General Information

Missouri Botanical Garden is pleased to offer its eighth annual *Index Seminum*. All seed is collected from naturally occurring populations. Species that are known weeds in disturbed areas in North America, known to be invasive to North America or other continents, and related species known to be invasive to North America or other continents have been excluded from the list. While we have made every effort to ensure that we are not distributing invasive or potentially invasive plants, selections should be made carefully with consideration of the environment in which the species will be grown.

We support the Convention on Biological Diversity. The seeds offered here are for the use of the common good in the areas of research and development of public gardens and plant collections. They should not be used for commercial profit. If publications result from the use of this material, we expect acknowledgement as the source of the material and an unsolicited reprint of any publication.

Missouri Botanical Garden is a member of the International Plant Exchange Network (IPEN). IPEN membership allows for exchange of plant material with other IPEN members without bilateral agreements. Non-IPEN members must sign the AGREEMENT ON THE SUPPLY OF LIVING PLANT MATERIAL FOR NON-COMMERCIAL PURPOSES, found on the last page of this catalog. IPEN numbers are assigned to all plants that may be distributed. The IPEN number remains connected to the plant material and its derivatives through all generations to come. The IPEN number consists of the following:

1. Country of origin (two positions, abbreviation according to ISO 3166-1-alpha-2 [https://www.iso.org/home.html] "XX" is used for seeds of plants of non-wild origin).
2. Restrictions of transfer (one position, "1" if there exist a restriction, "0" if none).
3. Garden code, which can be found on the BGCI website [https://www.bgci.org/] under "Garden Search".
4. Identification number (accession number of the specific garden. Example: 2004-149 or 03214, whatever the specific recording system of the gardens generates).

Geographical Data

Seeds listed below were collected from within four Natural Divisions within the state of Missouri: the Ozark Border Division (accessions from St. Louis, St. Charles, and Franklin Counties); the Glaciated Plains Division, located across Northern Missouri (accessions from Lewis, Lincoln, and Pike County); the Mississippi Lowlands located in the Missouri boot heel along the Mississippi River (accessions from Scott and Stoddard Counties); and the Ozark Highlands, located in south-central Missouri and northern Arkansas (all other accessions). In general, these four eco-regions are separated by the Missouri and Mississippi Rivers, which divide the rolling prairie lands of northern Missouri which were formed by glaciers, from the Ozark Plateau that was formed by uplift and erosion.

Climate Conditions in St. Louis (1981 - 2010)

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Average annual precipitation</td>
<td>40.96 inches</td>
<td>Mean minimum July temperature</td>
</tr>
<tr>
<td>Average annual snow</td>
<td>17.7 inches</td>
<td>Mean January temperature</td>
</tr>
<tr>
<td>Average temperature</td>
<td>57.1°F</td>
<td>Mean maximum January temperature</td>
</tr>
<tr>
<td>Mean July temperature</td>
<td>80.0°F</td>
<td>Mean minimum January temperature</td>
</tr>
<tr>
<td>Mean maximum July temperature</td>
<td>89.1°F</td>
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SEED SELECTIONS

Please list seed selections below. Requests are limited to 10 items and must be submitted by May 1st, 2019. Please submit requests to the Plant Records department via e-mail to katherine.freeman@mobot.org or mail to: Missouri Botanical Garden, c/o Katherine Freeman/ Plant Records, 4344 Shaw Blvd., St. Louis, MO 63110, U.S.A.

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AGREEMENT ON THE SUPPLY OF LIVING PLANT MATERIAL
FOR NON-COMMERCIAL PURPOSES

Against the background of the provisions and decisions of the Convention on Biological Diversity of 1992 (CBD) and in particular those on access to genetic resources and benefit-sharing, the Missouri Botanical Garden is dedicated to promoting the conservation, sustainable use, and research of biological diversity. The Missouri Botanical Garden therefore expects its partners in acquiring, maintaining, and transferring plant material to always act in accordance with the CBD and the Convention on the International Trade in Endangered Species (CITES).

The responsibility for legal handling of the plant material passes on to the recipient upon receipt of the material. The requested plant material will be supplied to the recipient only on the following conditions:

1. Based on this agreement, seeds are supplied only for the common good such as scientific research, education, conservation, environment protection and the development of botanic gardens.

2. On receiving the seed, the recipient is obliged to document its origin (country of origin, first receiving garden, donor of the seed, year of collection) as well as the acquisition and transfer conditions in a comprehensible manner.

3. The recipient may use the seed and any progeny for non-commercial purposes only.

4. Recipient will provide the Missouri Botanic Garden with a fair and equitable share of any benefits obtained by recipient arising out of any utilisation of the seed or its progeny or derivatives, including benefits such as research results and copies of publications. In addition, recipient shall acknowledge the Missouri Botanic Garden and, where determinable, the country of origin, in all research publications resulting from the use of the seed.

5. If at any point in the future the recipient wishes to use the genetic resources or its derivatives for purposes other than those allowed by the terms and conditions under which the seed was originally acquired (such as commercial use), the recipient must obtain the written permission of Missouri Botanic Garden and specify in writing the terms and conditions of use, including fair and equitable benefit sharing as set out in Missouri Botanic Gardens policy.

6. Recipient may not transfer the seed or derivatives thereof to any party without the prior informed consent in writing of Missouri Botanic Garden.

I accept the above conditions.

__________________________________________
Signature

__________________________________________
Date

__________________________________________
Printed name and address
If you requested seeds last year, please answer the following questions and return with this year's selections.

1. Did you receive the seed you requested?
2. Were the seeds viable?
3. If possible, can you provide us with germination percentages, treatments, and or the number of plants you obtained?
4. The seeds were used for (circle those that apply):
   - Germplasm bank
   - Seed collection
   - Other (explain below)
   - Living Plant Collection
   - Research

Please note that additional collection information on all index seminum offerings and on all other taxa currently present in the Garden’s living collection can be found on the Living Collections Management System (LCMS) at [https://www.livingcollections.org/mobot/Home.aspx](https://www.livingcollections.org/mobot/Home.aspx)

Requests for plant material not offered on our seminum are reviewed on a case-by-case basis and can be submitted at [http://www.missouribotanicalgarden.org/gardens-gardening/our-garden/plant-records/plant-material-request.aspx](http://www.missouribotanicalgarden.org/gardens-gardening/our-garden/plant-records/plant-material-request.aspx). The Garden will provide assistance for most requests from researchers or fellow botanical gardens free of charge, as staff resources allow. The Garden reserves the right to deny access to plant material based on the restrictions placed on the material by the country of origin, owner, or specific permit conditions. Requests originating from foreign countries must be accompanied by the proper import permits and mailing labels for importation purposes. A fee will be charged to cover shipping and phytosanitary certificates for all international requests.

**ALISMATACEAE**

01. Echinodorus berteroi var. berteroi (IPEN US-0-MO-2018-1285)
    Collected 08/02/2018, St. Charles County, Missouri.

02. Sagittaria calycina var. calycina (IPEN US-0-MO-2017-2533)
    Collected 09/26/2017, St. Louis County, Missouri.

**ASPLENIACEAE**

    Collected 08/10/2017, Shannon County, Missouri.

**ASTERACEAE**

    Collected 04/27/2016, Franklin County, Missouri.

    Collected 08/17/2013, Howell County, Missouri.

06. Solidago nemoralis subsp. nemoralis (IPEN US-0-MO-2016-2060)
Collected 11/11/2013, Shannon County, Missouri.

08. Solidago riddelli Fr. ex Riddell. (IPEN US-0-MO-2013-2334)
Collected 11/12/2013, Shannon County, Missouri.

**CYPERACEAE**

09. Carex annectens var. xanthocarpa (Kük.) Wiegand (IPEN US-0-MO-2016-1211)
Collected 06/13/2016, Reynolds County, Missouri.

Collected 06/10/2016, Franklin County, Missouri.

Collected 06/13/2016, Reynolds County, Missouri.

Collected 09/26/2017, St. Louis County, Missouri.

Collected 10/05/2017, Scott County, Missouri.

Collected 09/26/2017, St. Louis County, Missouri.

15. Scirpus atrovirens Willd. (IPEN US-0-MO-2016-1357)
Collected 07/04/2016, Reynolds County, Missouri.

Collected 07/06/2016, Franklin County, Missouri.

**GENTIANACEAE**

Collected 08/31/2015, Franklin County, Missouri.

**HYDROLEACEAE**

Collected 10/18/2017, Stoddard County, Missouri.

**HYPERICACEAE**

Collected 11/05/2015, Lincoln County, Missouri.

Collected 10/18/2017, Stoddard County, Missouri.

**JUNCACEAE**

Collected 06/13/2016, Reynolds County, Missouri.
Collected 06/21/2017, Dade County, Missouri.
Collected 06/13/2016, Reynolds County, Missouri.

**LAMIACEAE**

Collected 10/19/2016, Pike County, Missouri.
Collected 10/18/2017, Stoddard County, Missouri.
Collected 10/19/2016, Pike County, Missouri.

**MELASTOMATACEAE**

27. Rhexia mariana var. mariana (IPEN US-0-MO-2017-2609)  
Collected 10/04/2017, Scott County, Missouri.

**ONAGRACEAE**

Collected 10/18/2017, Stoddard County, Missouri.

**OROBANCHACEAE**

Collected 10/21/2016, Franklin County, Missouri.
Collected 05/13/2016, Franklin County, Missouri.

**PENTHORACEAE**

32. Penthorum sedoides L. (IPEN US-0-MO-2016-2115)  
Collected 10/25/2016, Lewis County, Missouri.

**PHRYMACEAE**

Collected 10/29/2015, Washington County, Missouri.
Collected 10/25/2011, Crawford County, Missouri.

**PLANTAGINACEAE**

Collected 08/17/2013, Howell County, Missouri.
Collected 08/24/2016, Lincoln County, Missouri.

**POACEAE**

Collected 09/22/2017, Taney County, Missouri.

38. Glyceria striata (Lam.) Hitchc. (IPEN US-0-MO-2016-1199)
Collected 06/13/2016, Reynolds County, Missouri.

39. Leptochloa fusca subsp. fascicularis (Lam.) N. Snow (IPEN US-0-MO-2017-2537)
Collected 09/26/2017, St. Louis County, Missouri.

Collected 10/18/2017, Stoddard County, Missouri.

**RHAMNACEAE**

Collected 06/12/2018, St. Clair County, Missouri.

**RUBIACEAE**

42. Stenaria nigricans (Lam.) Terrell (IPEN US-0-MO-2015-1396)
Collected 08/12/2015, Franklin County, Missouri.
Echinodorus berteroi
Sagittaria calycina var. calycina
Asplenium rhizophyllum
Antennaria parlinii
Solidago riddellii
Cyperus squarrosus
Scirpus atrovirens
Triadenum walteri
Juncus acuminatus
Glyceria striata
Monarda fistulosa
Pycnanthemum muticum
Pycnanthemum virginianum
Juncus brachycarpus