

Seed Stratification Instructions



Definitions

Seed Dormancy

Typically an imbalance in favor of Abscisic Acid (ABA) which is a crucial plant hormone regulating growth, development, and stress responses.

Hormones in plants which are crucial regulators of growth and development, promoting seed germination, stem elongation, flowering, and fruit development, while also helping break dormancy.

↪ Exogenous: Physical, Chemical, Mechanical
Endogenous: Physiological, Morphological, Combined

Vernalization

Vernal means spring – the natural process to suppress flowering, plant growth resumption, or seed germination until ideal environmental conditions are satisfied.

Stratification

Archaic horticultural term when seed is stratified between layers of moist soil for seed germination.

↪ Medium
Water → Moist
Cold Temperature: 33 – 40 degrees
Seed Codes: A, C(10), C(30), C(60), C(90), C(120)

↪ Provide a cold moist environment for a set time. A means no cold/moist needed.

C(#) means cold/moist for a set number of days.

Any seedling potting medium can be used → No fertilizer is best.

Potting medium needs to be moist → Not saturated → When you squeeze the potting medium, no drops of water should come out and it should form a loose ball.

Baggie Method Explained

2-3 T



1. Mix seed with ~~2-4T~~ moist soil in a small plastic bag. Place in refrigerator for 60 days.
2. Spread bag contents onto the surface of moist potting medium. Cover lightly with soil. Cover container to retain moisture and place in warm location.
3. Transfer container to sun or supplement light for 4-6 weeks after first signs of growth.
4. Transplant individual seedlings into 3" pots or into garden.

For more info: westmichiganshoretoprairie.wildones.org

The seeds you were given are C(60). Mix the seeds in a small plastic bag with 2-3T of your moist potting medium.

Label with species name, today's date, and 60 days from today's date. Place the baggie in the refrigerator and wait!

Once the 60 days is up, take your baggie and spread its contents onto the surface of a moist potting medium in a 8" community pot (i.e. with a lid). Mix the seed until evenly distributed. Lightly cover with ~1/8" potting medium.

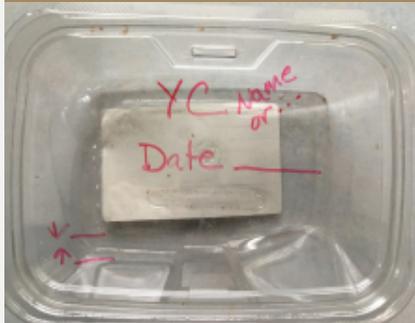
The seeds need to be close to the surface to they will be able to emerge. 2-3 x seed diameter = seed depth. Don't put any holes in the bottom of your community pot. Make sure to label the community pot with the date.

Place community pot in a warm area. Once you see signs of germination (~1 week), we now need light and the lid removed. Whether that is south facing light, grow lights, or shop lights. Place the lights 8-10" away from top of pot. Once they start to grow, move the light farther away from pots surface.

Seed Depth



Seed depth = 2-3 x seed diameter



Light!



Timing Stratification/Cold,Moist

- 10 day
- 30 day
- 60 day
- 90 day
- 120 day

Ratibida pinnata Summer, July,Sept
Yellow Coneflower

Zizia aurea Spring: May, June
Golden Alexander

Symphoricarum novae-angliae (Aster novae-anglia)
New England Aster Fall: August, Oct



- Community pot: allow 1 week for cotyledons
- Community pot: 4-6 wks growth
- TP garden

Community Pot: ____
Garden: May ____ (5 wks growth)



Anticipating the final move to the garden is important. Seedlings should be in the community pot for about 4 weeks or until a second or third set of true leaves show.

Transplant your seedlings into 3" pots. Allow 5 weeks of growth in the 3" pot before transplanting into the garden.

After 5 weeks in the 3" pot, if there is not roots felled to the bottom of the pot then wait another week or so before transplanting into the garden.

If fesiabile, you can transplant right into the garden from your community pot. – just make sure you have enough true leaves to sustain the newly transplanted seedling but not too many so they don't get intertwined.

If you transplant to garden from community pot, make sure to cover with a light piece of cheese cloth for a week.



***Symphotrichum novae-angliae* (*Aster novae-anglia*)**
New England Aster

C(60)



Photo credit: A.A. Plantlok



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
							X	X	X		

Known Foragers and Pollinators: Honeybees, bumblebees, native bees, bee flies, butterflies, and skippers [2]. The preferred nectar plants for butterflies and moths in the fall [1].

Larval Host: Many species of moths [2]. Pearly Crescent Butterfly, Canadian Sonia Moth, Mining Bee (specialist) [1].

Plant Community: Waters Edge

Growing Conditions: Sun to some shade. Wet mesic tolerating dry mesic soil moisture. Loamy Sand to Clay Loam soil [1]. FACW [4].

Plant Characteristics: Herbaceous perennial, 2-5' tall.

[1] Heather Holm, Pollinators, [2] http://www.illinoiswildflowers.info/prairie/plantx/ne_asterx.htm, [4] MI Flora online <https://www.michiganflora.net/record/487>

New England Aster

Zizia aurea
Golden Alexander



male mining bee on Golden Alexander
 tea and flower – photo credit: Amber Barnes



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				X	X						

Known Foragers and Pollinators: Nectar and Pollen source for long and short tongued insects [1] including native bees, wasps, bumblebees, butterflies, and true bugs, [3] Syrphid, Tachined flies and Crab spiders. Mining bee (*Adrena ziziae*) specialist bee feeds and provisions only on *Zizia aurea* [1].

Larval Host: Black swallowtail butterfly [1], rigid sunflower borer moth [1]

Plant Community: Prairie [1], Mesic Prairie, Bur Oak Plains, Oak Openings, Wet-mesic Prairie, Wet Prairie [2]

Growing Conditions: Sun to Partial Shade; loam soils but adaptable to wetter and drier soils [1]. FAC

Plant Characteristics: Herbaceous perennial, Size: 2 1/2' tall

[1] Heather Holm, Pollinators, 2) MNFI, [3] http://www.illinoiswildflowers.info/prairie/plantx/gld_alexanderx.htm [4] Michigan Flora online <https://www.michiganflora.net/record/151>

Golden Alexander

C(60)

Ratibida pinnata
Yellow Coneflower

C(60)



Bloom Period:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					X	X	X	X			

Known Foragers and Pollinators: Used by native bees, wasps, flies, small butterflies, and beetles. [3]. Highly rated for attracting beneficial insects (predators and parasitoids). [1]

Larval Host: Silvery checkerspot butterfly, common eupithecia moth [3], and the wavy-lined emerald moth. [1,3]

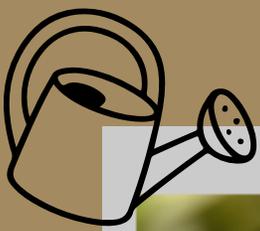
Plant Community: Prairie [1].

Growing Conditions: Full Sun. Wet mesic to dry soil moisture. Sandy loam and clay loam soil. [1] UPL [4]

Plant Characteristics: Herbaceous perennial, 3-5' tall.

[1] Heather Holm, Pollinators, [3] http://www.illinoiswildflowers.info/prairie/plantx/yl_coneflowerx.htm [4] MI Flora online <https://www.michiganflora.net/record/434>

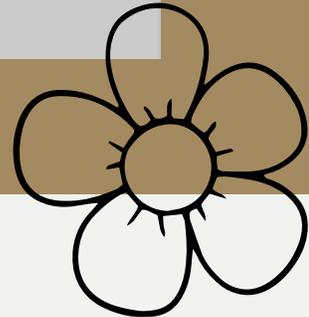
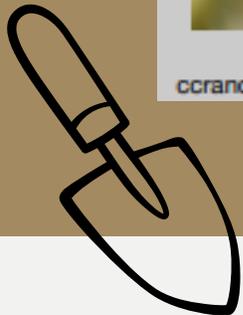
Yellow Coneflower



Questions?



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Thank you for attending our inaugural January Kick-Off series of West Michigan Shore-to-Prairie – We hope you enjoyed your time and learned a fact about native plants!

For questions about this tutorial, either contact Connie Crancer at ccrancer@umich.edu at her personal account or contact the seedling chapter at WestMichiganShoreToPrairie@wildoneschapters.org.

We look forward to seeing you at more of our events –
Bring your friends!