NRCS: A repository of plant data

- U.S. Department of Agriculture Natural Resources Conservation Service

National Plant Data Team (NPDT)

USDA

NRCS
Natural Resources Conservation Service

Plant **L**ist of **A**ccepted **N**omenclature, **T**axonomy & **S**ymbols

You are here: Home / Team

PLANTS Team

The Faces Behind PLANTS

Click on a name or photo below for more information about a PLANTS team member.


Kat Anderson

John Brenner


Will Farrell


Mark Garland


Doug Goldman


Bert Noel


Gerry Moore


Kurt Tometich

© Mark Skinner

PLANTS Database

- Meeting NRCS field office, customer, cooperator, and public plant information needs
- NRCS strategic database

NRCS Integrating With Botanical Community

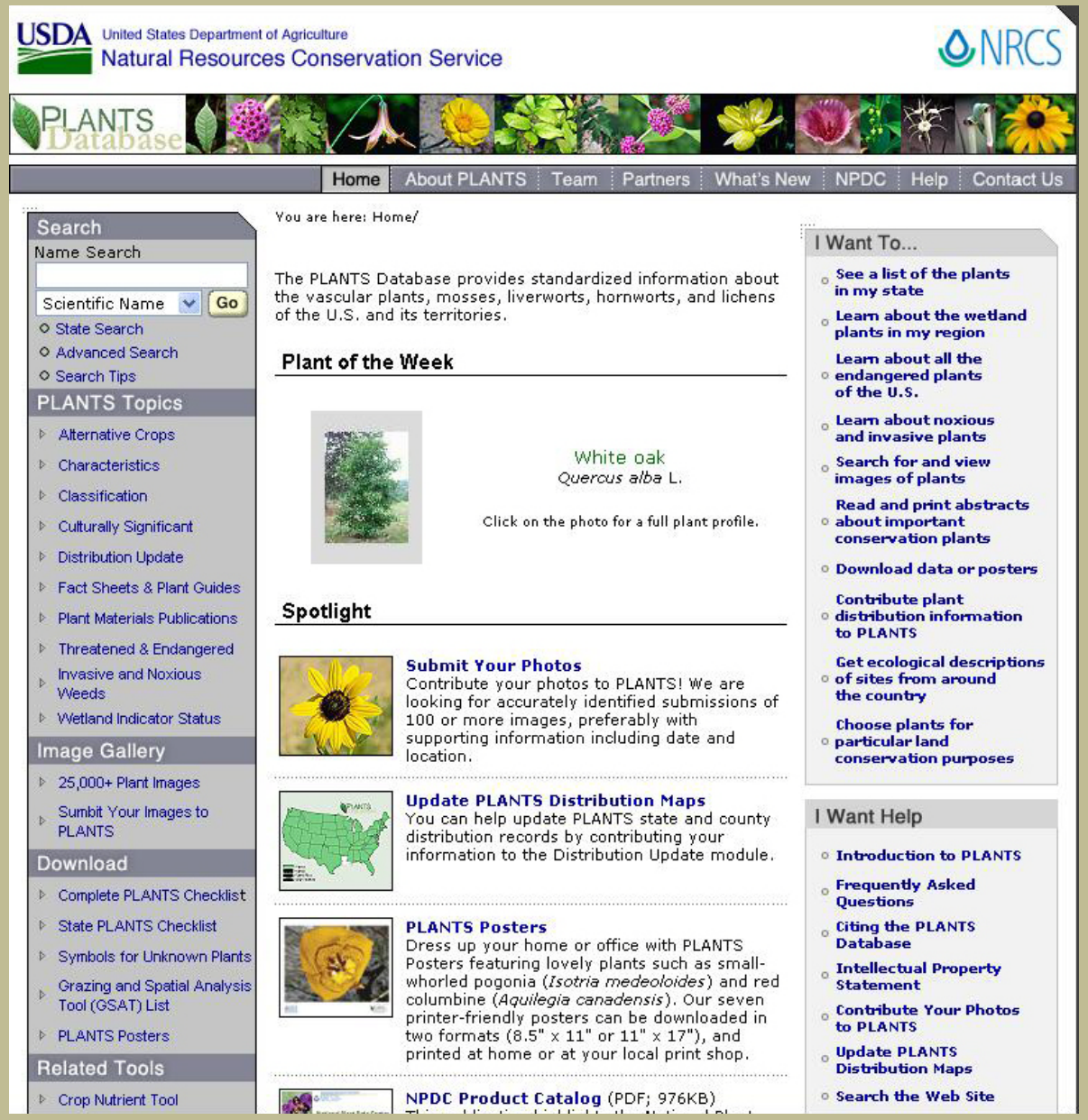
- Working with Flora of North America participants, International Compositae Alliance, Global Gymnosperm Tree of Life Consortium, and others.
- Assisting the community with small grants program for specialists.
- PLANTS follows international plant nomenclature standards (ICBN).
- Linking occurrences with specimens, whenever possible.

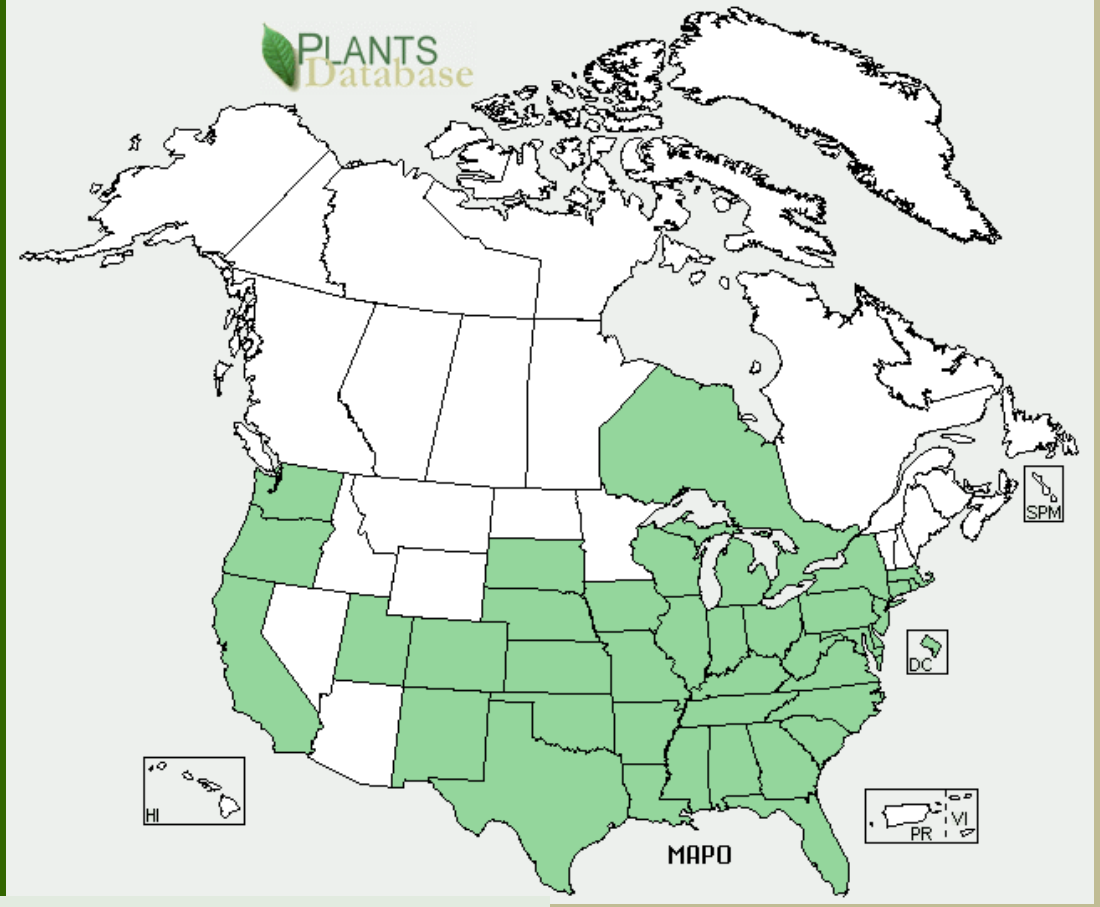
PLANTS Web Site

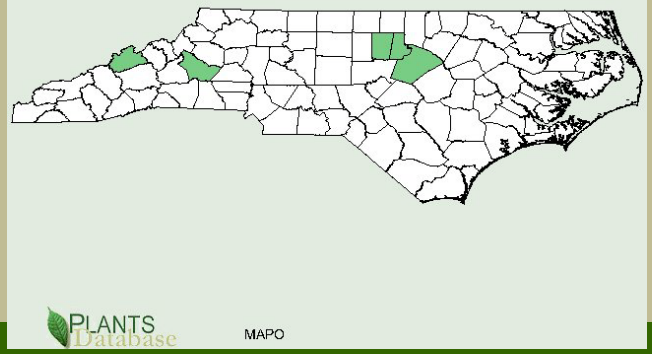
- *http://plants.usda.gov*
  - Focuses on U.S. and its territories
  - Directly accessible to traditional & non-traditional clients, cooperators, and the public
  - Data continuously updated
  - plants@plants.usda.gov

PLANTS Includes:

- Names, Checklists, and Classification
- Distribution
- Legal Status
  - Wetland
  - T&E
  - Noxious, Invasive
- Plant guides
- Images & Links
- Culturally significant plants







State & County Distribution

- Complete state coverage for vascular plants
  - PR/VI & DC included
  - Pacific Basin islands being integrated
  - North America north of the U.S. included
- County level for vascular plants
  - Completeness varies by state
  - Gap filling underway
  - MD being completed
- Distribution based primarily on specimens and literature

Gallery

- Browse photos, or
- Select using a query form
- View by name or thumbnail
- Links to Plant Profile

You are here: Home / Image Gallery

Image Gallery

The PLANTS Gallery emphasizes photos and line drawings of U.S. plants but also contains many cultivated or foreign taxa.

1. Enter Search Criteria:

Select by name, Symbol, or group: Scientific Name

Wildcards are permitted;
* for multiple characters,
_ for single characters.

Select by Category: All, Dicot, Fern, Green alga

Select by Growth Habits: All, Forb/herb, Graminoid, Lichenous

Select by Duration: All, Annual, Biennial, Perennial

Select by U.S. Nativity: All

Select by Wetland Status: All

Select by Image Type: All

Select by Artist: All, A.K., Al Schneider, Alfred Schotz

Select by Copyright Status: All

Select by Image Location: All, 0.5 miles S. of Pioneertown, CA, 0.5 miles SE of Pioneertown, CA, 1 mile N. of Green Valley, San Bernardino Natic

Select by State Distribution: All, Alabama, Alaska, Arizona

Select by Citation: All, Barnes, T.G., and S.W. Francis, 2004. Wildflowe, Britton, N.L., and A. Brown, 1913. An illustrated, Herman, D.E., et al., 1996. North Dakota tree h

2. View and Sort by:

View by: Text List and Sort by: Scientific Name

Display Results

You are here: Home / Image Gallery / Image Gallery Results

Printer-Friendly

Image Gallery

Gallery Images for Scientific Name = maclura pomifera

Matching images = 16: 13 photos, 3 line drawings

Click on a thumbnail image or name below to view the PLANTS profile with standard sized images and links to additional large and publication-quality images (when available).

View by: --25 per page and Sort by: Scientific Name Go

< Previous | Page 1 of 1 | Next >

Go to page 1 Go

Maclura pomifera osage orange	*Maclura pomifera* osage orange	*Maclura pomifera* osage orange	*Maclura pomifera* osage orange	*Maclura pomifera* osage orange
Maclura pomifera osage orange	*Maclura pomifera* osage orange	*Maclura pomifera* osage orange	*Maclura pomifera* osage orange	*Maclura pomifera* osage orange
Maclura pomifera osage orange	*Maclura pomifera* osage orange	*Maclura pomifera* osage orange	*Maclura pomifera* osage orange	*Maclura pomifera* osage orange

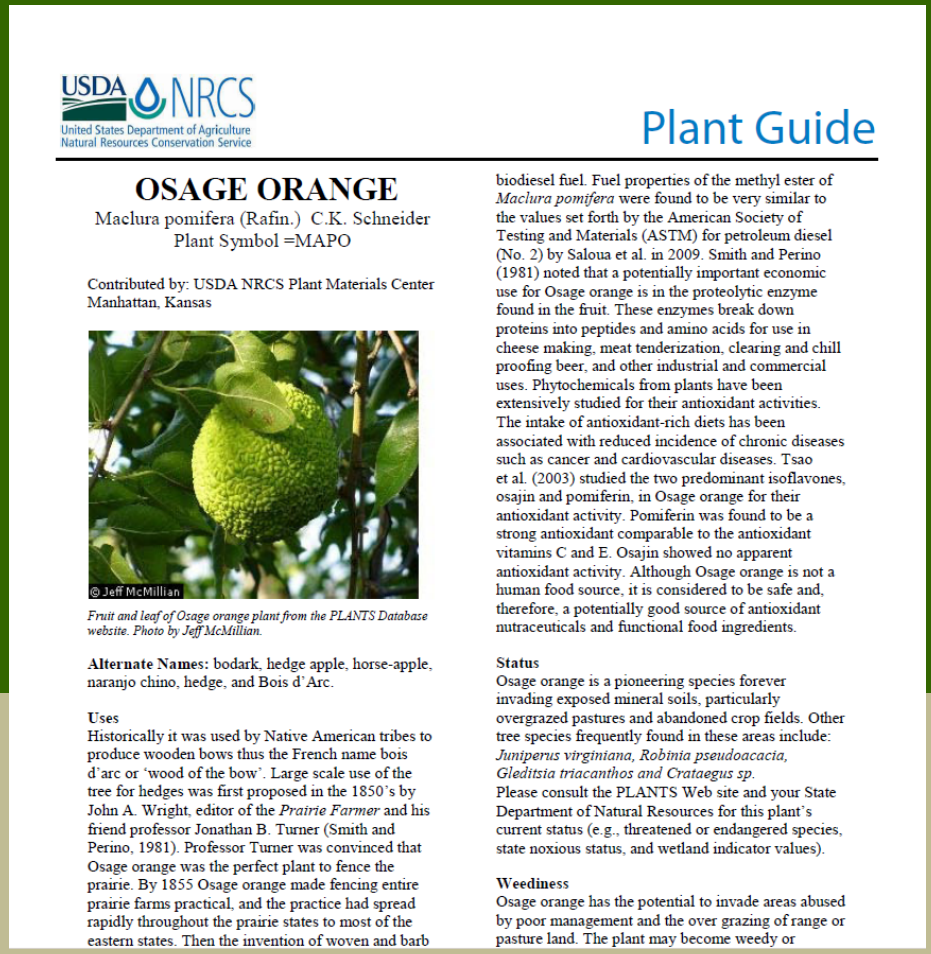
Nearly 50,000+ Images

PLANTS: Searches

- Name search
  - Scientific name
  - Common name
  - Symbol
- State search
  - More specific
- Advanced search
  - Very specific
  - Access nearly all data

Fact Sheets & Plant Guides

- Ca. 900 species available as doc or pdf files
- Explains how to utilize, establish, manage, & maintain
- Includes culturally significant information
- Plant Materials & NPDT partnership



USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Plant Guide

OSAGE ORANGE

Maclura pomifera (Rafin.) C.K. Schneider
Plant Symbol =MAPO

Contributed by: USDA NRCS Plant Materials Center
Manhattan, Kansas

Fruit and leaf of Osage orange plant from the PLANTS Database website. Photo by Jeff McMillian.

Alternate Names: bodark, hedge apple, horse-apple, naranjo chino, hedge, and Bois d'Arc.

Uses
Historically it was used by Native American tribes to produce wooden bows thus the French name bois d'arc or 'wood of the bow'. Large scale use of the tree for hedges was first proposed in the 1850's by John A. Wright, editor of the *Prairie Farmer* and his friend professor Jonathan B. Turner (Smith and Perino, 1981). Professor Turner was convinced that Osage orange was the perfect plant to fence the prairie. By 1855 Osage orange made fencing entire prairie farms practical, and the practice had spread rapidly throughout the prairie states to most of the eastern states. Then the invention of woven and barb

biodiesel fuel. Fuel properties of the methyl ester of *Maclura pomifera* were found to be very similar to the values set forth by the American Society of Testing and Materials (ASTM) for petroleum diesel (No. 2) by Saloua et al. in 2009. Smith and Perino (1981) noted that a potentially important economic use for Osage orange is in the proteolytic enzyme found in the fruit. These enzymes break down proteins into peptides and amino acids for use in cheese making, meat tenderization, clearing and chill proofing beer, and other industrial and commercial uses. Phytochemicals from plants have been extensively studied for their antioxidant activities. The intake of antioxidant-rich diets has been associated with reduced incidence of chronic diseases such as cancer and cardiovascular diseases. Tsao et al. (2003) studied the two predominant isoflavones, osajin and pomiferin, in Osage orange for their antioxidant activity. Pomiferin was found to be a strong antioxidant comparable to the antioxidant vitamins C and E. Osajin showed no apparent antioxidant activity. Although Osage orange is not a human food source, it is considered to be safe and, therefore, a potentially good source of antioxidant nutraceuticals and functional food ingredients.

Status
Osage orange is a pioneering species forever invading exposed mineral soils, particularly overgrazed pastures and abandoned crop fields. Other tree species frequently found in these areas include: *Juniperus virginiana, Robinia pseudoacacia, Gleditsia triacanthos and Crataegus sp.*
Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Weediness
Osage orange has the potential to invade areas abused by poor management and the over grazing of range or pasture land. The plant may become weedy or

Culturally Significant Plant Information

Assisting Native American Clients

from CalPhotos

Cultural Uses

Documentation

Description

Adaptation

Establishment

Management

Sources

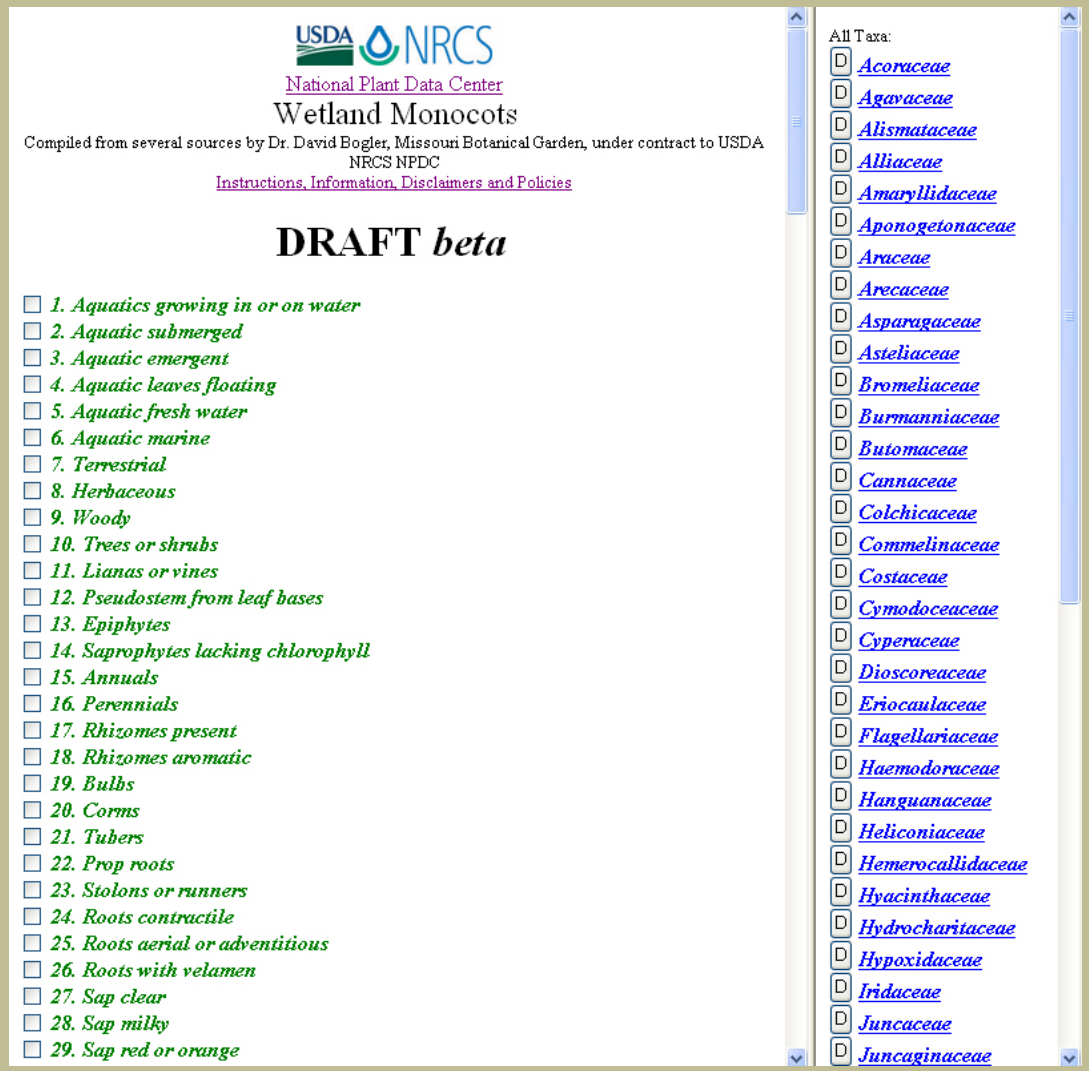
References

Technical Notes in progress:
#1 Traditional Ecological Knowledge: An Important Facet of Natural Resources Conservation
#2 Indigenous Uses, Management, and Restoration of Oaks in the Far Western United States
#3 Prairies and Wetlands of Coastal Washington, Oregon, and California: Their Native American Uses and Management

Promoting Plant Materials Information

- PLANTS and Plant Materials (PM) Integration
  - PM Web site
  - Fact Sheets & Plant Guides

Plant Identification



- When used on-line:
  - Links to PLANTS Profile
  - Links to glossary through Google
- Can be downloaded and used in the field
- Use any character to start identification process

Wildlife Habitat Values

- Integrated into Plant Profile where available
- Provides wildlife habitat ratings by plant species for animal groups
- About 1000 plant species covered.

Wildlife Habitat Values:
Maclura pomifera (Raf.) C.K. Schneid.

Source	Large Mammals		Small Mammals		Water Birds		Terrestrial Birds	
	Food	Cover	Food	Cover	Food	Cover	Food	Cover
Gee	Moderate							
Martin			Minor				Minor	

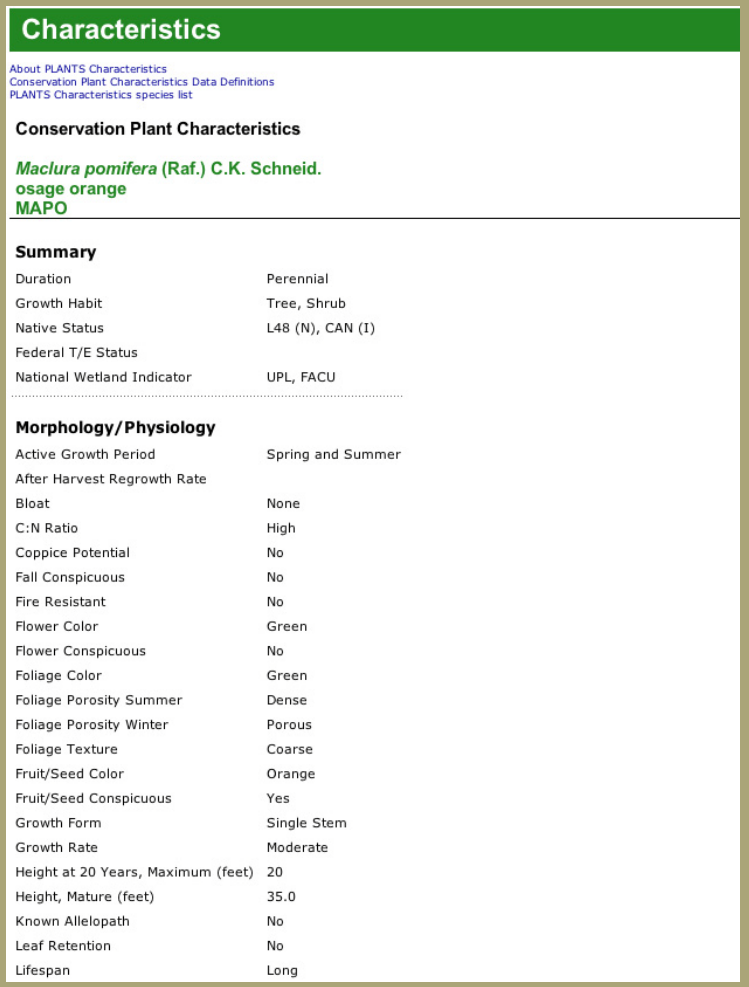
Wildlife Habitat Values

Gee, K.L., M.D. Porter, S. Demarais, F.C. Bryant, and G.V. Vreede. 1994. *White-tailed deer: Their foods and management in the Cross Timbers*. Ardmore.

Martin, A.C., H.S. Zim, and A.L. Nelson. 1951. *American wildlife and plants: A guide to wildlife food habits*. Dover Publications, New York.

Plant Characteristics

- Compiled for 2,500+ conservation plant species
- 100 characteristics
- Can be used as a filter in the Advanced Search
- These data support other applications



Characteristics

About PLANTS Characteristics
Conservation Plant Characteristics Data Definitions
PLANTS Characteristics species list

Conservation Plant Characteristics

Maclura pomifera **(Raf.) C.K. Schneid.**
osage orange
MAPO

Summary

Duration	Perennial
Growth Habit	Tree, Shrub
Native Status	L48 (N), CAN (I)
Federal T/E Status	
National Wetland Indicator	UPL, FACU

Morphology/Physiology

Active Growth Period	Spring and Summer
After Harvest Regrowth Rate	
Bloat	None
C:N Ratio	High
Coppice Potential	No
Fall Conspicuous	No
Fire Resistant	No
Flower Color	Green
Flower Conspicuous	No
Foliage Color	Green
Foliage Porosity Summer	Dense
Foliage Porosity Winter	Porous
Foliage Texture	Coarse
Fruit/Seed Color	Orange
Fruit/Seed Conspicuous	Yes
Growth Form	Single Stem
Growth Rate	Moderate
Height at 20 Years, Maximum (feet)	20
Height, Mature (feet)	35.0
Known Allelopath	No
Leaf Retention	No
Lifespan	Long

Agency Working Lists

- NRCS State Grazing Lands & Spatial Analysis Tool (GSAT) List
  - Can contain any plant symbol in PLANTS
  - Uses State common names
  - Input by State PLANTS Coordinator
- NRCS State Plants List
  - State plant list comparable to State PLANTS Checklist except with state common names.
  - State common names input by State PLANTS Coordinator.

Related Applications Accessible Through PLANTS

- Crop Nutrient Tool
  - Augments Agricultural Waste Management Field Handbook
- Ecological Site Information System
  - Plant & soil data for natural areas, providing a standard for planning.

Future Improvements To PLANTS

- Web Services
- Pollinator Conservation Information
- Phytoremediation Information
- Cover Crop Information
- Gap Filling and Added Data & Images
- Increased Distribution Linked to Specimens
- Pacific Basin Distribution
- Notes fields with cultural info, nomenclatural issues.

Visit the PLANTS Web site

- USDA
  Natural Resources
  Conservation Service
  National Plant Data Center

- http://plants.usda.gov

NRCS
Natural Resources Conservation Service