

sustainable gardens: Creating Meadows & Gravel Gardens

Olbrich Botanical Gardens
Jeff Epping
Director of Horticulture

Introduction

- Olbrich Botanical Gardens www.olbrich.org
- Why Meadows?
- The “Great” American Lawn – staggering statistics, ecological desert
- Benefits – sustainable, environmentally sound, cost effective
- Inspirational English Meadows – Great Dixter & Sissinghurst, UK
- Olbrich’s Meadow Garden
- Planting
 - same process as developing a traditional lawn from seed.
 - remove existing vegetation – organically or un-organically – glyphosate (Round-up)
 - scarify the soil – don’t rototill
 - broadcast seed, roll or lightly tamp to get good seed to soil contact
 - mulch with compost, straw, marsh hay, etc.
 - water lightly, but frequently to keep seed bed moist for optimal germination
 - water as necessary the first season to get thick healthy turf
 - weed control as necessary – pull or apply broadleaf herbicide
- Annual Maintenance
 - little watering after establishment – only extreme drought
 - mow once or twice – fall and about mid-June if desired to remove grass flowers and bulb foliage
 - collect grass clippings and compost to reduce fertility
 - no fertilizing
 - weed control as necessary – tolerance...

- Olbrich's Meadow Garden - 8000 sq. ft.
 - *Earth Carpet Care-Free Lawn Seed Blend* – www.earthcarpet.com
 - *Prairie Nursery's No Mow Lawn Seed Mix* -- www.prairienursery.com
 - creeping red fescue
 - chewings fescue
 - hard fescue
 - blue fescue
 - sheep's fescue

- Olbrich's Moonlight Meadow - 3000 sq. ft.
 - *Earth Carpet's Green Resistor* turf-type tall fescue blend w/*Carefree* blend

- Small Residential Fescue Meadow, Madison, WI
 - *Carefree* fescue blend

- Prairie Dropseed Meadow – Chanticleer Garden, Wayne, PA
 - *Spolobolus heterolepis*, Prairie Dropseed

- Olbrich's Perennial Garden Prairie Dropseed Meadow – 4000 sq. ft. , est. 2009

- Small Residential Fescue Meadow, Madison, WI
 - *Carefree* fescue blend

- Olbrich's Pennsylvania Sedge Meadow – *Carex pensylvanica*

- Mixed Sedge Planting with Longshadow Minoan Urn – *Carex pensylvanica*, *C. radiata*, *C. rosea*

- Mixed Sedge & Grass "lawn", Madison residence – *Carex flacca*, *C. flacca* 'Mini' & 'Blue Zinger', *C. grisea*, *C. pensylvanica*, *C. rosea*, *Hakonechloa macra*, *Sporobolus heterolepis*, *Bouteloua gracilis* 'Blonde Ambition'

Gravel Gardens

Introduction

- The Idea...Beth Chatto – The Beth Chatto Gardens, Cassian Schmidt – Hermannshof Garden, Roy Diblik – Northwind Perennial Farm
- Benefits – sustainable, environmentally sound, cost effective
- Plant Selection Criteria – drought-tolerant species to create lasting plant communities
- Design & Layout
 - 6"+ tall border/edge
 - 4-5" gravel depth – 3/16" washed quartzite chip or standard pea gravel
 - pot grown plants in 2 ½", 3 ½" or 4" (quart) pots are best
 - layout - random/naturalistic, stylized naturalistic, English border, etc.
 - tight plant spacing – 10-12" on average
- Planting
 - remove excess soil from root ball and tear roots if root-bound
 - peel off 1-2" of top of root ball to get rid of weed seeds
 - dig hole to depth of root ball of plant – do not mix any soil into the gravel (very important!)
 - not necessary for root ball to be in contact with soil beneath gravel
- Maintenance – watering
 - hand water after planting to settle in gravel, root balls and soil
 - water often until plants root into the soil below – 4-5 times per week
 - water 1-2 times per week after about four weeks
 - year 2 & 3 – water during drought
 - year 4 & beyond – maybe if severe drought, otherwise should be fine on own

- Maintenance - weeding
 - crowns of plants – from existing seeds or blown in seeds, soil inadvertently mixed into gravel
 - careful not to mix soil in with gravel when pulling weeds
 - edges – debris from adjacent walkways where organic matter can accumulate

- Maintenance - spring clean-up
 - cut back perennials to ground each early spring – shears, rake, blower
 - NO debris – organic matter build-up becomes a seed bed for invading weeds and increased maintenance

Design & Plants

- Olbrich's First Gravel Garden – planted in September 2009, plant design by Roy Diblik
 - 730 sq ft -- planted 10" on center -- needed 1025 plants
 - \$3.00 per plant (2 ½", 3 ½" & 4" pots) - total \$3075
 - edging stones – salvaged – no cost
 - quartzite (7/16" screened chips) – 4-5" deep – 18 tons @ \$16/ton=\$288 (Michels Materials, Waterloo, WI)
 - shipping at \$95/hour (semi) – 25 tons/load = \$380
 - Total Material Cost (minus edging) = \$3743 (based on 2016 prices)

- Garden Development - 2009 to 2016
 - ✦ *Eryngium yuccifolium*

 - ✦ *Perovskia atriplicifolia*

 - ✦ *Schizachyrium scoparium* 'Little Luke'

 - ✦ *Mondarda bradburyana*

 - ✦ *Symphotrichum (Aster) oblongifolius*

- ✧ *Echinacea pallida*
- ✧ *Limonium latifolium*
- ✧ *Allium angulosum* 'Summer Beauty'
- ✧ *Echinacea tennesseensis*
- ✧ *Allium cernuum*
- ✧ *Ruellia humilis*
- ✧ *Monarda bradburiana*
- ✧ *Tulipa* 'Red Hunter', *T. linifolia*, *T. clusiana* var. *chrysantha*, *T. batalinii* 'Bright Gem'
- ✧ *Narcissus* 'Las Vegas', *N.* 'Quail', *N.* 'Scarlett O'Hara'

- Olbrich's Visitor Center Gravel Garden – planted in August 2014
 - 4354 sq ft -- planted 12" on center -- needed 4380 plants
 - \$3.00 per plant (2 ½", 3 ½", 4" and 1 gal. pots) - total \$13,140
 - edging stones – none needed
 - quartzite (7/16" screened chips) – 4-5" deep – 100 tons @ \$16/ton=\$1600 (Michels Materials, Waterloo, WI)
 - shipping at \$95/hour (semi) – 25 tons/load = \$1520
 - Total Material Cost (minus edging) = \$16,260 (based on 2016 prices)

- Garden Development - 2014 to 2016

- ✧ *Penstemon digitalis* 'Pocahontas'

- ✧ *Coreopsis lanceolata*

- ✧ *Dianthus carthusianorum*

- ✧ *Achillea* 'Feuerland' ('Fireland')

- ✧ *Asclepias tuberosa*

- ✧ *Schizachyrium scoparium* 'The Blues'

- ✧ *Calamintha nepeta* ssp. *nepeta*

- ✧ *Sesleria autumnalis*

- ✧ *Liatris cylindracea*

- ✧ *Amorpha canescens*

- ✧ *Coreopsis tripteris*

- ✧ *Dalea purpurea*

- ✧ *Sporobolus heterolepis*

- ✧ *Panicum virgatum* 'Shenandoah'

- ✧ *Bouteloua gracilis* 'Blonde Ambition'