Seed Stratification

Wellington Garden Club Meeting

November 17, 2026

Seed Stratification

What is it?

- Treatment to break seed dormancy
- Usually involves specific:
  - Temperature
  - Moisture
  - Time
- Mimics natural season conditions
- Prepares seed for germination

Why Do Seeds Need It?

- Prevents germination at the wrong time
- Protects seedlings from winter
- Dormancy must be broken before growth begins
- Different species use different signals
  - Cold
  - Warmth
  - Sometimes light

Which Seeds Need Cold Stratification?

Perennials & native flowers:

- Echinacea
- Rudbeckia
- Asclepias
- Penstemon
- Baptisia

Woody species:

- Viburnum
- Buckeye
- Dogwood
- Serviceberry



Think about the plant's native habitat

How Long Do They Need?



Depends heavily on species

- Even related species vary
  - E.g. Bottlebrush buckeye vs yellow buckeye

Typically, 2-12 weeks

- 1, 2 or 3 months most common
- Longer is not always better

Cold Stratification At Home

Mix seeds with moist substrate

- Vermiculite, peat, perlite, sand
  - Not too wet or dry
- Place in labeled plastic bag

Refrigerate (34-41°F)

- Track start and end date
- Check periodically
- Avoid freezing



Getting Moisture Right

Moist, not wet

- Squeeze test

Too dry – seed doesn’t imbibe, germination does not start

Too wet – low oxygen, mold, rot



Choosing a Substrate



Vermiculite

- Holds moisture well
- Easy to monitor



Sand

- Simple and inexpensive
- Easy to overwater



Perlite

- Excellent aeration
- Lower water holding



Peat-based Media

- Easy to use
- Greater potential for mold

Check Your Seeds

Every 1-2 weeks, look for:

- Mold
- Rot
- Drying
- Germination

Remove soft/rotted seeds

Plant germinating seeds promptly



Let Winter Do The Work



Sow seeds outdoors in the fall

- In-ground or in pots

Requirements met

- Natural temperatures provide stratification
- Snow and rain provide moisture
- Spring warming triggers germination

Natural Stratification Challenges

- Rodents/birds
- Heavy rain
  - Washout
  - Rot
- Drying
- Lost labels





Warm, Then Cold Stratification



Some species need more than winter

- Warm, moist period
- Cold, moist period
- Warmth again

Mimics fall → winter → spring

Mainly woodies and some natives

- Viburnum
- Dogwood

When Stratification is Finished

Germination often begins in fridge

- Watch for radicle emergence
- Plan to sow immediately
- Handle carefully

Plant in fresh substrate

- Sow at correct depth
- Do not let seeds dry out



Finish Germination



Provide the right conditions

- Uniform moisture
- Appropriate temperature
- Sufficient light
- Good air movement

Stratification Success

- ✓Know your species
- ✓Start with viable seed
- ✓Keep seeds moist, not saturated
- ✓Label everything
- ✓Check seeds regularly
- ✓Rove rotting seeds
- ✓Plant promptly