

# Pollinator restoration programs, plant identification, and traditional ecological knowledge

Andrew Gourd

Land Use Coordinator

Eastern Shawnee Tribe of Oklahoma

# Pollinator Restoration Efforts

Began in 2015 working for Citizen Potawatomi Nation

Partnered with Tribal Environmental Action for Monarchs (TEAM)

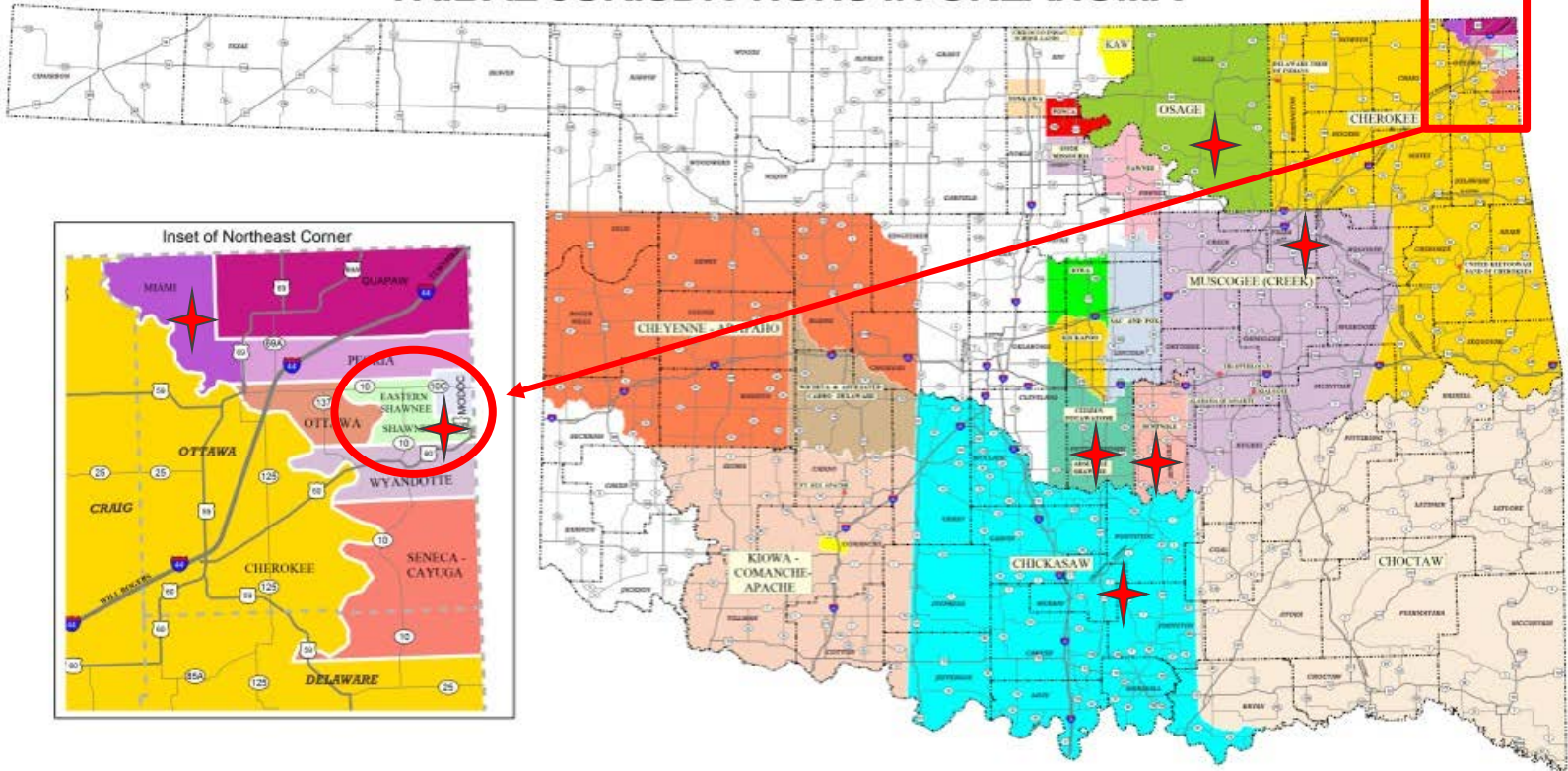
Eastern Shawnee (ESTOO), 6 other tribes and 2 non-profits working together in Oklahoma

- Technical Training
- Site Selection and Preparation
- Develop a seed bank

ESTOO has built rain gardens and planted several acres of pollinator plants on their properties including demonstration plots



# TRIBAL JURISDICTIONS IN OKLAHOMA



OKLAHOMA DEPARTMENT OF TRANSPORTATION  
PLANNING & RESEARCH DIVISION  
60 MANAGEMENT BRANCH  
200 N.E. 11ST STREET  
OKLAHOMA CITY, OKLAHOMA 73104

## 38 FEDERALLY RECOGNIZED TRIBES

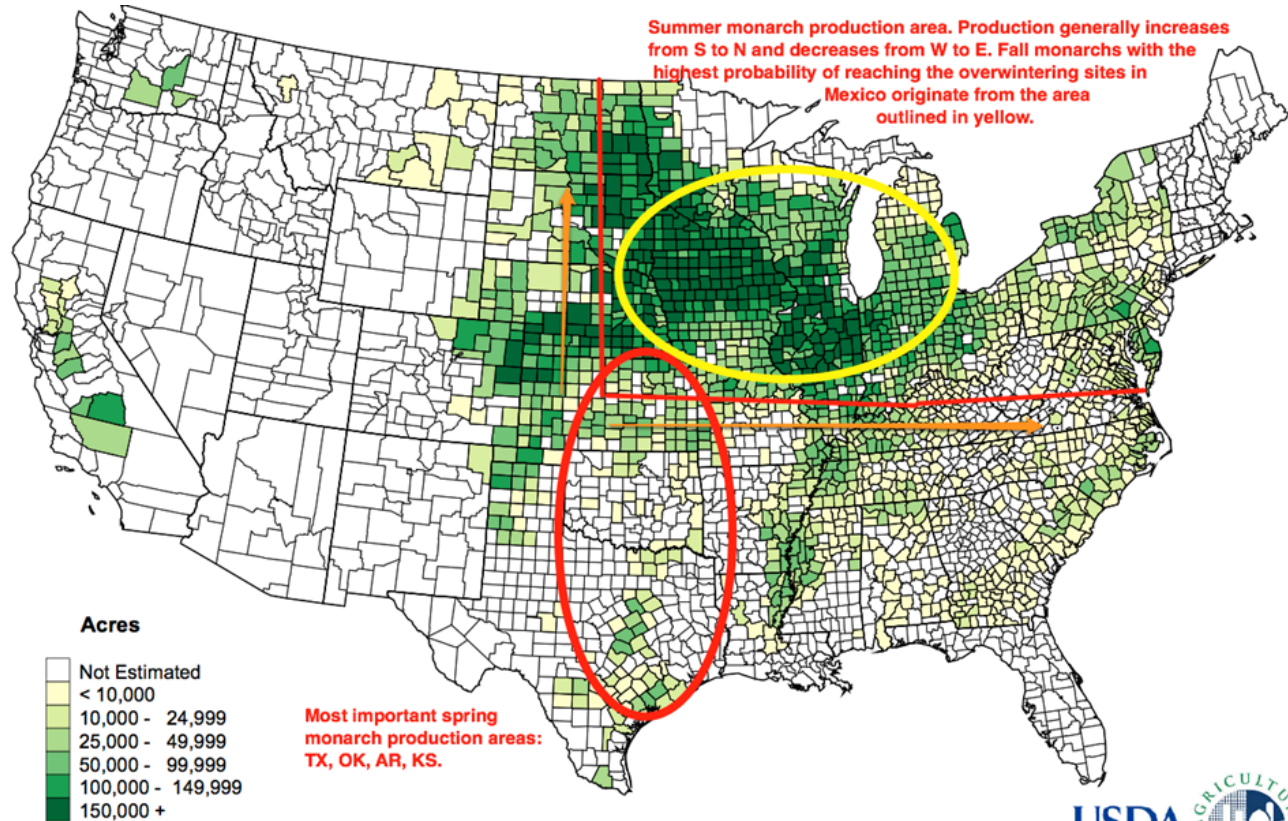
(Tribal Boundaries provided by the Bureau of Land Management)

ABERDEEN SHAWNEE TRIBE	CHOCTAW NATION	CHOYLA TRIBE	CHICKASAW (CREEK) NATION	CHICKASAW TRIBE	CHICKASAW TRIBE
ALAPAH (QUADAWA) TRIBAL TOWN	CITIZEN KOFAYATWA TRIBE	CHIAPEL NATION	CHOCTAW NATION	CHOCTAW NATION	CHOCTAW NATION
ALBUQUE TRIBE	COMANCHE NATION	CHICKASAW TRIBE, CIVIL	CITIZEN KOFAYATWA TRIBE	CITIZEN KOFAYATWA TRIBE	CITIZEN KOFAYATWA TRIBE
CADDO TRIBE	DELAWARE NATION	CHOCTAW NATION	CHICKASAW TRIBE	CHICKASAW TRIBE	CHICKASAW TRIBE
CHICKASAW NATION	DELAWARE TRIBE OF INDIANS	CHOCTAW NATION	CHICKASAW TRIBE	CHICKASAW TRIBE	CHICKASAW TRIBE
CHICKASAW - ARAPAHO TRIBE	DIKONIA (SHAWNEE) TRIBE	CHOCTAW NATION	CHICKASAW TRIBE	CHICKASAW TRIBE	CHICKASAW TRIBE
CHICKASAW NATION	FT. BELLE ARCADE	CHOCTAW NATION	CHICKASAW TRIBE	CHICKASAW TRIBE	CHICKASAW TRIBE



2010

# MONARCH BUTTERFLY RECOVERY PLAN















# Growing Wildflowers

Continuing to grow up to 4000/year in one of the three greenhouses

Partners with the ESTOO Early Childhood Learning Center to provide learning opportunities

Donated 200 plants to the Cherokee Nation of Oklahoma's Seed Bank gardens



# Milkweed plantings

5000 milkweed plants provided by Monarch watch to each TEAM tribe



# Local species grown

Indicates # of species noted 2-20

no. seed 2-22

2/26

2/27

3/1

Planted 2-16-18

<p>Purple Aster</p> <p>Goldenrod #1</p>	<p>Coreopsis</p> <p>Goldenrod #4</p>	<p>#70 Blue mistflower Conoclinium Celastrum</p> <p>#76 Bonaset E. perfoliatum</p> <p>#73 Blue Veronia V. hastata</p>	<p>#59 Pitcher Sage Salvia nemosa</p> <p>#55 Rainhead Lespedeza L. caryota</p> <p>#56 Senecio S. marilandica</p>	<p>#45 Ligustris p...</p> <p>#46 Smoketree A. nitens</p> <p>#47 Evening Primrose Oenothera biennis</p>	<p>#10 Ironweed V. baldia</p> <p>#15 Buckeye Menarche</p> <p>#20 Side flower aster S. lateriflorum</p>	
<p>#97 # ssp Helianthus</p> <p>#146 tall white Aster</p> <p>#150 stiff goldenrod</p>	<p>#89 small aster</p> <p>#91 Aster</p> <p>#92 Aster non aromatic</p>	<p>#7 wild garlic allium</p> <p>#84 Mint agastache</p> <p>#87 S. canadensis</p>	<p>#58 Mexican Hat &amp; Columbian</p> <p>#61 Compass plant S. laciniata</p> <p>#69 Rattlesnake E. yuccifolium</p>	<p>#50 Candy tuft aster C. villosa</p> <p>#51 False bonaset B. aurantioides</p> <p>#53 R. triloba</p>	<p>#23 Short Goldenrod Solidago</p> <p>#25 Late Goldenrod S. gigantea</p> <p>#26 Missour Goldenrod S. missouriensis</p>	<p>#2 Baptisia with Indigo</p> <p>#3 Bonaset E. perfoliatum</p> <p>#8 Dummy Sunflower Helianthus Mollis</p>

Lost all seedlings from a few species

Marked 7 new species this year to add to seed collection

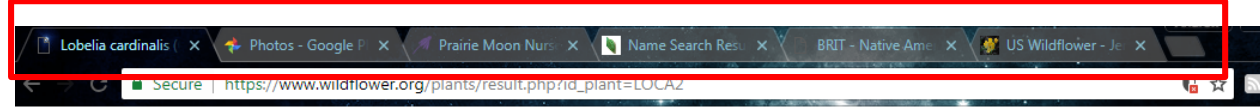
# Demonstration plots

Planted near the greenhouses along  
the Shawnee Recreational Trails open  
to all the public



# Plant Identification

A continual learning  
process aided by the  
internet!



## *Lobelia cardinalis*

*Lobelia cardinalis* L.

Cardinal flower

Campanulaceae (Bellflower Family)

Synonym(s): *Lobelia cardinalis* ssp. *graminea*, *Lobelia cardinalis* var. *graminea*, *Lobelia cardinalis* var. *meridionalis*, *Lobelia cardinalis* var. *multiflora*, *Lobelia cardinalis* var. *phyllostachya*, *Lobelia cardinalis* var. *propinqua*, *Lobelia cardinalis* var. *pseudosplendens*, *Lobelia fulgens*, *Lobelia splendens*

USDA Symbol: LOCA2

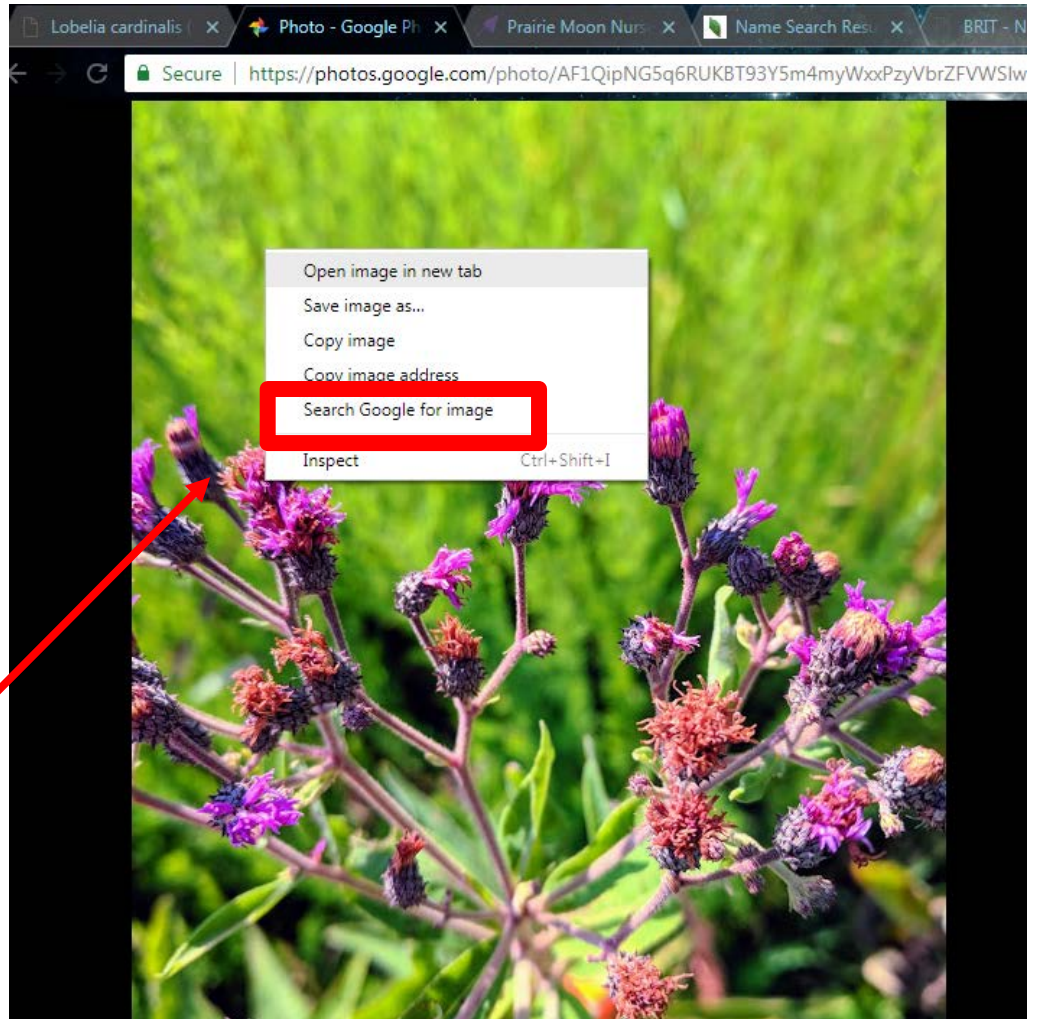
USDA Native Status: L48 (N), CAN (N)

This 1-6 ft. perennial has showy, red flowers in 8 in., terminal spikes. Each flower has three spreading lower petals and two upper petals, all united into a tube at the base. Erect leafy stems, often in clusters, with racemes of flowers resembling flaming red spires. The lower portion of the erect stem is lined with lance-shaped leaves.

Although relatively common, overpicking this handsome wildflower has resulted in its scarcity in some areas. Since most insects find it difficult to navigate the long tubular flowers, Cardinal Flower depends on hummingbirds, which feed on the nectar, for pollination. Its common name alludes to the bright red robes worn by Roman Catholic cardinals. In southern Arizona, Sierra Madre Lobelia (*L. laxiflora*) is also found in the smaller island with well-developed as well as...



Brundage, Stephanie



Searching the web...

Asclepias incarnata x Photo - Google Ph x Asclepias incarnata x Plants Profile for A x BRIT - Native Ame x Wildflower List x

← → ↻ https://uswildflowers.com/wflist.php

# Wildflowers of the United States

[Home](#)   [Journal](#)   [Family](#)  
[Index - Photo](#)   [News](#)   [About](#)   [Privacy](#)  
[All States](#)   [Albums](#)

Number of species: 612  
 Click on thumbnail photo for a larger version of image. Click on the scientific name for additional photos and information.

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**Looking for Wildflowers for a specific state? Check here:**  
 Idaho Wildflower ID References ▼  
 Get State Reference List

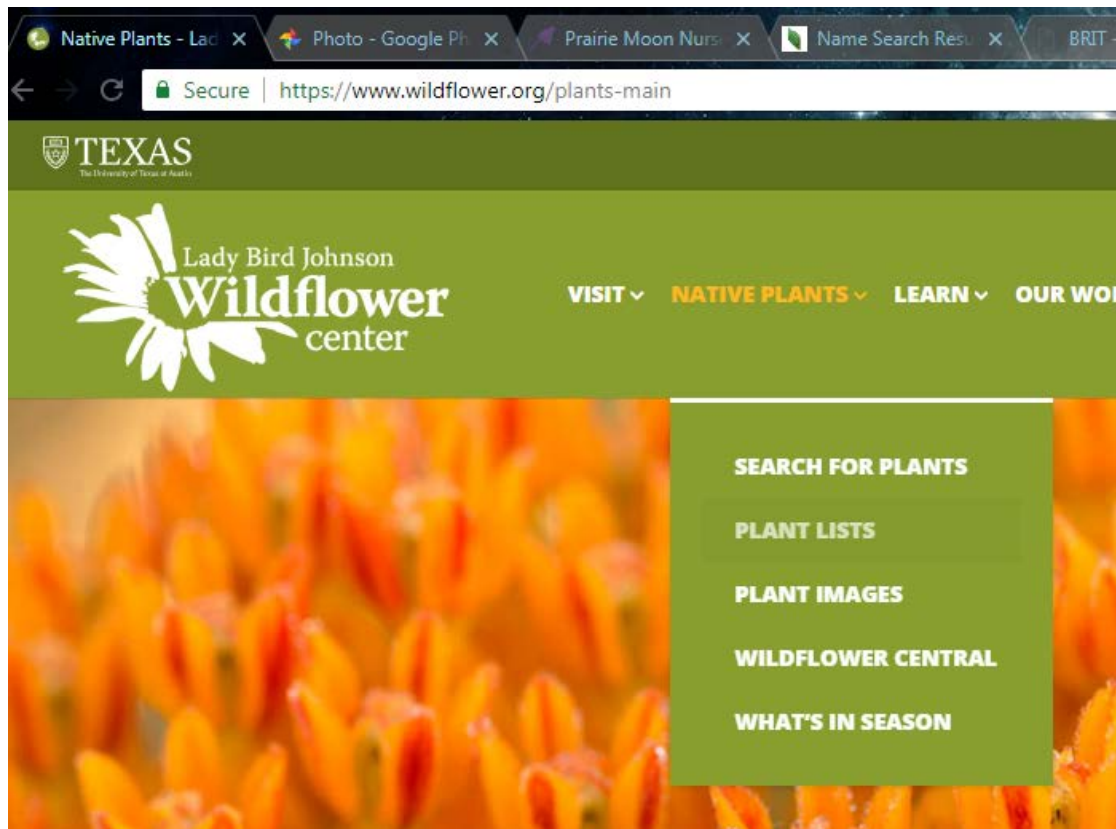
Genus Name	Scientific Name	Common Names	Comment

My wife and I really enjoy our Kindles.  
 Please consider making your Amazon purchases through our links to support USWildflowers.com  
[Kindle Fire HD 6 starts at ONLY \\$99](#)

A secondary reference source...



## Searching by State



# SPECIAL COLLECTIONS



## Idaho Recommended

Commercially available native plant species suitable for planned landscapes in Idaho. Visit our [Suppliers Directory](#) to locate businesses that sell native plants or seeds or provide professional landscape or consulting services in this state. Visit the [Organizations Directory](#) to locate native plant societies, conservation groups, governmental agencies, botanical gardens, arboreta, and other plant-related organizations in this state.

**Printer Friendly:** [Species List](#) | [List with Images](#) | [List with QR Tags to Mobile](#)

110 Results: 10 25 50 100 per page

<< previous | 1 2 3 4 ... 11 next >>

scientific name	common name(s)	image gallery
<a href="#"><i>Abies concolor</i></a>	White fir Balsam fir Colorado fir Concolor fir Silver fir White balsam Oyamel de California	 <a href="#">4 images</a>
<a href="#"><i>Abies grandis</i></a>	Giant fir Grand fir	

### NARROW YOUR SEARCH

SELECT STATE OR PROVINCE

All states and provinces ▼

GENERAL APPEARANCE

All habits ▼

LIFESPAN

All durations ▼

[Narrow your search](#)

LIGHT REQUIREMENT

- Sun - 6 or more hrs
- Part shade - 2 to 6 hrs
- Shade - 2 hrs or less

SOIL MOISTURE

- Dry - no signs of moisture
- Moist - looks & feels damp

# Understanding Propagation

## Prairie Moon Nursery

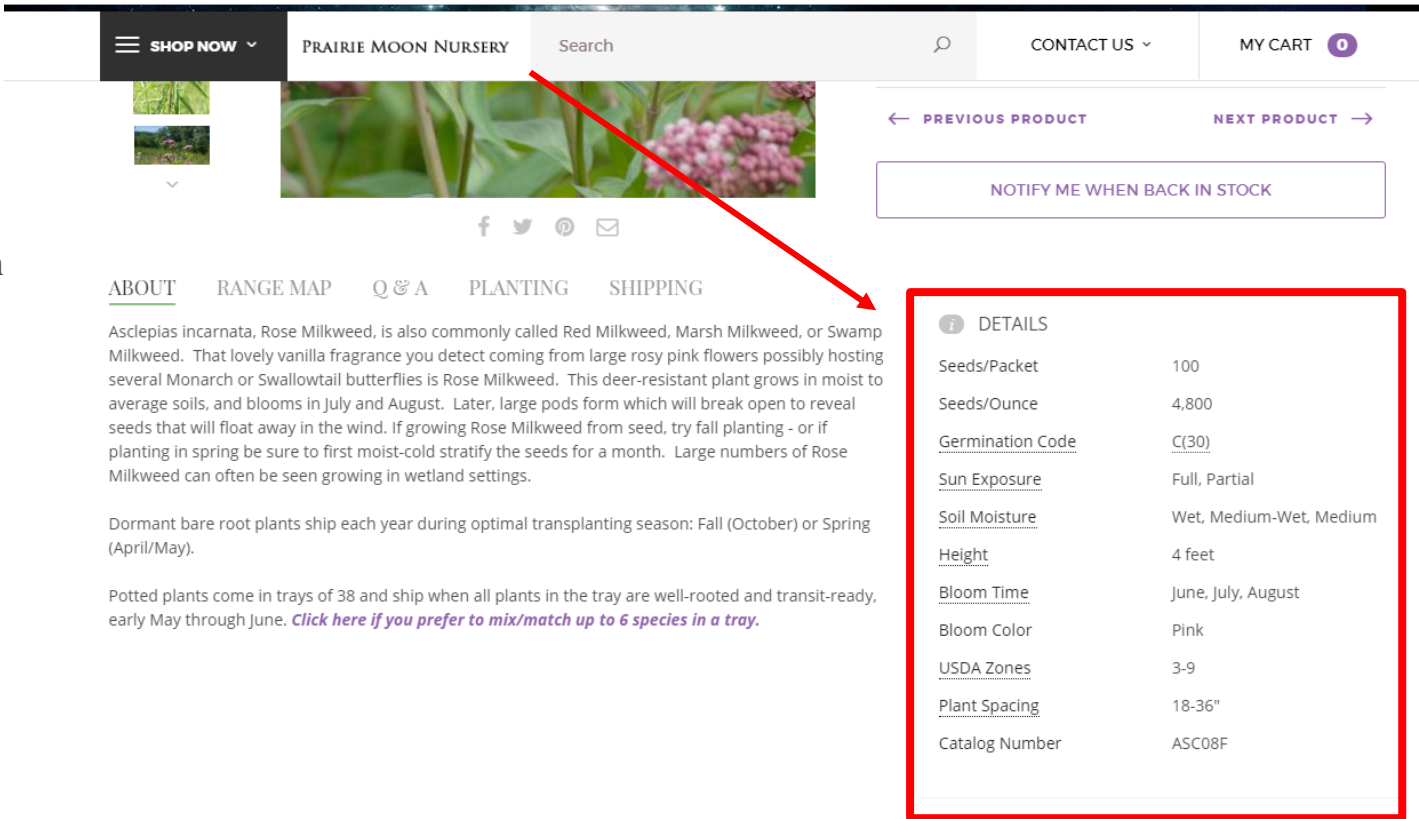
Lots of useful pictures

Standardized Germination Codes

Great “at a glance guide”

Limited species data

<https://www.prairiemoon.com/asclepias-incarnata-rose-milkweed-prairie-moon-nursery.html>



SHOP NOW ▾ PRAIRIE MOON NURSERY Search CONTACT US ▾ MY CART 0

← PREVIOUS PRODUCT NEXT PRODUCT →

NOTIFY ME WHEN BACK IN STOCK

ABOUT RANGE MAP Q & A PLANTING SHIPPING

Asclepias incarnata, Rose Milkweed, is also commonly called Red Milkweed, Marsh Milkweed, or Swamp Milkweed. That lovely vanilla fragrance you detect coming from large rosy pink flowers possibly hosting several Monarch or Swallowtail butterflies is Rose Milkweed. This deer-resistant plant grows in moist to average soils, and blooms in July and August. Later, large pods form which will break open to reveal seeds that will float away in the wind. If growing Rose Milkweed from seed, try fall planting - or if planting in spring be sure to first moist-cold stratify the seeds for a month. Large numbers of Rose Milkweed can often be seen growing in wetland settings.

Dormant bare root plants ship each year during optimal transplanting season: Fall (October) or Spring (April/May).

Potted plants come in trays of 38 and ship when all plants in the tray are well-rooted and transit-ready, early May through June. [Click here if you prefer to mix/match up to 6 species in a tray.](#)

**DETAILS**

Seeds/Packet	100
Seeds/Ounce	4,800
Germination Code	<a href="#">C(30)</a>
Sun Exposure	Full, Partial
Soil Moisture	Wet, Medium-Wet, Medium
Height	4 feet
Bloom Time	June, July, August
Bloom Color	Pink
USDA Zones	3-9
Plant Spacing	18-36"
Catalog Number	ASC08F

Search  
Name Search

Scientific Name

- ◊ State Search
- ◊ Advanced Search
- ◊ Search Help

**PLANTS Topics**

- ▶ Alternative Crops
- ▶ Characteristics
- ▶ Classification
- ▶ Cover Crops
- ▶ Culturally Significant
- ▶ Distribution Update
- ▶ Documentation
- ▶ Fact Sheets & Plant Guides
- ▶ Introduced, Invasive, and Noxious Plants
- ▶ Threatened & Endangered
- ▶ Wetland Indicator Status

**Image Gallery**

- ▶ 50,000+ Plant Images

**Download**

- ▶ Complete PLANTS Checklist
- ▶ State PLANTS Checklist
- ▶ Advanced Search Download
- ▶ Symbols for Unknown Plants
- ▶ NRCS State GSAT Lists
- ▶ NRCS State Plants Lists

**Related Tools**

- ▶ Crop Nutrient Tool
- ▶ Ecological Site Information System
- ▶ PLANTS Identification Keys

You are here: Home / Plant Profile

GENERAL

IMAGES

CLASSIFICATION

SUBORDINATE TAXA

LEGAL STATUS

WETLAND

RELATED LINKS

*Asclepias incarnata* L.  
swamp milkweed

Show All



General Information

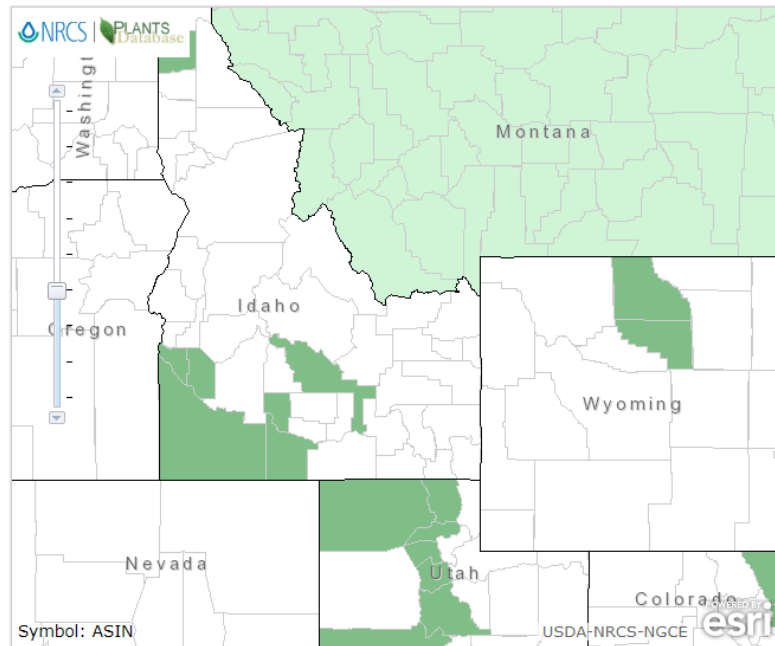
<b>Symbol:</b>	ASIN
<b>Group:</b>	Dicot
<b>Family:</b>	Asclepiadaceae
<b>Duration:</b>	Perennial
<b>Growth Habit:</b>	Forb/herb
<b>Native Status:</b>	CAN N L48 N

Characteristics

[Fact Sheet \(pdf\)](#) ([doc](#))

Data Source and Documentation

About our new maps



Consulting USDA data

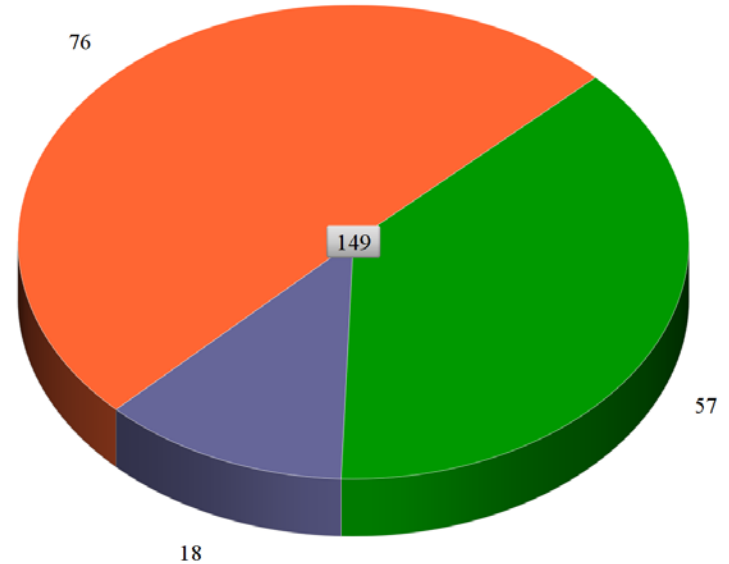
# TEK and ethnobotany

ESTOO and majority of Indians in Oklahoma were removed here in the early to mid 19th century.

Loss of traditional habitat impacted plant knowledge and contributed to cultural loss

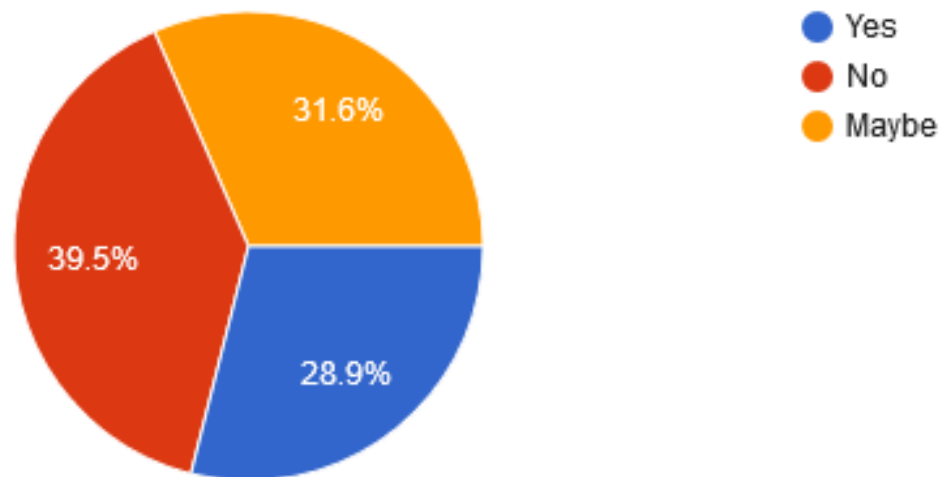
Using these plants in conjunction with cultural revitalization efforts

Seneca-Cayuga Traditional medicinal plants availability post removal



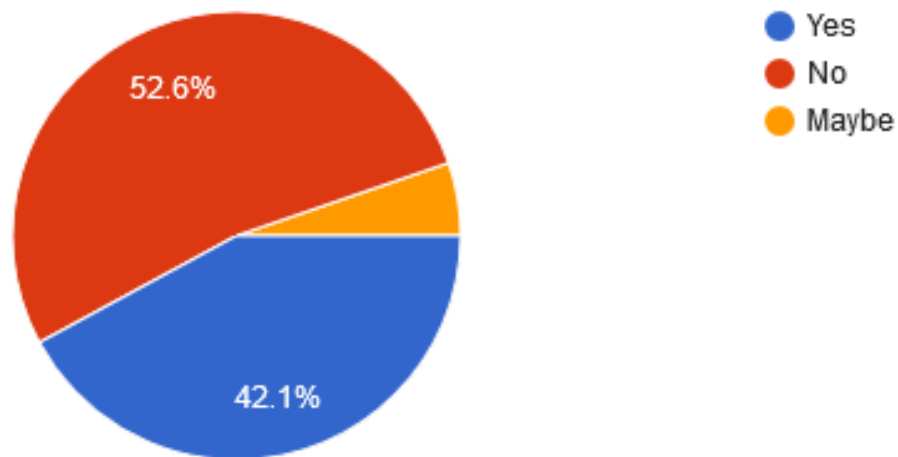
## Is information about Traditional Foods available in your community?

38 responses



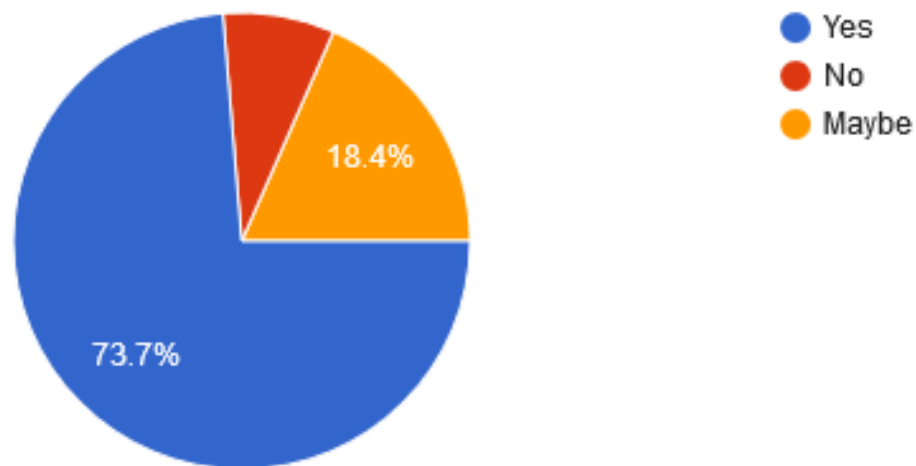
Do you or a member of your family participate in gathering any wild edibles or traditional foods?

38 responses



## Are you interested in learning more about traditional foods if it were available?

38 responses





# Gathering TEK in a space removed

There is some overlap of plants, and some TEK is still used by Tribal Members.

Gathering data about plants unknown is useful in adjusting to the new space

Native American Ethnobotany DB Home Search Uses Tribes Species About Contact

Master Sturtevant, William, 1954, The Mikasuki Seminole: Medical Beliefs and Practices, Yale University, PhD Thesis, page 234

**Liatris punctata**  
Hook. **Blackfoot Drug, Dermatological Aid**  
Poultice of boiled roots applied to swellings.  
Dotted Gayfeather Johnston, Alex, 1987, Plants and the Blackfoot, Lethbridge, Alberta. Lethbridge Historical Society, page 59  
USDA LIPUP

**Liatris punctata**  
Hook. **Blackfoot Drug, Gastrointestinal Aid**  
Infusion of roots taken for stomachaches.  
Dotted Gayfeather Johnston, Alex, 1987, Plants and the Blackfoot, Lethbridge, Alberta. Lethbridge Historical Society, page 59  
USDA LIPUP

**Liatris punctata**  
Hook. **Blackfoot Food, Unspecified**  
Roots used for food.  
Dotted Gayfeather Johnston, Alex, 1987, Plants and the Blackfoot, Lethbridge, Alberta. Lethbridge Historical Society, page 59  
USDA LIPUP

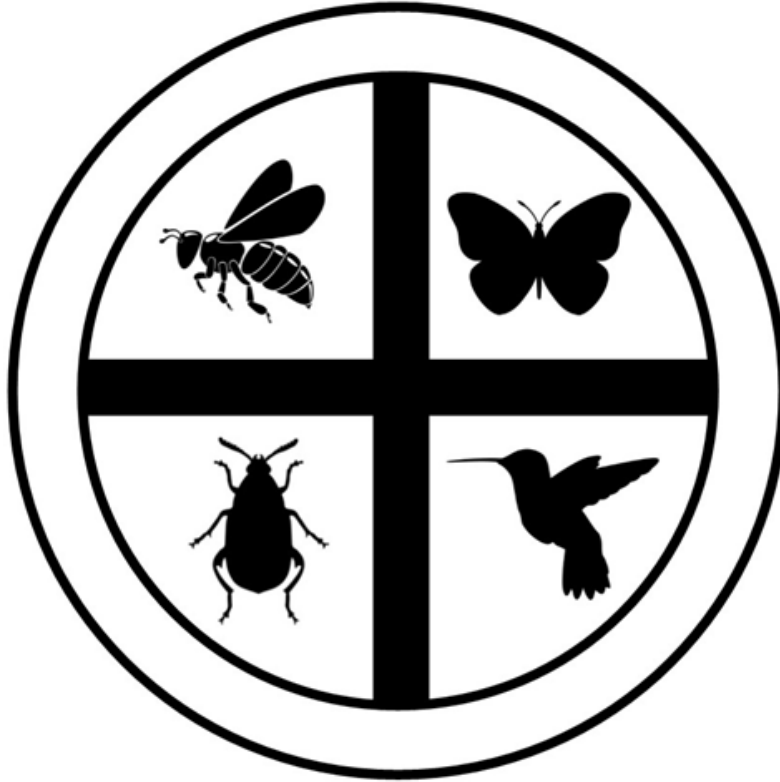
**Liatris punctata**  
Hook. **Comanche Drug, Urinary Aid**  
Root chewed and juice swallowed for swollen testes.  
Dotted Gayfeather Carlson, Gustav G. and Volney H. Jones, 1940, Some Notes on Uses of Plants by the Comanche Indians, Papers of the Michigan Academy of Science, Arts and Letters 25:517-542, page 522  
USDA LIPUP

**Liatris punctata**  
Hook. **Kiowa Food, Unspecified**  
Springtime, sweet roots baked over a fire and eaten.  
Dotted Gayfeather Vestal, Paul A. and Richard Evans Schultes, 1939, The Economic Botany of the Kiowa Indians, Cambridge MA. Botanical Museum of Harvard University, page 61  
USDA LIPUP

**Liatris punctata**  
Hook. **Lakota Food, Dietary Aid**  
Roots pulverized and eaten to improve the appetite.  
Dotted Gayfeather Rogers, Dilwyn J., 1980, Lakota Names and Traditional Uses of Native Plants by Sicangu (Brule) People in the Rosebud Area, South Dakota, St. Francis, SD. Rosebud Educational Society, page 38  
USDA LIPUP

**Liatris punctata**  
Hook. **Meskwaki Drug, Dermatological Aid**  
Infusion of root applied locally for itch.  
Dotted Gayfeather Smith, Huron H., 1928, Ethnobotany of the Meskwaki Indians, Bulletin of the Public Museum of the City of Milwaukee 4:175-200  
USDA LIPUP

[www.TapConnection.org](http://www.TapConnection.org)



Tribal  
Alliance for  
Pollinators



# TAP conference October 24-26

Day one- seed gathering at Seneca-Cayuga tribal lands

Day 2 - seed processing demonstrations, seed stratification, plant production at Euchee Butterfly Farm

Day 3 - presentations at College of Muscogee Creek Nation



“It's hard to kill a  
Native”

-David Correll,  
Chickasaw Nation  
Greenhouses