



□ Growing Native Plants
From Seed

**Cornell Plantations
and the
Finger Lakes Native Plant Society**

What IS a native plant?

- A plant that grows in the same habitat in which it originated.
- Plants can be native to a continent, state, or region.

Why plant native plants?

- Well adapted to local habitats and conditions
 - Can be easy to maintain if planted in appropriate setting
- Attractive
 - Diverse forms and colors
 - Wildflowers, shrubs, vines, trees, ferns, mosses
- Manage biodiversity

Plant Habitats aka Vegetation of the Cayuga Lake Basin

*(Mohler, Marks and Gardescu 2006 “Guide to Plant Communities
of the Central Finger Lakes Region”)*

Dry Uplands: e.g., Oak Forest

Moist Uplands: e.g., Hemlock-Beech-Birch Forest

Floodplain Forest: e.g., Sycamore-Cottonwood Forest

Swamp Forests: e.g., Red/silver Maple Swamp

Wetlands: e.g., Cattail wetlands, Rich Fens

Bogs: e.g., Leatherleaf Bog

Old Fields

Unique habitats: e.g., Lake Cliffs

Harvest
seeds



Clean and
store

Pot up or
transplant out



Ensure heat
and light



Sow and
stratify



Harvest seeds when ripe

- look 4-6 weeks after peak bloom
- how do I know if they are ripe?

Capture seeds

Label

- name
- place
- date

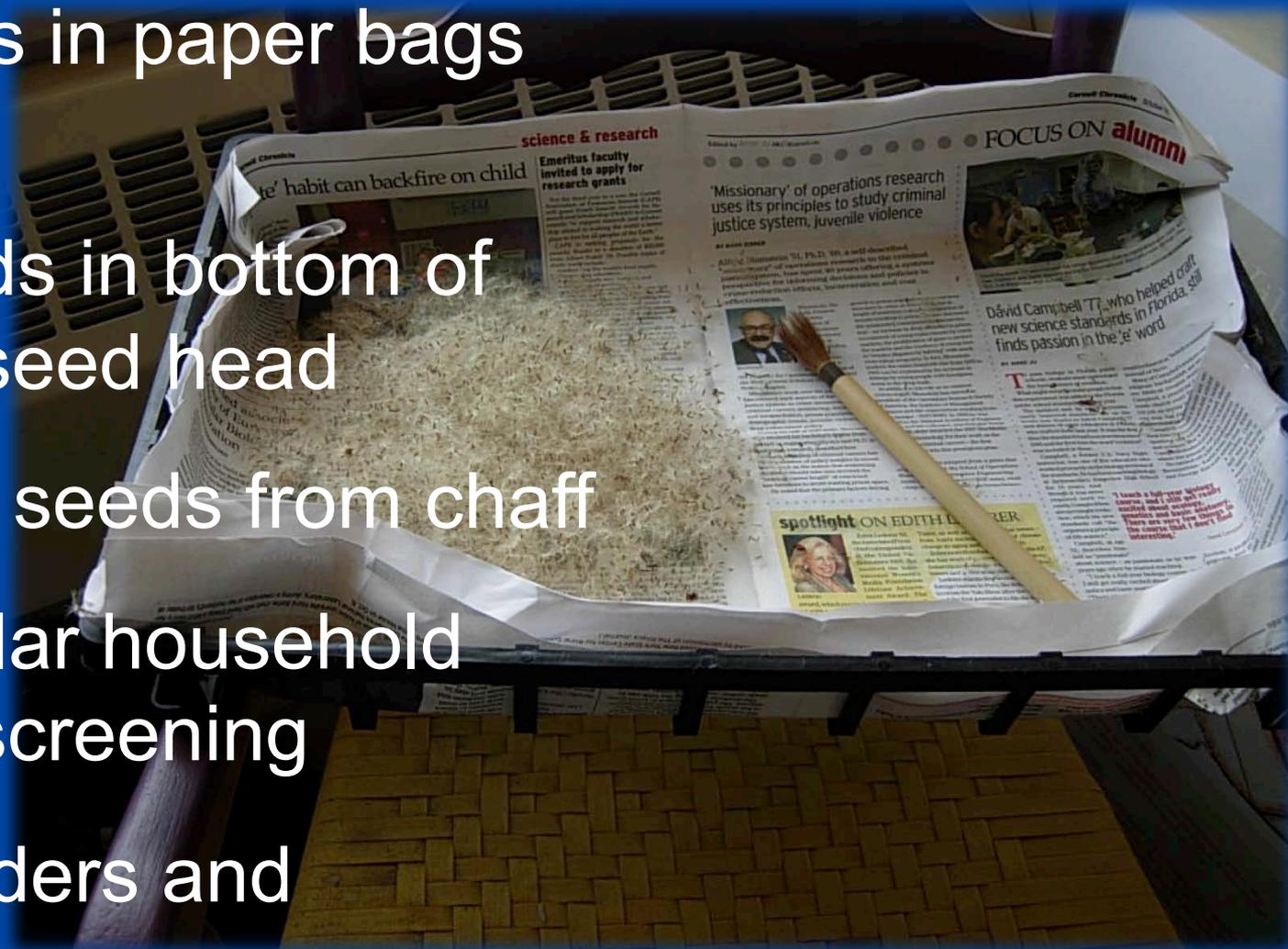


Cautions and Exceptions

- Harvest only with permission
- Take only 10% from a healthy population
- Some seeds are harvested slightly green
 - *Trillium*
 - small tree/shrub fruits
- Moist seeds require special treatment
 - harvest in plastic bag and keep moist

Cleaning and Storage of Dry Seeds

- Dry seeds in paper bags >5 days
- Find seeds in bottom of bag or in seed head
- Separate seeds from chaff
- Use regular household items for screening
 - colanders and strainers



Cleaning and Storage of Dry Seeds

- Put seeds in containers
 - jars, cans, paper envelopes
- Store on shelf or in fridge



Cleaning & Storage of Moist Seeds

(berries and most spring ephemerals)

- Remove fleshy covering or pods ASAP
 - soak berries
- Put in plastic bags or jars with moist medium
- Keep warm or refrigerate
 - spring ephemerals are kept warm for 30-90 days

Eliasomes



Sanguinaria canadensis

Bloodroot

photos: Patrick Coin

Seed Stratification

Stratification mimics the natural temperature cycle of warm & cold, moist conditions.

- Most native plant seeds require cold/moist followed by warming (CW)

- “Cold” = $\sim 40^{\circ}$ “Warm” = $\sim 65-70^{\circ}$ (room temp)

- Some grasses (warm season) require $75-80^{\circ}$

- Seeds that ripen in early summer need warm, then cold, & back to warm (WCW).

- Some native plant seeds require multiple cycles

Seed Sowing

- Use trays, flats, or pots that are ~ 3-4" deep
- Moisten mix
- Spread potting mix evenly and tamp to ½ " below rim



Seed Sowing, cont.

- Spread seeds evenly over top of flat and cover lightly or leave open
 - large seeds - press in to depth of seed size
 - seeds that require light – no cover or cover with small amount of sand.
- Water in & cover with plastic bag to keep moist
- Place in fridge, cold frame or shelf (but not in sun)



Add Light and Heat

- After cold/moist treatment is finished
- Put flats in direct sunlight or under lights
 - 16 hours, 2-3" from light
 - Gro-lights or 1 warm & 1 cool fluorescent OK
 - leave plastic bag partly open or perforate
- **Keep** warm and moist
 - 70° is best for germination
 - not too wet or too dry
- Slowly open plastic bag after germination to acclimate
- Dilute fertilizer about 4 weeks after germination
 - no fertilizer for spring ephemerals

Pot Up or Transplant Out

Which one depends on plant and your time frame

- Look at size of plant and root growth
 - Plants need transplanting or potting up if they are too big or if roots are growing out of flat
- Wait to transplant
 - if they are tiny
 - if they are slow to germinate
 - if they are developing roots and not shoots
 - Examples: *Smilacina*, *Actaea*, *Arisaema*, *Trillium*, *Lilium*

Cultural Conditions

- Sun, Shade
- Wet, Dry
- Soil Type
 - Acid, Basic (limey)
 - Drainage

Mundy Wildflower Garden Cornell Plantations



Natives to Propagate from Seeds



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Early April



***Sanguinaria canadensis*, Bloodroot**

Grows in shade or part sun, in moist to dry soil.
Prefers alkaline soils. Height 6".

Early April

Trillium erectum Wet Dog
Trillium

Moist soil, shade. Ht. 8-24"



Mid-April



Asarum canadensis, Wild Ginger Grow in shade. Ht. 3- 5".

Mid-April

▫ *Jeffersonia diphylla*

Twin Leaf

Grow it in part sun or full shade in moist to dry soil. Height ~ 2'.



Late April



□ ***Caltha palustris*, Marsh Marigold** grows in moist to wet soil. It likes wet feet; do not allow it to dry out. Ht. 2'.

Late April

Trillium grandiflorum,
Large Flowered
Trillium grows
best in part to
full shade in a
moist
woodland
setting.



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Late April



Mertensia virginica, Virginia Blue Bells naturally grow on shady stream banks. They grow well in shade or part sun. Height ~ 18".

Late April to May

Geranium maculatum,
Wild Geranium

Grow in part
sun or full
shade.

Height 2'.



Early May

□ *Aquilegia canadensis*,
Wild Columbine
is easy to grow
in full sun or
shade and moist
or dry soil. The
height (18-36")
depends on the
amount of light
and moisture.



May

Arisaema triphyllum,

Jack in the Pulpit
grows in part to
full shade in moist
soil. Ht. 2'.



Late May



***Actaea rubra*, Red Baneberry**
grows in full shade in well
drained soil. Height ~ 2'.



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*Actaea
pachypoda*,
Doll's Eyes grow
in full shade and
well-drained soil.
Height ~ 2'.



Late May



Late May

Iris versicolor
Blue Flag Iris

grows in full sun
to part shade in
moist to medium
soil. It flowers
best in part to full
sun. Height 2½'.



Late May

Figuring out the Solomon's Seal

Polygonatum biflorum var. *commutatum*, Great Solomon's Seal
A **Non-native** that grows well in the garden with protection from deer. Height 2-3'. This is a large variety of *P. biflorum* that is sold in nurseries and planted in the WFG.



Our locally native *Polygonatum* species are shorter in stature. *Polygonatum pubescens* has downy hairs covering the underside of the leaf. It occurs naturally in the WFG on the steep woodland slopes.

Polygonatum biflorum var. *biflorum*
Leaves have smooth or glabrous undersides. It does not occur in the WFG, but is found locally in nearby natural areas.



Polygonatum pubescens in the WFG

June

Penstemon hirsutus,
Hairy Beardtongue
grows in full sun or
part shade in well-
drained soil or
gravel. Naturally a
west facing cliff
dweller, but it
adapts well to the
garden if given a
sunny spot and
space. Ht. 1-3 ft.



Mid-June

Sambucus canadensis,
American
Elderberry

This fast growing
large multi-
stemmed, shrub
is an excellent
wildlife habitat
plant.

Height 7-15'.



June

□ *Asclepias tuberosa*,
Butterfly Weed
is easy to grow in
full sun and well-
drained sand,
gravel, or good
garden soil.
Height: ~1-2.5 '.



July

Anemone virginiana
Thimbleweed
Easy to grow
in dry shade.
Height 1-2.5'.



Mid-July

▫ *Monarda fistulosa*,
Wild
Bergamot or
Lavender Bee
Balm grows
best in dry,
well-drained
sites in full
sun to part
shade.
Ht. 1-4 ft.



Late July

Lobelia siphilitica,
Great Blue Lobelia
Is a biennial that
grows in sun or
shade and moist to
dry soil, but is best
in moist soils.
Height 18-36”.



Mid-July



Lobelia cardinalis, Cardinal Flower grows in sun or shade and moist to dry soil, but is best in evenly moist soils and full sun. Height 2-4'.

Rubus odoratus, Purple Flowering Raspberry is a small shrub with edible fruits and beautiful flowers that makes excellent 'wildlife habitat'. It prefers a rocky, well drained, partly sunny site. Mature height 6' x 6'.



Late June

▫ *Asclepias incarnata*, Swamp Milkweed grows well in the garden. It prefers moist to wet soil in sun, but tolerates part shade. Height 2 - 5', depending on light and moisture. Host plant for the Monarch butterfly caterpillar. Nectar plant for other butterflies.



Mid-July



Monarda didyma, Bee Balm is a good tea plant due to its fragrant oils of bergamot. Grow in moist soils, in sun or shade. Height 3-4'.

Late- August



Chelone glabra, White Turtle Head
Grow in full sun or part shade in moist to wet soil.
Height 2-3'.



Chelone lyonii, Pink Turtle Head
is native farther south, but grows in gardens in the Finger Lakes

Late- August

**Clematis
virginiana**

Virgin's bower

Sun to part
shade, moist

Vining-- use
as screen or
ground cover



Fall Asters & Grasses and Goldenrods



September

□ *Aster novae-angliae*,
New England Aster An
easy to grow violet-
blue, purple, or pink
aster with a large
inflorescence. Grows
best in moist soil in
full sun, but will
tolerate part shade
and drier sites. A tall
plant; to keep short
cut back by half mid-
season. Height 3-5'.





Baird Meadow, Cornell Plantations

Fall Cool Season Grasses

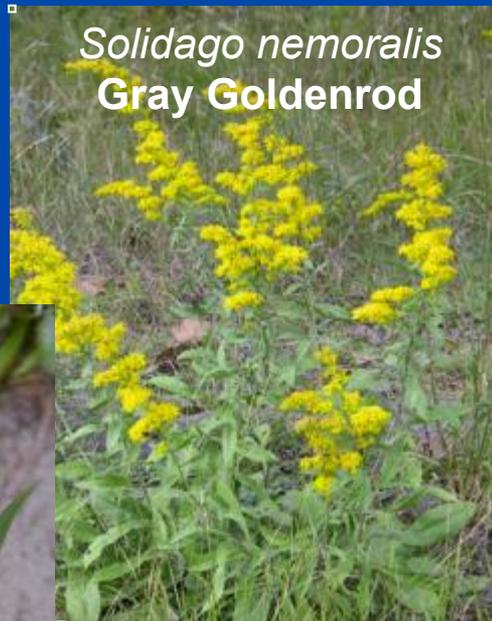
□ *Elymus canadensis*,
Canadian Wildrye has
bluish foliage & fruit.
Grow in sun and dry
soil. Height 2 to 4'.



□ *Elymus hystrix*,
Bottlebrush grass
grows in part shade to
sun and dry to moist
soil. Height 18-30".

FALL

***Solidago* species**



Solidago nemoralis
Gray Goldenrod



Solidago juncea
Early Goldenrod



Solidago caesia
Wreath Goldenrod



Solidago sempervirens
Seaside Goldenrod



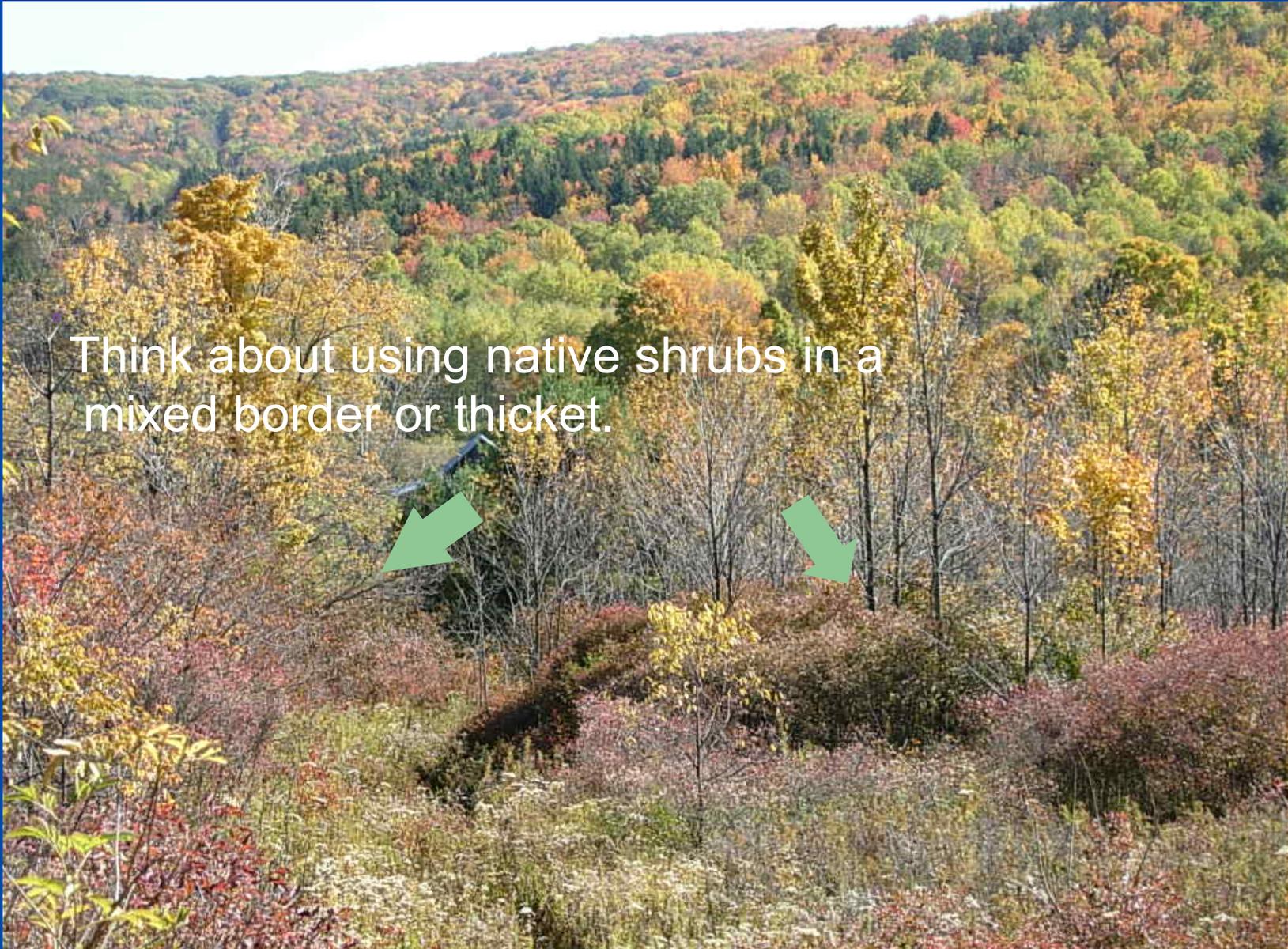
Solidago flexicaulis
Zig-zag Goldenrod



Solidago bicolor
Silver rod

Shrubs

Think about using native shrubs in a mixed border or thicket.



□ *Cornus sericea*

Cornus racemosa

Cornus alternifolia

Cornus amomum

have nice fall color &
provide wildlife food.

Shrubs/small trees
5-20 ft.



Viburnum lentago and

Lindera benzoin



Photo copyright Henriette Kress
<http://www.henriettesherbal.com>



□ *Lindera benzoin*, Spice bush is a slow growing, medium sized shrub. It grows best in alkaline soil in a moist to dry site. Mature height 8-10'.



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Learn Native Plants and Habitats

- FLNPS : Walks, Talks and People
- Petersons: A Field Guide to Wildflowers of the Northeast and North Central North America
- Cornell Plantations Mundy Wildflower Garden
- Finger Lakes Land Trust walks
- Lime Hollow Nature Center

Sources

- Plant Sale in May
- October: FLNPS seed collecting
- December: FLNPS Seed Exchange
- Local nurseries:
 - Plantsmen www.plantsmen.com
 - White Oak Nursery www.whiteoaknursery.biz
- *Remember:* Choose native species that have been propagated from seed. Do not dig plants from the wild!

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