
Trillium flexipes	nodding wake robin	white	8-16"	Apr-May	partial sun to partial shade	moist	beetles, flies, bees	
Vines								
Campsis radicans	trumpet creeper	orange-red	40'+	June-Oct	sun to partial sun	dry to moist	hummingbirds, bees	X
Clematis virginiana	virgin's bower	white	9'	July-Aug	sun to partial sun	moist	flies, bees	
Lonicera sempervirens	trumpet honeysuckle	orange-red, red	20'+	June-Aug	sun to partial sun	moist, well drained	hummingbirds	X
Parthenocissus quinquefolia	Virginia creeper	greenish white	50'+	May-June	sun to shade	any	bees	X
Vitis aestivalis	summer grape	greenish yellow	60'+	May-June	sun to partial sun	moist, well drained	bees	X

Step 1

Step 2



Step 3



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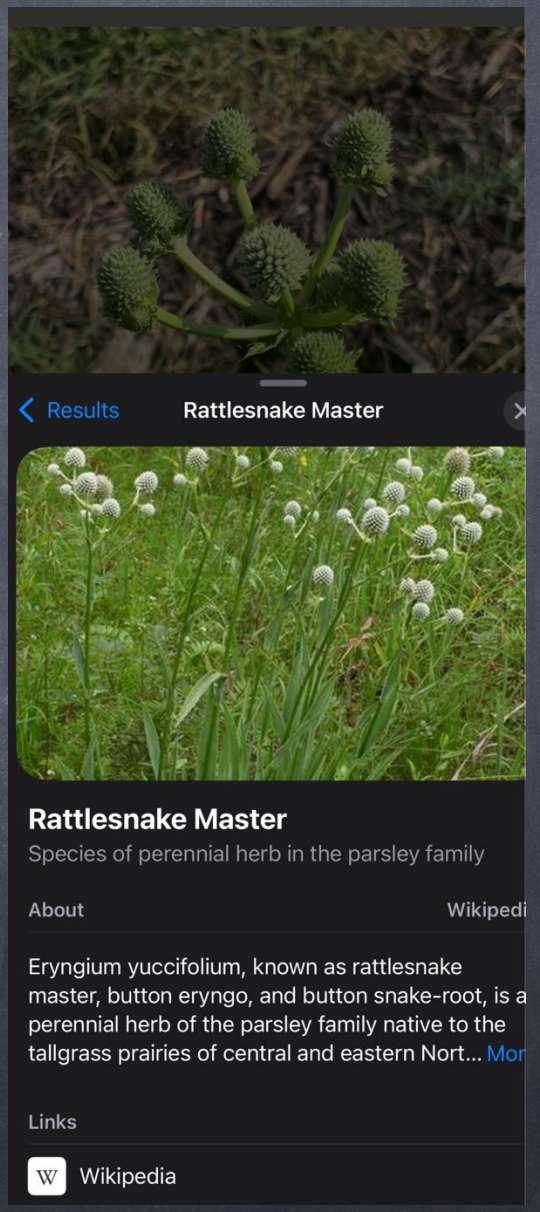

Chaste (N/P)	Bachelor Buttons (N/P)	Horse weed (N/P)	Brome (P)	Perilla (N/P)	Trumpet Creeper (n/P?)
Crape Myrtle (N?/P)	Daisy Fleabane (N/P)	Joe Pye Weed (N)	Clover (N/P)	Cat Mint (N)	Winter Honeysuckle (N/P)
American Beauty Berry (N/P)	Sunflowers (N/P)	Greater Burdock (N/P)	Buckwheat (N/P)	Oregano (N/P)	
Witch Hazel (N/P)	Cup Plant (N/P)	Woodland Lettuce (N/P)	Plantain (P)	Basil (N/P)	
Button Bush (N/P)	Cosmos (N)	American Burnweed (N/P)	Goose Weed (P)		
Rose of Sharon (N/P)	Wingstem (N/P)	Hedge Parsley (N/P)			
Oakleaf Hydrangea (N/P)	Wild Petunia (N/P)	Moth Mullein (N?/P)			
	Tick Seed (N/P)	Spiny Sowthistle (N)			
	Black-eyed Susan (N/P)	DEVILS TRUMPET (N) JIMSON WEED			
	Golden Rod (N/P)	False Daisy (N/P)			
	Rattlesnake Master (N/P)	Ground Cherries (N/P)			
	Milkweed (N)	Stinging Nettle (P)			
	Zinnas (N/P)	Jewel Weed (N/P)			
	Carolina Elephant's Foot (N)				

Happy
Bees

Happy
Beekeeper

NORTHWEST ARKANSAS
BEEKEEPERS
ASSOCIATION

James Rhein

President
Arkansas State Beekeepers Association

Natural Removal

- Find entry and exit opening of the colony
- Build structure same height as opening
- Place weak hive on structure next to entrance
  - Queen
  - Brood
  - Small number of bees
- Close up all entrances around opening and possibly limit opening diameter

Find entry and exit opening of the colony

Build structure same height as opening

Place a weak hive on structure next to entrance

- Queen or Queen Cell(s)
- Brood
- Small number of bees

Close up all entrances around opening and possibly limit opening diameter

Natural Removal

- Attach bee escape over opening on the existing hive
  - Funnel
  - Porter bee escape
- Remove bee escape or funnel when no more bees are trying to enter the house
- Take hive to new location
- Fill or cover all exterior openings to house with 100% silicone caulking

Attach bee escape over opening on the house

- Funnel
- Porter bee escape

- Remove bee escape when no more bees are trying to enter the old location
- Take new hive to new location
- Fill or cover old hive opening with 100% silicone caulk

Removal Time

- Physical Removal Method (If possible)
  - 1 day to 2 weeks
  - Depends on size of colony and amount of construction

- Natural Method (trapping)
  - 6-12 weeks
  - Depends on size of colony

Why 6-12 weeks?

- Eggs inside
- Queen still laying eggs
- 3 weeks for eggs to hatch
- Bee spends first 2-3 weeks in hive

Cost of Removal

- Physical (Cut Out)
  - Can be very expensive
  - Cost of removal and repair of house
  - Cost of insecticide
- Natural (trapping)
  - None to very little

Why Remove Bees?

- Living Colony
  - Eventually get into living area of the house
  - Honey damage
  - Could cause stinging incidents
- Dead Colony
  - Foul odor from rotting brood
  - Severe honey damage
  - Attracts other bees
  - Attracts other animals such as mice and insects

Removal of Bees From a Tree

- Removed by trapping
- Cut down the tree
  - Place section of tree upright
  - Place hive on top
  - Put queen excluder on
- Physical remove comb and place in frames
  - Put frames in hive

BEE REMOVAL

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Questions