

The Oklahoma Cooperative Extension Service WE ARE OKLAHOMA

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education

for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.

- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
- It dispenses no funds to the public.
- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.



EXTENSION

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Background

Native plants are of increasing interest to the public and horticulturists alike. These plants will play an important role in the horticulture industry as it seeks new and exciting plants that will tolerate an ever-changing environment and contribute to conserving Oklahoma's rich biodiversity. Wildflowers planted by seed is a common way to add natives to the landscape and the fact sheet [Wildflower Gardening in Oklahoma \(HLA-6464\)](#) outlines this process.

The availability of quick-to-establish, container grown, native plants is limited at the average nursery or garden center. Additionally, no major horticulture institution in Oklahoma is currently compiling information on interesting native plants in a comprehensive way that is useful to horticulturists. The Department of Horticulture and Landscape Architecture at Oklahoma State University collaborated with the Tulsa Botanic Garden to create this [Native Plant Index](#) that highlights native species of potential interest to horticulturists, researchers and the public.

Purpose

The purpose of this [Native Plant Index](#) is to compile a list of plants of potential interest, along with relevant information, that will be useful in designing native plant gardens across the state. This list of 160 species and, while not extensive, also can serve as a guide for possible further research in native plant gardening. This list compiles information on each species from a variety of sources including The Biota of North America Program, Oklahoma Vascular Plant Database and other public gardens with research programs.

How it Can be Used

The variety of fields in this index allow a user to group plants by several different categories including region, disjunct populations, types of species, rarity in the wild, rarity in the industry and others. The amount of information present for any given species also will give insight into whether other organizations have done any research on it in the past, but will not automatically highlight academic research that has or has not

Native Plant Index: Unfamiliar Oklahoma Flora of Horticultural Interest

August 2021

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been conducted. The index can highlight whether a species is worth further researching by the garden. For example, the two Allium species on the list are considered noxious weeds in the state of Oklahoma and would therefore be poor candidates for a native garden, unless that legal status changes. Additionally, the specific conditions of a native garden are indications of which native species will do best there or what amendments need to be made to the soil, or if irrigation will be required, for example. Grouping plants based on "State Region" or "Native Habitat" will inform these decisions before, during and after a garden's creation.

Data Fields

Many of the data fields (columns) are self explanatory, but the following explanations for others will further outline their necessity and how the data listed was determined.

"**Name Comments**" highlights where there are commonly used synonyms for the species or where the derived Latin provides an interesting note about some characteristic of the plant or its history.

"**Which Counties Present**" lists all counties the species has been recorded in as reported by the Oklahoma Vascular Plant Database and/or the Biota of North America Project. This data is beneficial when planning a collection expedition in a specific county or group of counties. When the species is present in more than 15 counties, a region is listed and "State Region" will be a more accurate search field. "Patchwork Across State" means the species is found throughout the state with the exception of a few interspersed counties.

"**State Region**" divides the state into four areas—North East, Southeast, Northwest and Southwest. When more than one region is appropriate, the more general geographic region is listed. For example, when a species is prominent in both Southeast and Southwest, it is listed as "South." When a species is present in significantly disjunct counties in different regions or the species is present across the state, the field is left blank.

"**Significant Disjunct Counties**" highlights where the species is present in one or more counties significantly distant from other populations. If no disjunct populations were noted in the given sources, the field reads "none." Disjunct populations have the potential to be sources of genetic diversity in future research or breeding projects.

“**Seed Source**” presents reputable companies or research institutions that offer seed or other plant material (where listed) for these species. “Unverified” refers to websites that offer seed, but whose reputations are unknown and “data deficient (dd)” represents where no seed sources were found. A collections manager at a public garden or a consumer will be aided by this data in obtaining sufficient plant material for a native plant garden. Contact information for the various seed sources referenced are at the end of this document.

“**Cold Hardiness**” data was obtained through Missouri Botanical Garden’s Plant Finder. Although national distribution data can inform cold hardiness inferences, these sources are not horticultural in nature. When there is not a horticultural designation of cold hardiness, the determination is “data deficient (dd).” The cold hardiness of a plant will determine if it is a suitable native to grow as a cold hardy perennial in any of the USDA’s cold hardiness zones.

“**Bloom Time**” and “**Bloom Color**” are beneficial in designing attractive displays that remain colorful throughout the growing season.

The “**Rare**” column lists the status of the species in the wild in Oklahoma as listed by the Biota of North America Project and, in some places, the last time it was recorded as an herbarium specimen in the Oklahoma Native Plant Database. This could serve a public garden or research institution by highlighting species in need of preservation or ones that may be difficult to obtain plant material from the wild.

“**In Cultivation**” refers to the species’ status in the horticulture industry as obtainable plants (not seed). In a few places, the species was determined to definitively not to be in the industry so “No” is listed. Other species not found to be in the industry but where the possibility exists are listed as “data deficient (dd).”

“**National Distribution Significance**” is noteworthy because Oklahoma exists in a region of North America where the eastern forests shift into the cross-timbers, prairies and western deserts; therefore, the state’s flora have connections to a wide variety of ecosystems and this information can help develop cultural practices in a garden with plants of varying needs. “**Native Habitat**” also will inform horticulturists in developing cultural practices for plants missing from horticultural literature.

“**Pollinator Benefit**” is derived from Lady Bird Johnson Wildflower Center’s wildflower database. Where no known benefit exists, “data deficient (dd)” is listed. A plant’s benefit to bees, butterflies and other animals is of increasing interest to the public and other conservation efforts.

“**Other**” simply means data deemed potentially useful but did not fit in any of the other fields.

Who can Benefit

This sortable, filterable index (spreadsheet) can be useful to the homeowner desiring to investigate native plants for their own garden and to professional garden designers and horticulture researchers. It will be a highly beneficial tool for gardeners and professionals of Oklahoma to inform them about native plant options that do not frequently appear in other literature. Much like Lady Bird Johnson Wildflower Center’s Native Plant Database or Missouri Botanical Garden’s Plant Finder, this index could be a go-to source for native gardeners and other researchers.

Conclusion

While this index compiles large amounts of information in a manner that previously did not exist, it is merely a beginning for native plant research in Oklahoma. Further information will be needed, added and published as other experts contribute to this volume. For more information on how to grow native plants from seed in a wildflower garden, please see [Wildflower Gardening in Oklahoma \(HLA-6464\)](#).

Resources

Hoagland, B.W., A.K. Buthod, and T.D. Fagin. 2004-Present. Oklahoma Vascular Plants Database. (oklahomaplant-database.org/). Oklahoma Biological Survey, University of Oklahoma, Norman, OK, USA.

Kartesz, J.T., The Biota of North America Program (BONAP). 2015. *North American Plant Atlas*. (bonap.net/napa). Chapel Hill, N.C.

Native Plant Information Network, NPIN (2013). Published on the internet: wildflower.org/plants/ [accessed October 20, 2011]. Lady Bird Johnson Wildflower Center at The University of Texas, Austin, TX.

McDermott, M. (2015). The Kerr Center Guide to Native Milkweeds of Oklahoma [Pamphlet]. Poteau, OK: Kerr Center for Sustainable Agriculture.

Missouri Botanical Garden Plant Finder: missouribotanical-garden.org/plantfinder/plantfindersearch.aspx, Accessed summer 2019-fall 2020

Tyrl, R. J., & Jansen, B. P. (2008). *Field Guide to Oklahoma Plants: Commonly Encountered Prairie, Shrubland and Forest Species*. Stillwater, OK (008C Ag Hall, Oklahoma State University, Stillwater 74078-6028): Dept. of Natural Resource Ecology and Management, Oklahoma State University.

Acknowledgements

Louis Anella, PhD, Department of Horticulture and Landscape Architecture, OSU

F. Todd Lasseigne, PhD, Tulsa Botanic Garden

Samuel Fuhlendorf, PhD, Department of Natural Resources and Ecology Management, OSU

Amy K. Buthod, Oklahoma Biological Survey, OU

Mark Fishbein, PhD, Department of Plant Biology, Ecology, & Evolution, OSU

Niels Maness, PhD, Department of Horticulture and Landscape Architecture, OSU

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Seed Sources

Agrecol— Evansville, WI www.agrecol.com (608) 223-3571

American Meadows— Burlington, VT www.americanmeadows.com (877) 309-7333

B&T World Seeds— Pagnignan, Aigues-Vives, France www.b-and-t-world-seeds.com

Ball Seed— Chicago, IL www.ballseed.com (800) 879-BALL

California Native Plant Link Exchange— www.cnplx.info

Douglass King Seed— San Antonio, TX www.dkseeds.com (210) 661-4191

Dropseed Native Plant Nursery— Goshen, KY www.dropseednursery.com (502) 439-9033

Eco Blossom Nursery— Ft. Worth, TX www.ecoblossom.com (817) 720-5970

Georgia Vines— Claxton, GA www.georgiavines.com (912) 269-0199

Jelitto Perennial Seed— Louisville, KY www.jelitto.com (502) 895-0807

Joyful Butterfly— Blackstock, SC www.joyfulbutterfly.com (803) 374-2591

Lady Bird Johnson Wildflower Center Seed Bank— Austin, TX www.wildflower.org (512) 232-0100

Monticello— Charlottesville, VA www.monticelloshop.com (800) 243-1743

Moonshine Designs Nursery— Milan, IL www.moonshinedesignsnursery.com (309) 756-1967

Mt. Cuba Center— Hockessin, DE www.mtcubacenter.org (302) 239-4244

Native American Seed— Junction, TX www.seedsources.com (800) 728-4043

Native Seed Network— Corvallis, OR www.nativeseednetwork.org (541) 753-3099

Native Plant Society of Texas— Austin, TX www.npsot.org

Piney Woods Native Plant Center— Nacogdoches, TX www.sfasu.edu (936) 468-3301

Prairie Legacy Inc— Western, NE www.prairielegacyinc.com (402) 310-8167

Prairie Moon Nursery— Winona, MN www.prairiemoon.com (866) 417-8156

Rhododendron Seed Exchange— Great River, NY www.rhododendron.org (631) 533-0375

Seed Corner— Bellevue, WA www.seedcorner.com (425) 999-8475

Sheffield’s Seed Company— Locke, NY www.sheffields.com (315) 497-1058

Sibley Nature Center— Midland, TX www.sibleynaturecenter.org (432) 684-6827

Underwood Gardens—Chino Valley, AZ www.underwoodgardens.com (888) 878-5247

The URL for the Native Plant Index is: <https://extension.okstate.edu/fact-sheets/print-publications/hla/hla-plant-list.xls>