Selecting A Prairie Seed Mix

Part 1 – Site Assessment & Mix Standards

Presented for
The Prairie Enthusiasts by:

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Selecting A Prairie Seed Mix

Part 1

1. **Site assessment**
2. **Matching seed mixes to meet your goals and your site**
3. **What to look for in seed mixes – quality standards**

Part 2

1. Where to purchase seed
2. How much seed to order
3. Seed mix budgeting
4. Nursery mix selection

Part 3

1. Augmenting mixes or plantings with seeds and plugs for continuous blooming

Goal of presentation:

Help you become a more knowledgeable consumer to plan the prairie you want and **nature needs.**

- Example: Prairie Moon Nursery website
- https://www.prairiemoon.com/

Site Assessment

Sun Exposure

- Full - 6 hours sunlight during the growing season (leaves on trees)
- Partial – 3-6 hours
- Shade - < 3 hours

Site Assessment

What is your soil moisture?

- Medium-Wet

Excessively wet in winter, spring, and after heavy rain but often dries in summer

Example: Created moisture regime at base of raingarden

Site Assessment

Soil Moisture

- Medium (Mesic)

Water soaks in with no runoff. Sometimes experience standing water but only for a short time.

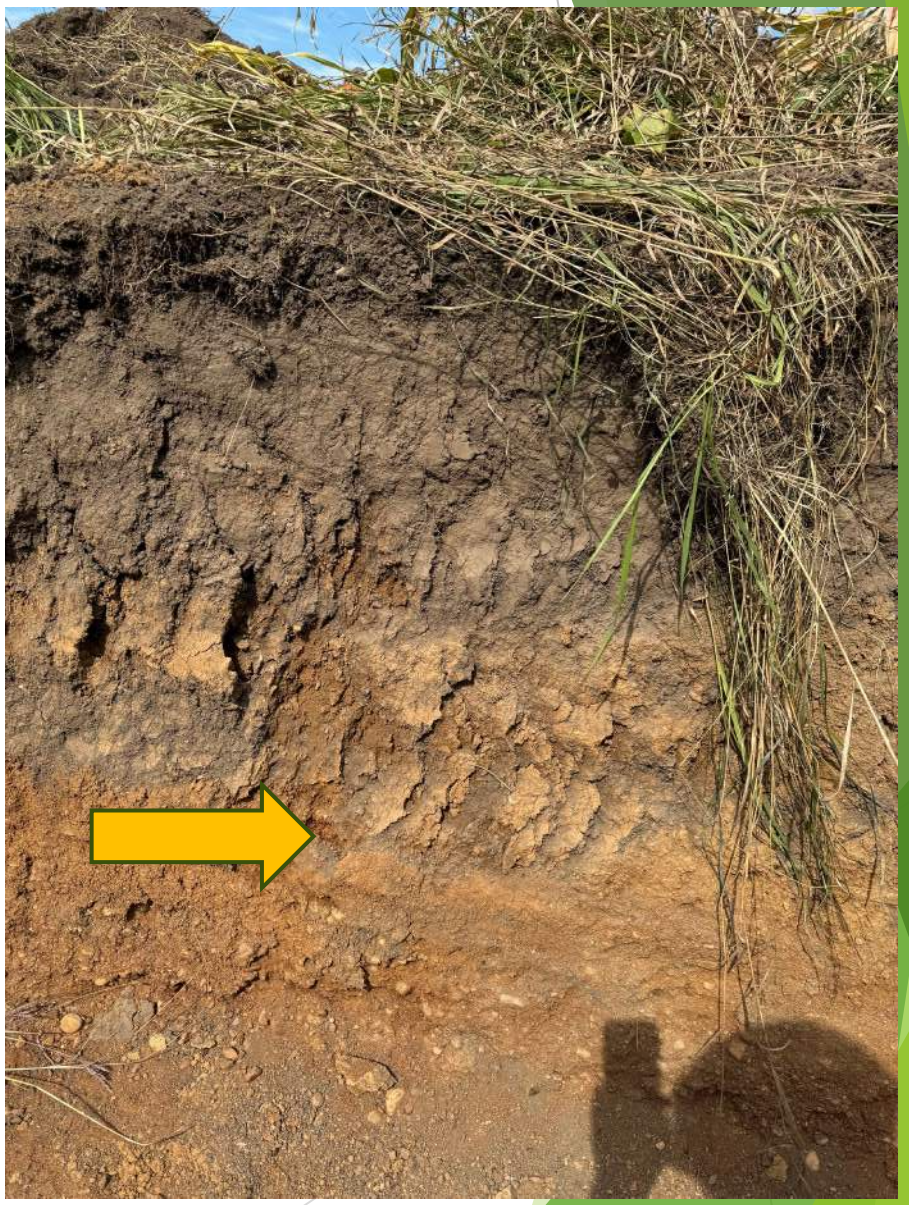
Site Assessment

Soil Type

- Medium-Dry

Well-Drained. Water is removed readily from soil, but not rapidly.

Example: Many of the soils in St. Croix County with sandy subsoil



Site Assessment

Soil Type

- Dry (Xeric)

Excessively well-drained.

Example: Bur Oak Savanna with west aspect

Site Assessment

What soil type and moisture do you have on your property?

https://websoilsurvey.nrcs.usda.gov/app/

USDA soil maps and soil descriptions can be used to:

- Identify the soil drainage class of your soil for seed selection
- Serve as a base map to decide where to plant what plant species mixes

United States Department of Agriculture
Natural Resources Conservation Service

Web Soil Survey

Contact Us | Subscribe | Archived Soil Surveys | Soil Survey Status | Glossary | Preferences | Link | Logout | Help

A A

Area of Interest (AOI) | Soil Map | Soil Data Explorer | Download Soils Data | Shopping Cart (Free)

Printable Version | Add to Shopping Cart

Search

Map Unit Legend

St. Croix County, Wisconsin (WI109)

St. Croix County, Wisconsin (WI109)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BrB	Burkhardt sandy loam, 1 to 6 percent slopes	2.0	3.9%
BxC2	Burkhardt-Sattre complex, 6 to 12 percent slopes, eroded	0.5	1.0%
BxD2	Burkhardt-Sattre complex, 12 to 30 percent slopes, eroded	1.7	3.3%
EmE	Emmert loamy sand, 12 to 35 percent slopes	9.6	19.1%

Legend

Soil Map

Scale (not to scale)

7:31 PM

Custom Soil Report

Steps: Press Start WSS button > Left bar type in address enter > drag hand to location > tap AOI Area of Interest and draw > Press Soil Map tab at top > On right press Add to Shopping Cart > Press on top Shopping Cart > Check Out > Get Now > Scroll to Map p.9 and Map Unit Description p 13 for Typical Profile and Drainage Class!

EmE—Emmert loamy sand, 12 to 35 percent slopes

Map Unit Setting

National map unit symbol: g589
Elevation: 700 to 1,600 feet
Mean annual precipitation: 28 to 36 inches
Mean annual air temperature: 39 to 48 degrees F
Frost-free period: 120 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Emmert and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Emmert

Setting

Landform: Pitted outwash plains, eskers
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy drift over sandy and gravelly outwash

Typical profile

Ap - 0 to 8 inches: loamy sand
AC,C - 8 to 60 inches: coarse sand

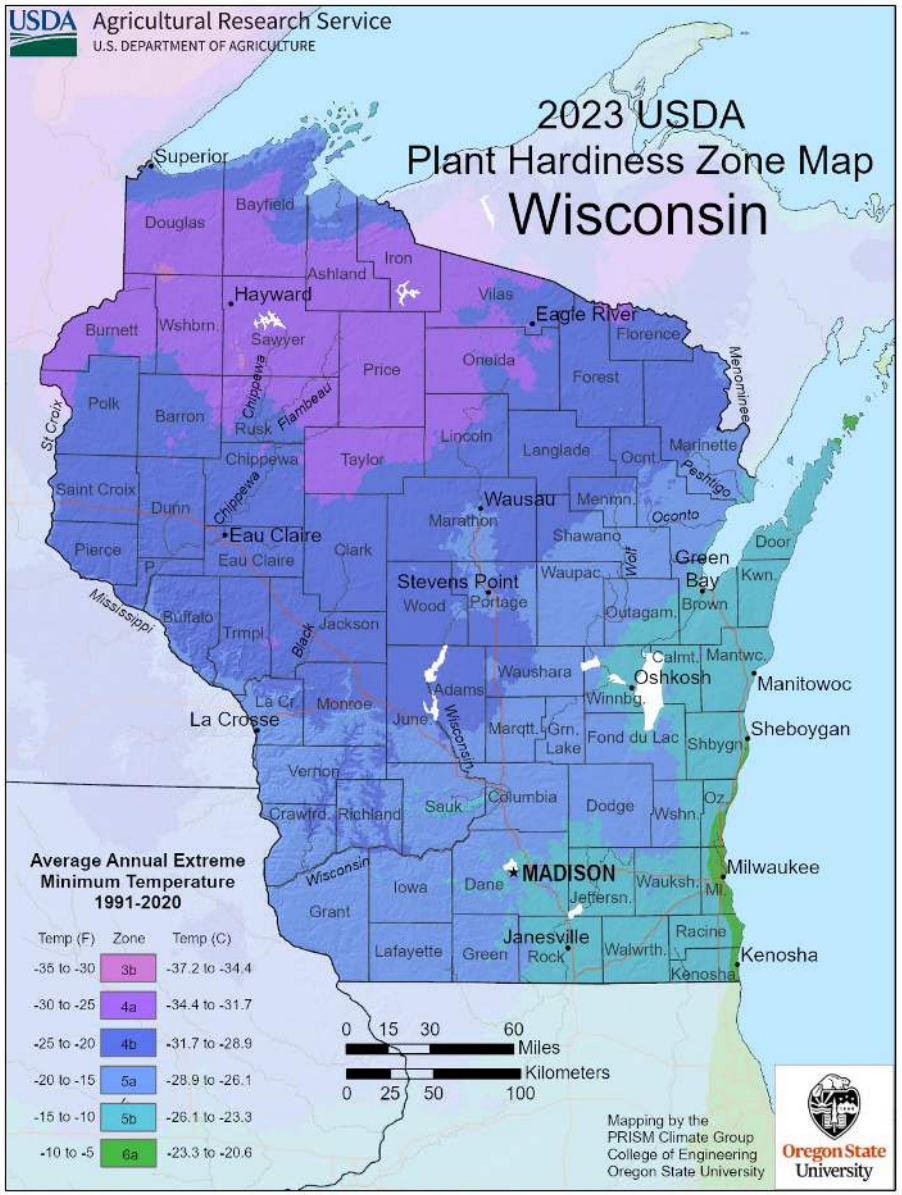
Properties and qualities

Slope: 12 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Site Assessment

USDA Plant Hardiness Zone

Western Wisconsin is in Zone 4b



Changing your site to add diversity

- Create different soil types and moisture regimes.
- Augment new areas with additional mixes.
- Add: No-mow fescue grass with native shrub grouping

Existing Soil

- Sattre loam WSS: moderately well-drained
- Soil moisture: Medium-Dry soil

Raingardens 34 x 12 ft & 28 x 10 ft

- Base: Medium-wet soil, silty clay loam
- Berm Sides: Medium soil, 2 ft silt loam

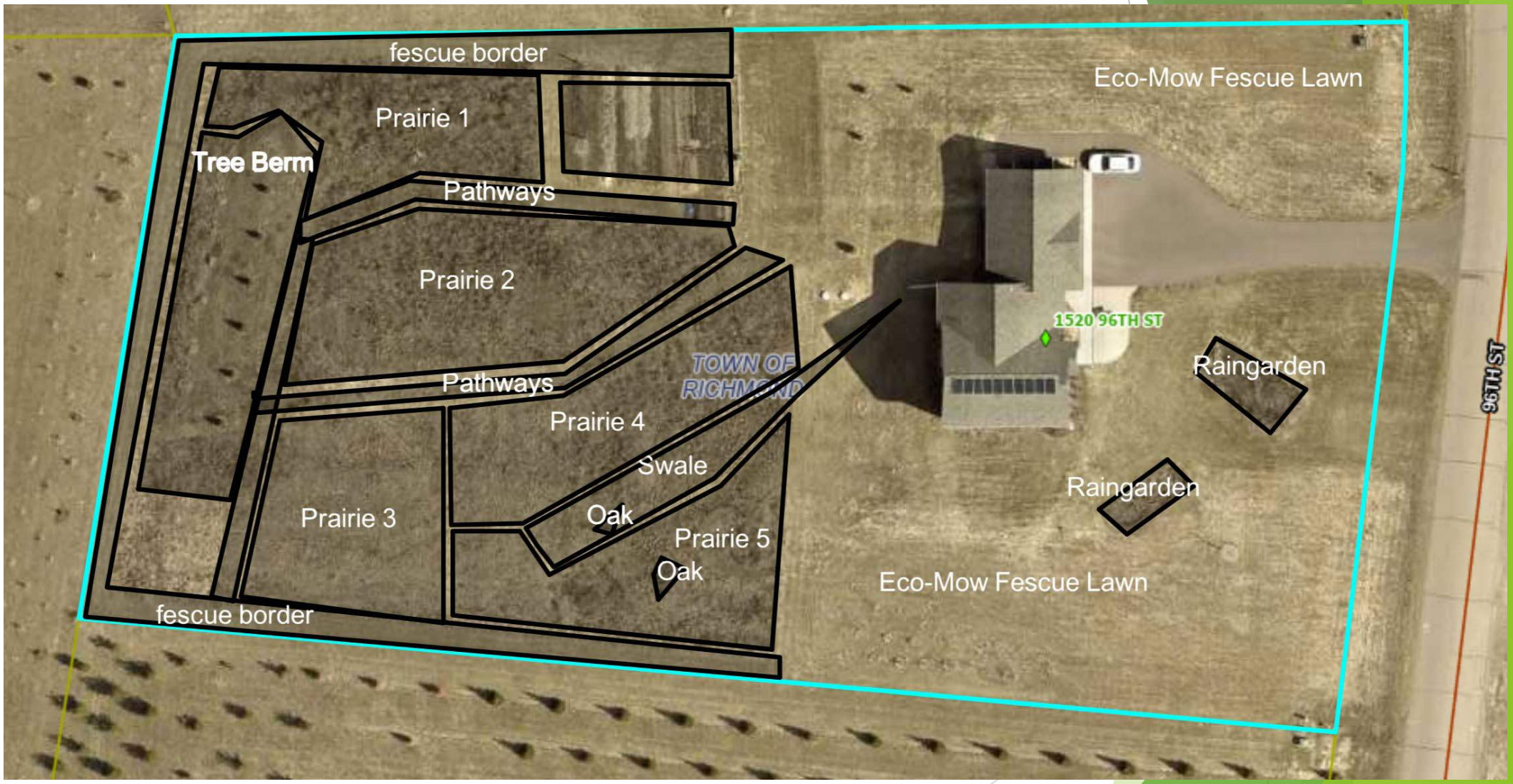
Topsoil Berm 50 x 25 x 3 ft

- Medium (Mesic) soil
- Silt loam

Scraped Swale 125 ft x 20 ft min. width

- Dry (Xeric) soil
- Loamy sand

Site Design


fescue border
Prairie 1
Tree Berm
Pathways
Prairie 2
Pathways
Prairie 4
Swale
Oak
Prairie 3
Prairie 5
Oak
fescue border
Eco-Mow Fescue Lawn
1520 96TH ST
Raingarden
Raingarden
Eco-Mow Fescue Lawn
96TH ST

Matching your seed mix to meet your goals & site

Possible Goals	% Flowers with Examples	% Grasses, Sedges or Shrubs
Approximate a native prairie	Lots of diversity – **Tapestry of species** across the multiple soil moisture regimes	Selected for place they are in landscape and the soil types
Beneficial insects for Organic farming	60% **key species:** prairie clovers, bergamot, mountain mint, coreopsis, early figwort	40% include some sedges
Attract pollinators	50 -70% **key species**: anise hyssop, milkweeds, prairie clovers, blazing stars, showy golden rod, smooth blue aster, Canada milk vetch	30-50% **Only short grass species** – little blue, side oats gramma No big blue or switch grass
Songbird habitat	45% Varies with bird species. Compass-plant, sunflowers, & coneflowers	54% grasses & several sedges 1% fruiting shrubs
Soil erosion cover at a low cost	35-40% stiff goldenrod, cup plant	60-65% lots of sedges, big blue stem, switch grass, side oats

What to look for in seed mixes

Native local ecotypes

Native plants are **4 times** more attractive to pollinators than non-native plants!

Xerces Society 2017

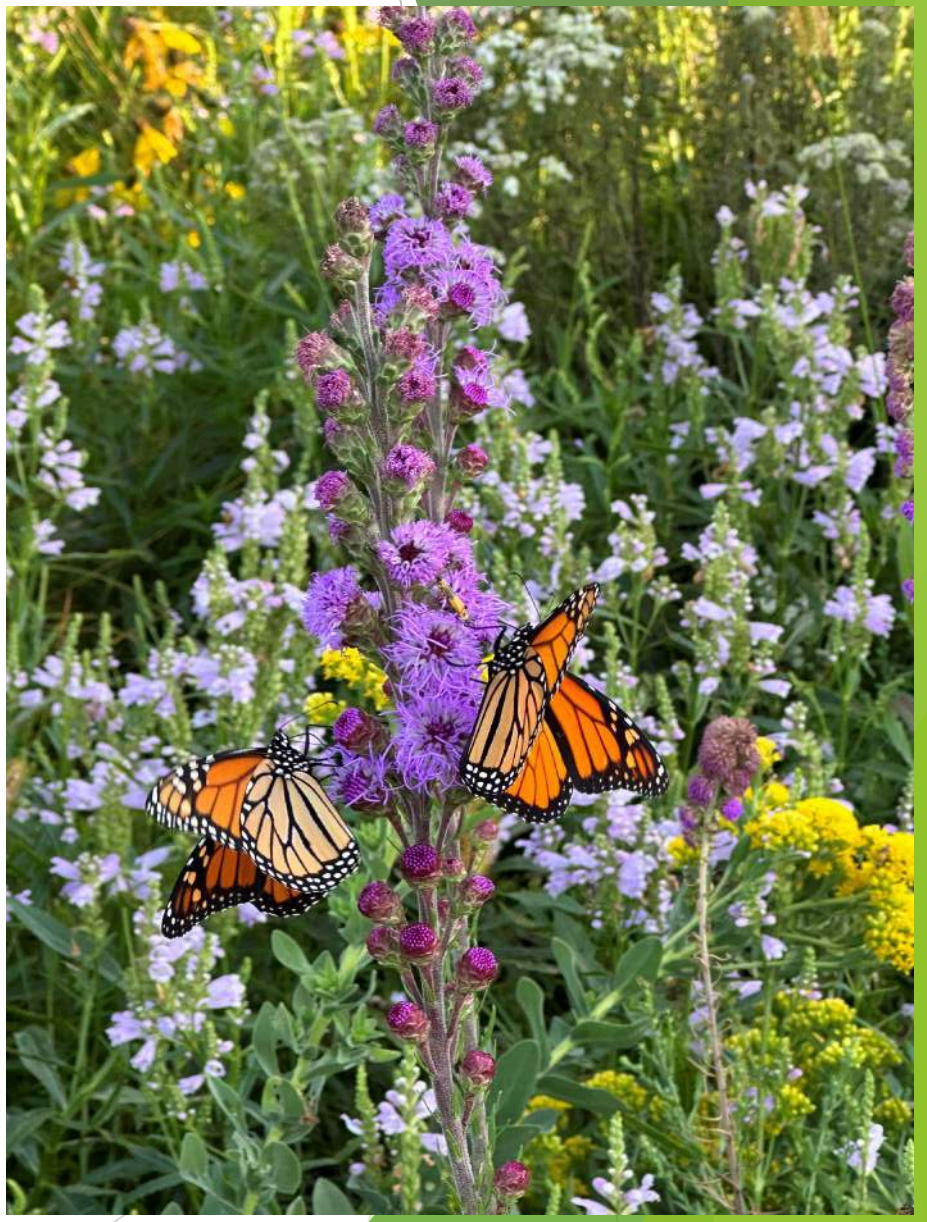
Ask nurseries for local ecotypes

What to look for in a seed mix

⟹ Diverse Range of Species

- Different flower sizes
- Shapes and
- Colors,
- as well as varying plant heights
- and growth habits,

will support a greater number and diversity of pollinators.



What to look for in a seed mix

⟹ Diverse plant heights

- Low areas allow for resting places in sun or shade and a refuge from the wind.
- High areas provide a perch to move to pollen and nectar sources.
- Grasses and bare soil (zero plant height) provide overwintering and nesting sites

What to look for in a seed mix

Pollinators need at least

3 bee-pollinated species blooming each week

- Provides for consistent food sources and a balanced high quality diet.
- Is crucial for survival and colony health

Research by Xerces Society

What to look for in a seed mix

⟹ High Number of Species

40-50 prairie species =
Good Quality Prairie
As many as budget allows

Prairie remnants have:

- 60-70 species in 5-acre
- 100–150 in 5-to-10-acre
- 400 species in > 50 acres

Research by Rich Henderson, WI DNR

What to look for in a seed mix

⟹ High Seeds/square foot

- 50 to 60 + seeds/sq ft = **Good Quality Prairie**

To achieve the desired **4.5- 5.5 species/sq ft after establishment**

Only get 10% seed establishment across all species due to losses from burying, predation, erosion, wind, and low germination

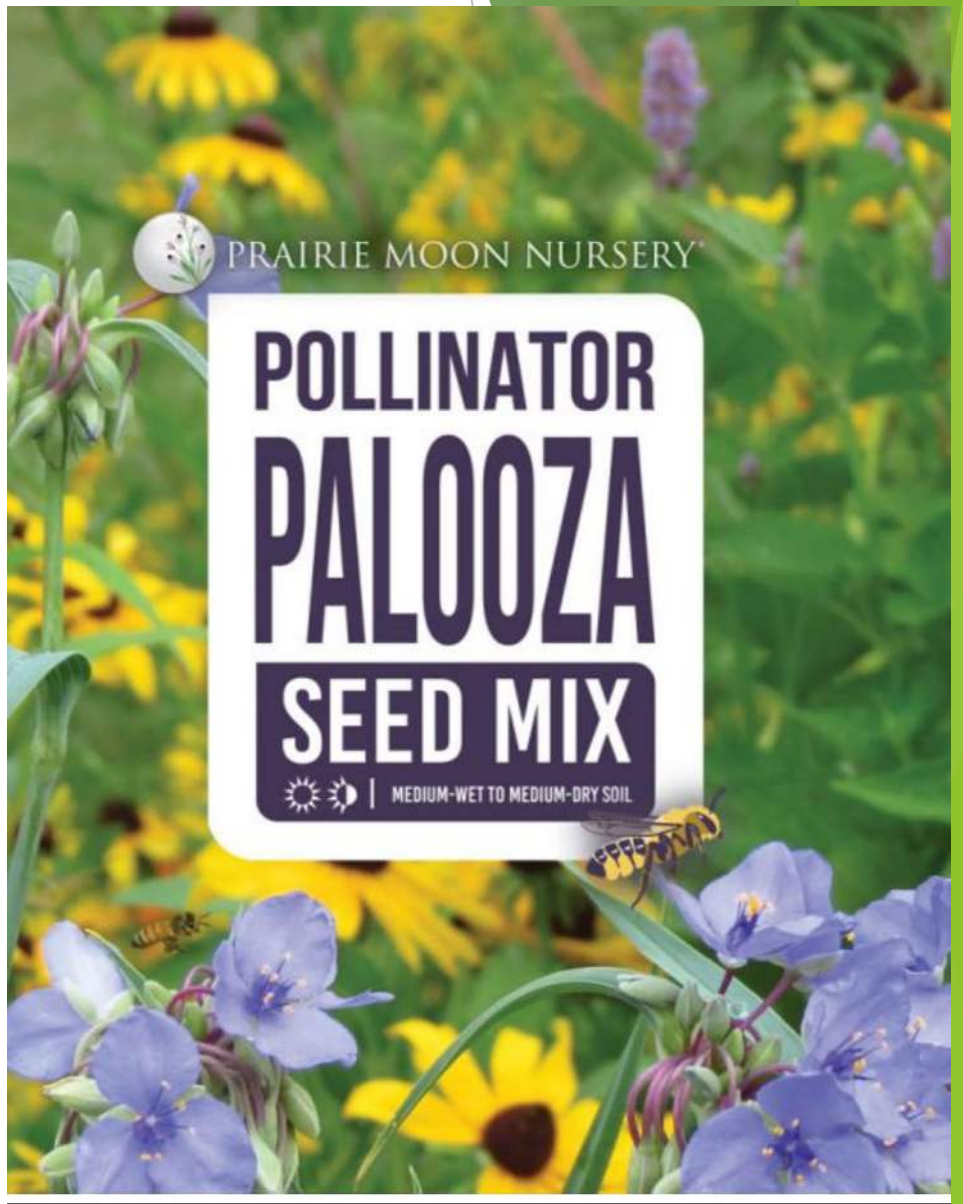
Research by Rich Henderson, WI DNR

What to look for in seed mix

High Flower to Grass Ratios

- 50-70% forbs based on **Pure Live Seed.**
- Need some grasses for fuel for burning and weed competition.
- Seed Nurseries have mixes for particular purposes.

Example: Pollinator Palooza Seed Mix from Prairie Moon Nursery
55% forbs 45% short grasses



What to look for in a seed mix

⟹ Adjust Species & Seeding Ratios

Adjust ratios:

- Cut aggressive species and species that spread quickly by lateral rhizomes.

  Examples: Big bluestem, Prairie tickseed, Sunflowers, some Goldenrods, and Heath Aster.

- Increase ratio of species with low establishment rates

  Research by Rich Henderson, DNR