**Introduction**

Americans have a peculiar love/hate relationship with lawns. The modern lawn is a distinctly American invention. We lavish them with an annual average of 70 million tons of fertilizer, 30-60% of our urban water supply, and spend an annual average of $40 billion on our lawns, followed by countless mowing hours requiring over 800 million gallons of gasoline.

Over the course of the last twenty years, we’ve begun to look at more sustainable alternatives to lawns. One model can be found in the plant communities that surround us. The most natural alternative to lawns in Western Pennsylvania is woodland, but another option is meadow. Indeed many plants that make up the true “prairies” of the Midwest still occur in Pennsylvania as reminders of periods in the last 10,000 years when prairies expanded eastward during warm, dry periods. Today, we can create low-maintenance meadows of Western Pennsylvania native plants that attract butterflies, birds, and other wildlife, and serve as beautiful transitions to woodland areas in the natural garden.

**How to Establish a Meadow of Natives**

**Site selection**
How much lawn area do you really need? Where would meadows look best? Think about how to make transitions from more formally landscaped areas to the meadow.

**Site analysis**
Is the site moist or dry? How steep is it? Is the soil deep and rich, or shallow and dry? Does it receive full sun?

**Site preparation**
The keys to proper site preparation are controlling weeds and providing a good seed bed.

**Selecting a planting method**
- Small sites (2500 square feet or less) can be planted entirely with small transplants or “plugs” of native grasses and wildflowers. Larger sites (up to one acre) can be planted with a combination of seeds and plugs. For sites over one acre, seeding is usually the most cost-effective method.

**Plant selection**
Use plant lists, like the one included here, to select the proper species for your site. Native Grasses must be included to help exclude weeds.

**Soil preparation**
Solarize the area in early spring by covering it with thick plastic for 40 days, allowing the sun to heat the area and kill grass, seeds and weeds. Remove the plastic, and then do shallow tilling. Several weeks later, weed seeds may have germinated and can be killed with another shallow cultivation. Follow this by preparing a finely graded seed bed prior to planting. Do not add fertilizer.

**Planting**
Seeding rates will vary, but generally you’ll need about 40-60 seeds per square foot or about ¼ pound per 1,000 square foot (10 pounds/acre). Spring seeding is usually done from about May 15 to June 30. The seed should be mixed with an inert material (like sawdust, peat moss, or sand) then broadcast over the area. The seed should then be shallowly raked or lightly rolled, and finally lightly mulched with very clean materials such as fresh grass clippings or a pelleted paper mulch.

Plugs can be trowel-planted following a seeding operation. If the planting is to be all plugs, follow the above steps (except seeding) and plant through the mulch layer 18-24 inches apart.

**Sheet Mulching, an alternative “no-till” method for converting lawn to meadow.**
- Cut vegetation as low as possible.
- Lay down cardboard or thick newspaper, then water thoroughly.
- Apply at least 4 inches of organic matter.
- Apply 2-4 inches of mulch.
- Poke a hole in cardboard and plant large seeds, tubers and small seedlings in organic matter.

**First-year maintenance**
Mow the meadow to 4-6 inches each time it reaches 12 inches. A string trimmer works well. If the meadow was established entirely by transplants, it can be hand weeded the first year.

**Second-year maintenance and beyond**
Keep an eye out for problem weeds that can be controlled by spot applications of hand weeding or additional mowing. By the third year, one mowing or burning** in early spring should be sufficient.

**Check your municipality for rules on burning**
**Native Grasses for Meadows**

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Height in Feet</th>
<th>Moisture (Dry-Moderate-Moist)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottlebrush Grass</td>
<td>Elymus hystrix</td>
<td>2-4</td>
<td>Dry/Moderate</td>
<td>Pretty seedheads</td>
</tr>
<tr>
<td>Little Bluestem</td>
<td>Schizachyrium scoparium</td>
<td>2-4</td>
<td>Moderate</td>
<td>Nice fall color</td>
</tr>
<tr>
<td>Indian Grass</td>
<td>Sorghastrum nutans</td>
<td>3-6</td>
<td>Dry/Moderate</td>
<td>Nice fall color</td>
</tr>
</tbody>
</table>

**Meadow Wildflowers**

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Height in Feet</th>
<th>Bloom time, Color</th>
<th>Moisture (Dry-Moderate-Moist)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nodding Wild Onion</td>
<td>Allium cernuum</td>
<td>1</td>
<td>June, Pink</td>
<td>Dry/Moderate</td>
<td>Nice for short meadows</td>
</tr>
<tr>
<td>Thimbleweed</td>
<td>Anemone virginiana</td>
<td>2-3</td>
<td>July, White</td>
<td>Dry</td>
<td>Durable</td>
</tr>
<tr>
<td>Turtlehead</td>
<td>Chelone glabra</td>
<td>3</td>
<td>August, White</td>
<td>Moist</td>
<td>Wet areas</td>
</tr>
<tr>
<td>Tall Coreopsis</td>
<td>Coreopsis tripteris</td>
<td>4-8</td>
<td>July, Yellow</td>
<td>Moderate</td>
<td>Birds like seedheads</td>
</tr>
<tr>
<td>Joe-Pye Weed</td>
<td>Eutrochium sp.</td>
<td>4-6</td>
<td>Sept., Pink</td>
<td>Moderate/Moist</td>
<td>Attracts Butterflies</td>
</tr>
<tr>
<td>Oxeye Sunflower</td>
<td>Heliopsis helianthoides</td>
<td>4</td>
<td>July, Yellow</td>
<td>Dry/Moderate</td>
<td>Long bloomer</td>
</tr>
<tr>
<td>Blazing Star</td>
<td>Liatris spicata</td>
<td>3-4</td>
<td>July, Purple</td>
<td>Moderate/Moist</td>
<td>Upright bloom spikes</td>
</tr>
<tr>
<td>Turk's Cap Lily</td>
<td>Lilium superbum</td>
<td>4-5</td>
<td>July, Orange</td>
<td>Moderate/Moist</td>
<td>Unusual Flower</td>
</tr>
<tr>
<td>Monkey Flower</td>
<td>Mimulus ringens</td>
<td>4</td>
<td>July, Blue</td>
<td>Moderate/Moist</td>
<td>Naturalizes</td>
</tr>
<tr>
<td>Thin-leaved Coneflower</td>
<td>Rudbeckia triloba</td>
<td>2-3</td>
<td>July, Yellow</td>
<td>Moderate</td>
<td>Long bloomer</td>
</tr>
<tr>
<td>Whorled Rosinweed</td>
<td>Silphium trifoliatum</td>
<td>3-7</td>
<td>August, Yellow</td>
<td>Moderate</td>
<td>Tall</td>
</tr>
<tr>
<td>Vervain</td>
<td>Verbena hastate</td>
<td>4-5</td>
<td>July, Violet</td>
<td>Moist</td>
<td>Fast growing biennial</td>
</tr>
<tr>
<td>New York Ironweed</td>
<td>Vernonia noveboracensis</td>
<td>4-8</td>
<td>Sept., Purple</td>
<td>Moist</td>
<td>Late bloomer</td>
</tr>
<tr>
<td>Culver’s Root</td>
<td>Veronicastrum virginicum</td>
<td>3-5</td>
<td>August, White</td>
<td>Moderate-Moist</td>
<td>Upright flowers</td>
</tr>
</tbody>
</table>

**Native Plant Nurseries for Meadow Plants**

- **Audubon Center for Native Plants**
  614 Dorseyville Road
  Pittsburgh, PA 15238
  aswp.org

- **Wetland Supply**
  194 Goodview Drive
  Apollo, PA 15613
  wetlandsupply.com

- **Ernst Conservation Seeds**
  9006 Mercer Pike
  Meadville, PA 16335
  ernstseed.com

**Audubon Suggested Reading List – Available for purchase at the Audubon Nature Store**

- *Bringing Nature Home* by Douglas W. Tallamy
- *Milkweeds, Monarch and More* by Rea, Oberhauser and Quinn
- *The Wild Garden* by Robinson & Darke
- *National Audubon Society Field Guide to Wildflowers*
- *Newcomb’s Wildflower Guide* by Lawrence Newcomb
- *Wildflowers of Pennsylvania* by Mary Joy Haywood
- *Understanding Perennials: A New Look at an Old Favorite* by William Cullina
- *Attracting Native Pollinators* by the Xerces Society
- *Native Plants of the Northeast* by Donald J. Leopold

For further info and plant purchases: Audubon Center for Native Plants 412-963-6100 • www.aswp.org