



Growing Native Plants by Seed

with Laura Thomas



Hidden Habitat
ecological landscapes

Coming up

How and
where to
collect seeds

How to clean
and store
seeds

How to
germinate and
sow seeds

Where to start



Seed Collection Guidelines

Permission

Always get permission from landowners

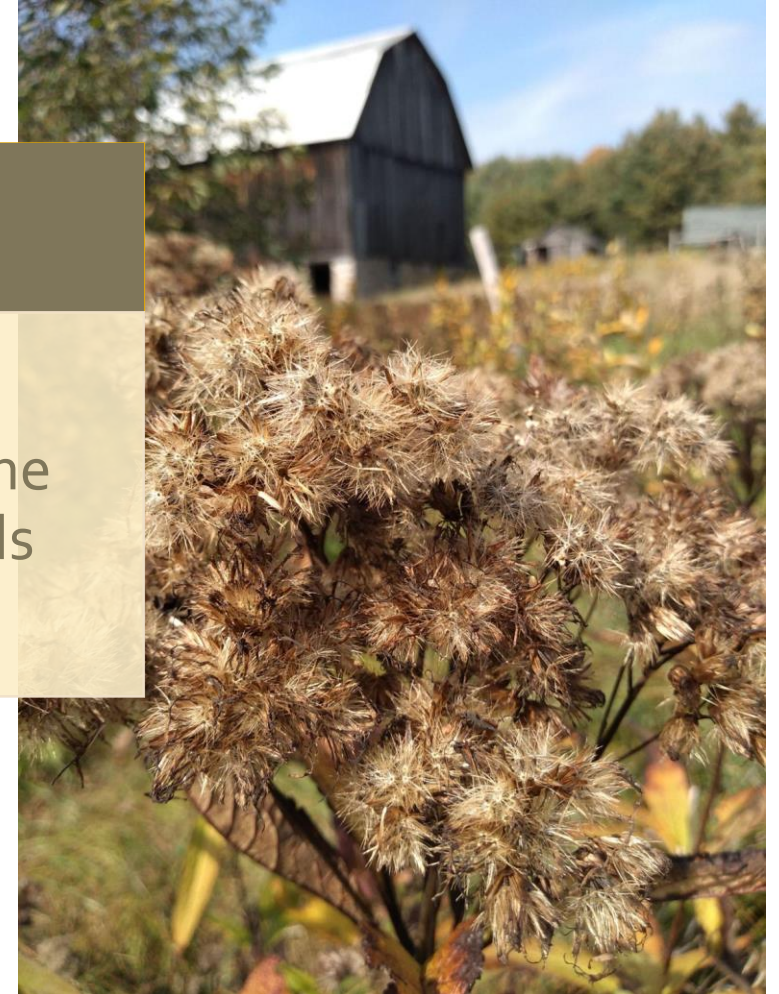
Know

Know what you are collecting

- Avoid invasive species
- Avoid rare species

Take

Take no more than 10% of the available seeds

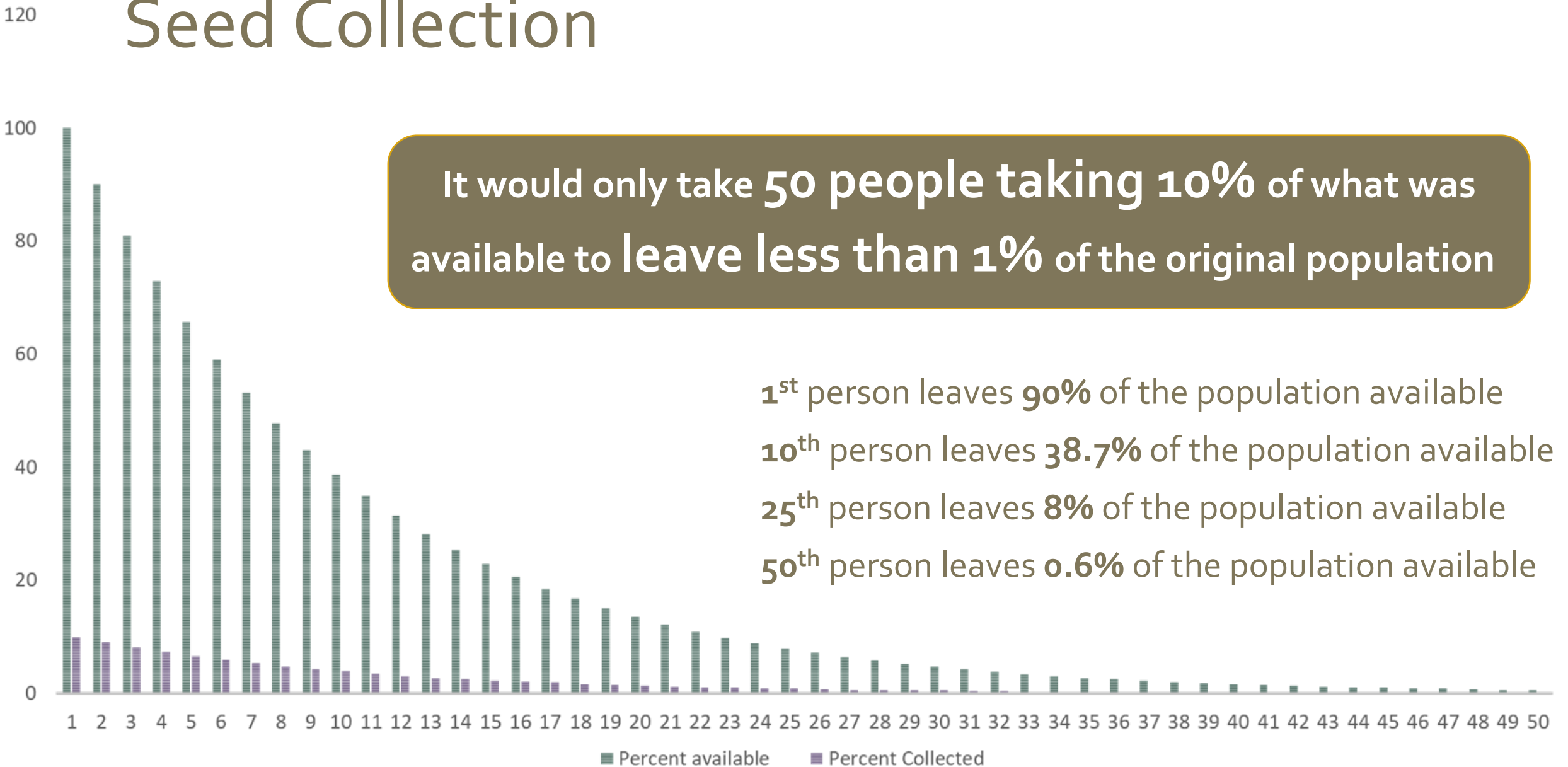


Spotted Joe-Pye Weed

Seed Collection

It would only take **50 people taking 10%** of what was available to **leave less than 1%** of the original population

1st person leaves **90%** of the population available
10th person leaves **38.7%** of the population available
25th person leaves **8%** of the population available
50th person leaves **0.6%** of the population available



When to Harvest

Typically late summer and fall

Sunny, dry days to reduce time needed to dry seeds.

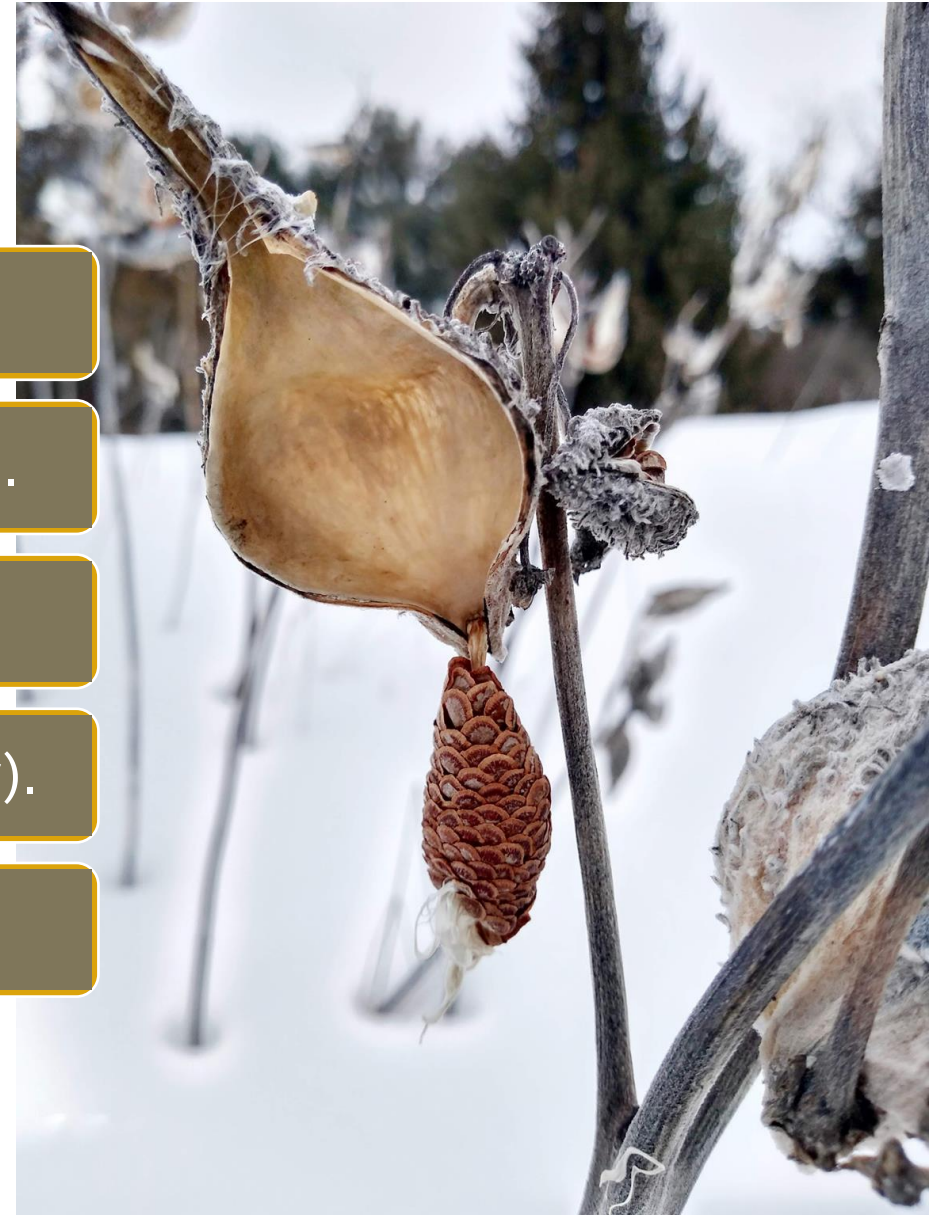
Seed pods have matured from green to brown.

Seeds & seed pods may feel drier, hard (less spongy).

Seed pods have started to open or split.

Tips

- Label!
- Collect into paper bags
- Air dry seeds for 3-5 days



Common Milkweed

When to Harvest

Make sure to get there before the birds!



Gray-headed Coneflower

Harvesting Common Milkweed

Tip

Do as much in the field as possible to save time cleaning.



Harvesting Joe Pye Weed



Seed Cleaning

Methods of removing seeds from pods

- Winnowing (blowing)
- Screening
- Threshing

Tools for removing plant debris and chaff

- Sieves with different gauges
- Vacuum
- Hair dryer
- Stainless steel bowls or trays (avoid plastic)



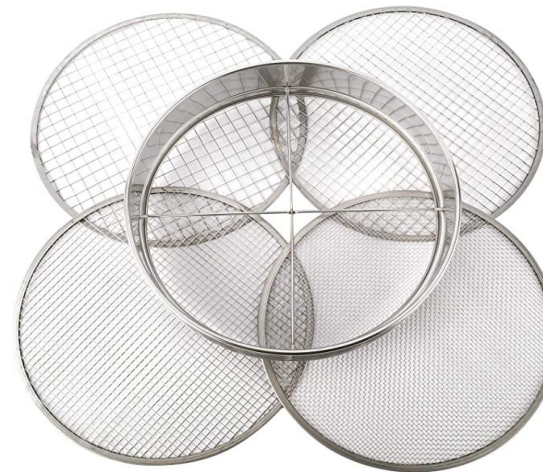
Turtlehead



Foxglove Beardtongue



Missouri Ironweed

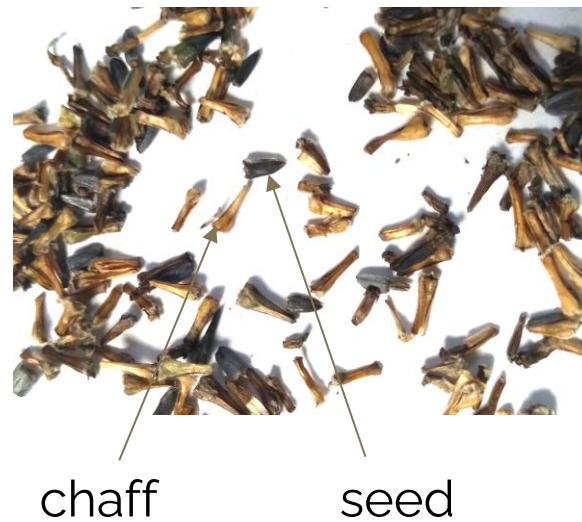


Seed Cleaning Tips

Use a well-ventilated area

Don't aim for perfection

Don't try to keep it all



Storing Seeds



Ensure the seeds are dry.



Keep them in a cool, temperature controlled area.



Store seeds in an airtight container (plastic or glass, not paper).



Prevent moisture from getting into the seed pack.

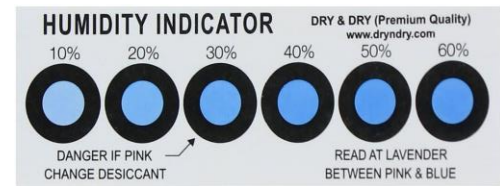
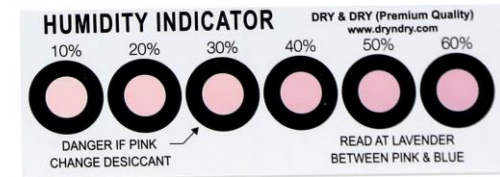
Ideal temperature for seed storage is between **4 – 10°C**



Moisture Kills

How to prevent humidity

- Store in a cool dry location. Fridges are humid, so be cautious
- Check for high humidity with re-usable humidity indicator cards
- Reduce moisture of stored seeds with silica gel packs



Storage Time

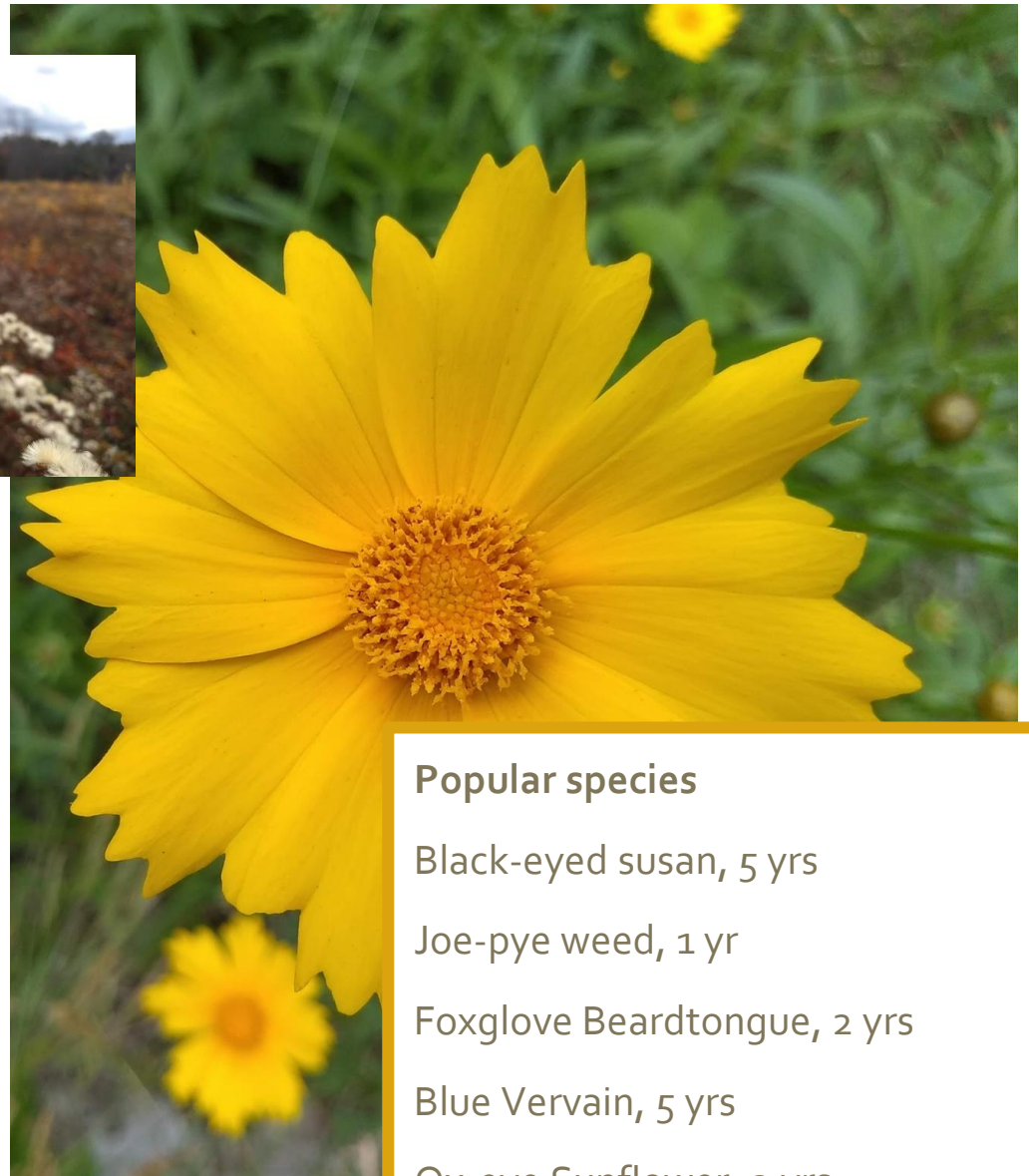


Asters & goldenrods - 1 year

Grasses & sedges - 1 to 5 years

Fruiting shrubs - 2 to 5 yrs

Credit: Mary Gartshore, 2019

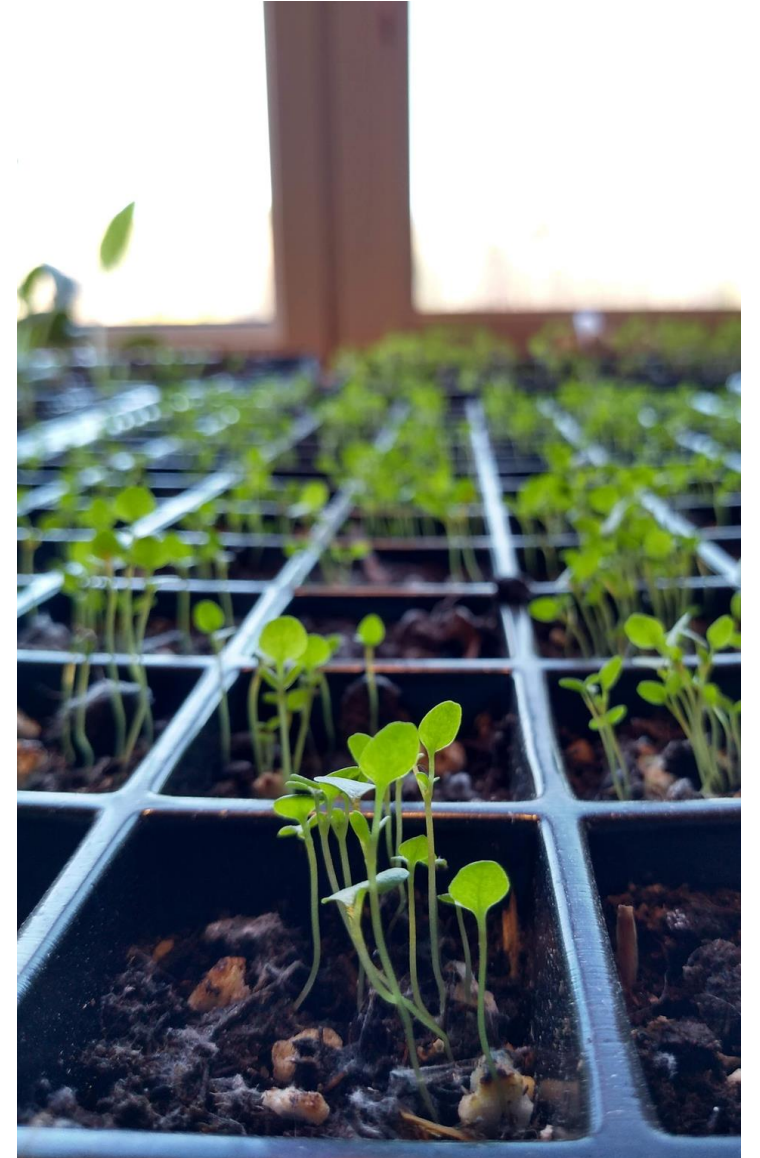


Popular species

- Black-eyed susan, 5 yrs
- Joe-pye weed, 1 yr
- Foxglove Beardtongue, 2 yrs
- Blue Vervain, 5 yrs
- Ox-eye Sunflower, 2 yrs

Seed Viability Test

- Water test: Place some seeds in a container of water and let them sit for 15 minutes. If the seeds sink, they are still viable; if they float, they most likely will not sprout.
- Germination test: Place some of your seeds on top of a damp paper towel. Fold over the paper towel and place in a zip-up plastic bag and seal it. Then put in a warm location, like a high shelf or on top of the refrigerator. Check the seeds often for germination.



Cut Test

- Randomly select a few seeds and slice into them lengthwise to see if the embryo is present and viable.
- Can be difficult to perform on small seeds and difficult to spot the location and viability of embryos in various species.



Stratifying Seeds

- Scarification vs Stratification.
- What is stratification?
 - Cold-moist stratification, aka winter and spring
 - How long should you stratify?
- Methods of cold moist stratification
 - Refrigeration
 - Fall direct sowing
 - Fall/Winter outdoor treatment
 - Snow planting

Tip

Preferred method is sowing seeds in plugs trays in late fall and letting them over winter outdoors.

Seeds can stratify for longer than needed with no harm.

Stratifying Seeds

Stratification is a process of pretreating seeds in order to simulate natural conditions (typically temperature and moisture) that seeds would experience in the soil over-winter.

For most native species, cold-moist stratification is required. This means exposing the seeds to a period of cold and wet and conditions.

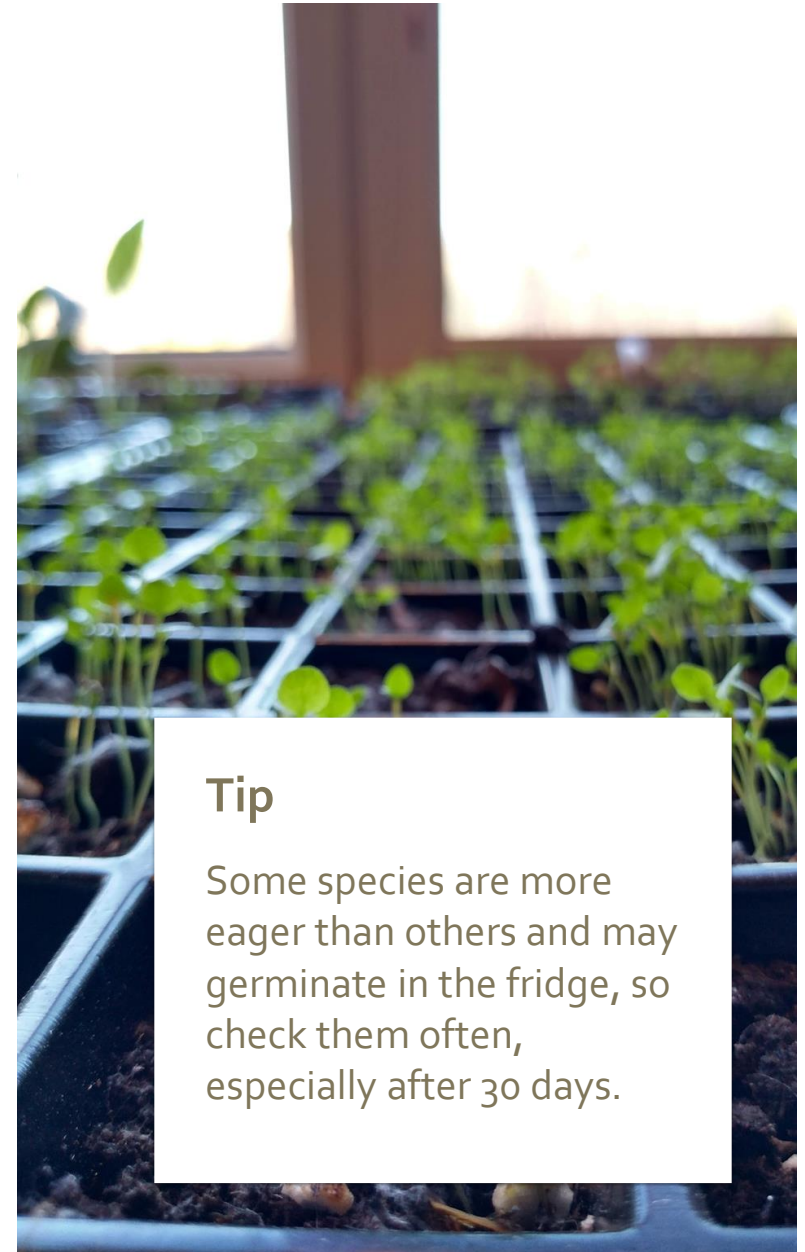
Methods of cold-moist stratification include:

- Refrigeration
- Fall direct sowing
- Fall/winter outdoor treatment
- Snow planting



Stratifying Indoors

- Mix the seeds with a moistened inert material i.e. sand, peat, or vermiculite in sealed plastic bags or air tight containers.
- Label with date & species.
- Place the seeds in the refrigerator or somewhere consistently cool. Never in the freezer.
- Keep in the fridge for 30+ days.

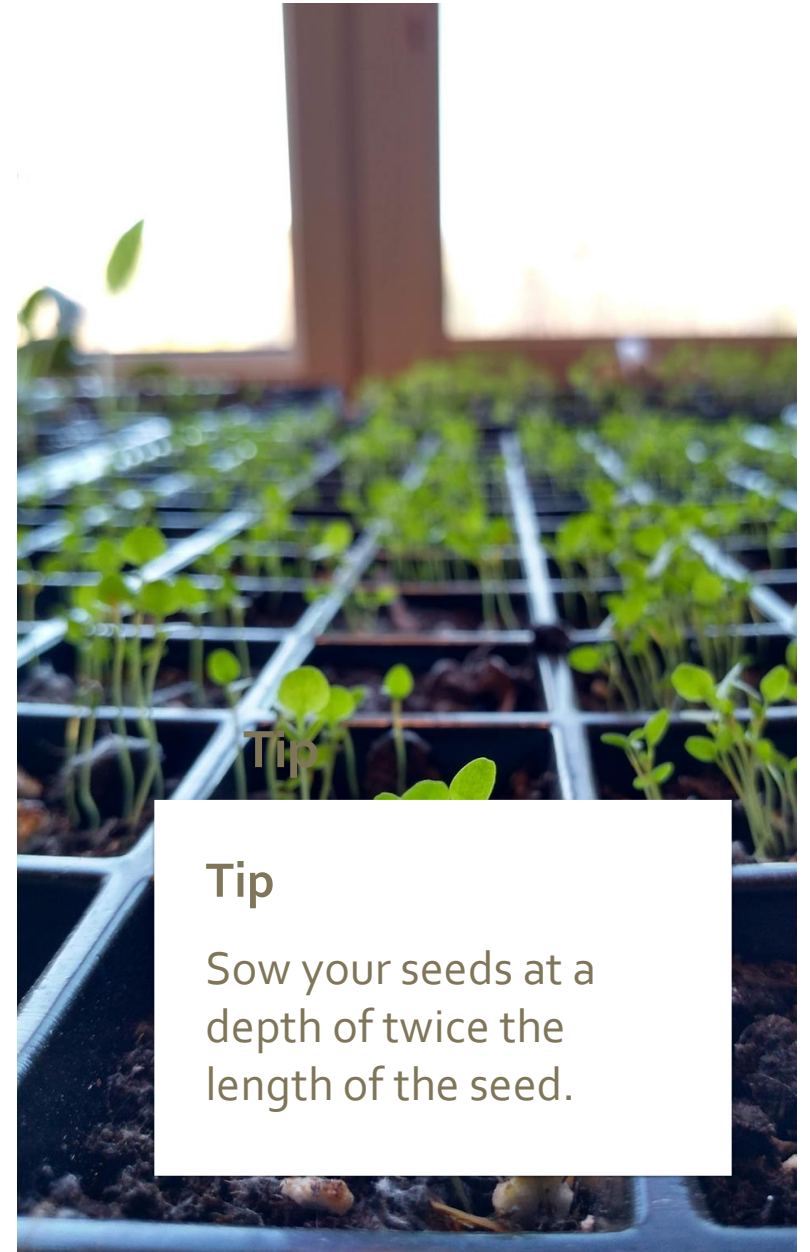


Tip

Some species are more eager than others and may germinate in the fridge, so check them often, especially after 30 days.

Stratifying Indoors

Once the seeds have been stratified, seeds can be sown outside, after the last hard frost in spring (typically mid-May) or indoors in seed trays.



Tip

Tip

Sow your seeds at a depth of twice the length of the seed.

Stratifying Outdoors

Seeding in Trays

- Sow seeds in sterile seed mix in late fall to early winter.
- Place trays outside.
- Sowing in trays can provide more control and higher germination success than sowing direct into the garden/landscape.



Tips

To deter rodents, place wire above and below the seed tray.

Avoid placing your seed tray where the temperature will fluctuate.

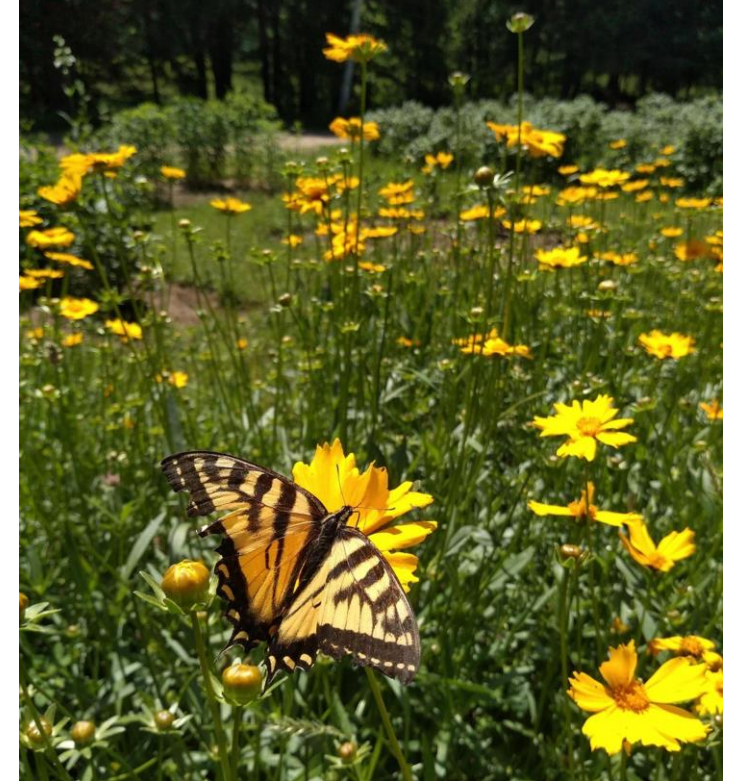
Stratifying Outdoors

Direct Sowing (in the ground)

- Sow in Fall
- Ideal for larger areas
- Best for species with high germination rates

Site Preparation

- The better prepared, the better the success
- Ensure seeds have good contact with soil
 - Don't bury, lightly rake
- There will be maintenance
 - Weed whacking, watering, weeding



Canadian Tiger Swallowtail on
Lance-leaf Coreopsis

It can take 3-5 years for seeds to become established, flowering plants.

Scarifying Seeds

Scarification in botany involves weakening, opening, or otherwise altering the coat of a seed to encourage germination. Scarification is often done mechanically, thermally, and chemically. Examples of scarification include soaking the seeds in water and rubbing with sandpaper.

Species that germinate best with scarification are Lupines, Blue False Indigo & Wild Senna.



Seedling Care

Germination requirements – Light vs. Warmth

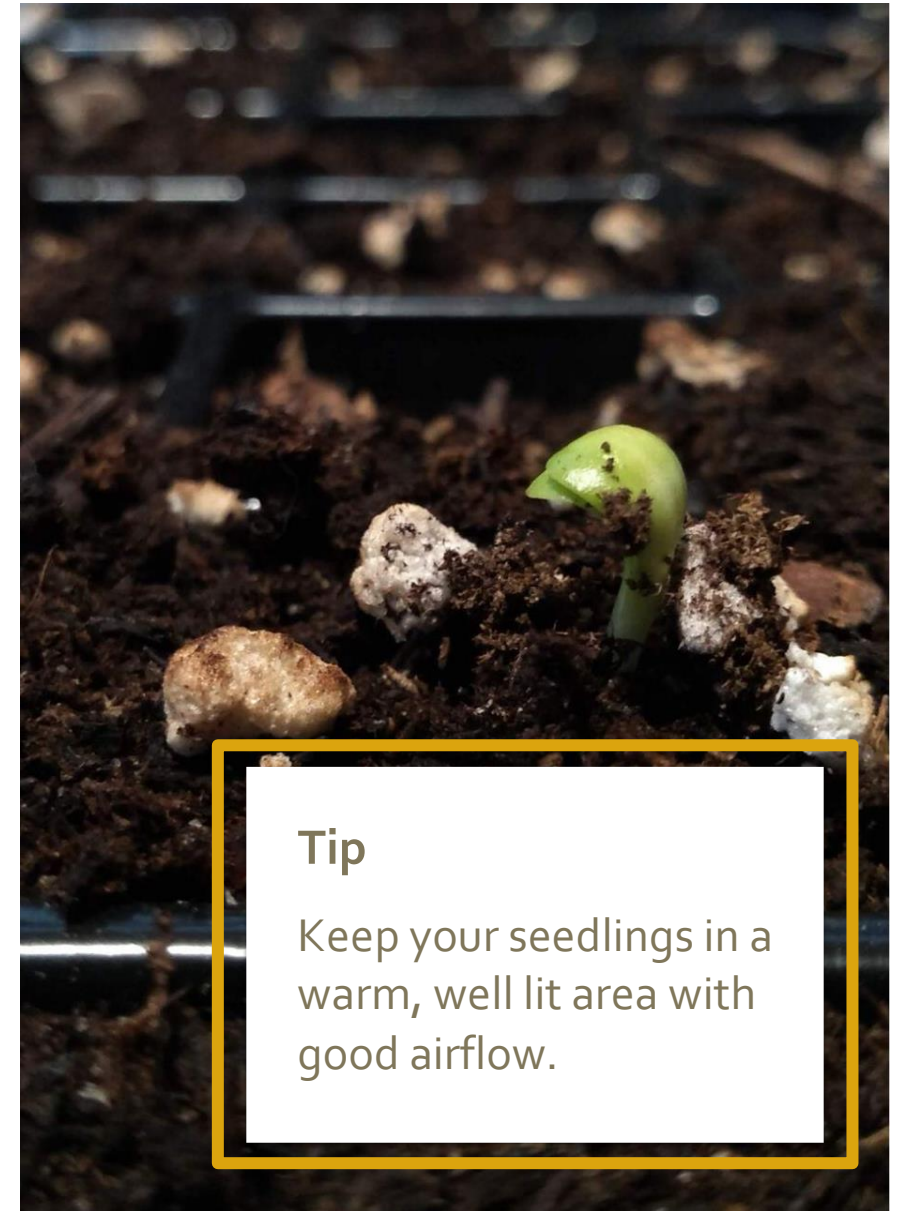
How to avoid damping off - Expand more - air flow, HP, over watering

Don't be afraid to thin the herd

Water from below

Use a 3% hydrogen peroxide solution to prevent damping off

1 teaspoon (5 ml.) of 3%
hydrogen peroxide per cup
(250 ml.) of water.



Tip

Keep your seedlings in a warm, well lit area with good airflow.

How much seed do I need?

- 1 gram of hard wildflower seeds for 100 sq ft.
- 2 grams of fluffy wildflower and grass seed for 100 sq ft.



Where to Start

Start with species that:

- Don't have complicated stratification/scarification requirements
- Have high germination rates
- Establish quickly



Suggested species

- Black-eyed Susan
- Dense Blazingstar
- Lance-leaved Coreopsis
- Common Milkweed
- Joe-pye Weed
- Ox-eye Sunflower
- Cup Plant
- Little Bluestem



Thank you

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