



Native Plant Trial Garden 2023-2024



Purpose of Trial Garden

- To learn how a variety of lesser-known native plant species grow in normal garden conditions
- To provide this information to community members to help make decisions about planting in their own landscape
- To inform Town staff to consider installing these native plants on Town properties



Why Native Plants?

- Native plants are those that historically and naturally occur in an area and tolerate the climate of the local environment.
- They also have important evolutionary relationships with the wildlife in that area.
- They provide food and habitat to native birds, mammals, and pollinators, like the monarch butterfly, which is in decline.
- They have extensive root systems that absorb polluted stormwater.
- They can take in carbon dioxide and other air pollutants.
- They have low maintenance requirements.
- They do not need fertilizer since they are adapted to our local soils.
- They should not need irrigation once established.



Setup and Monitoring

- Location: Clark Botanic Garden in the Community Garden
- 2 plants of each plant species were planted in full sun with watering occurring each week
- Plants were monitored for:
 - Max height and width
 - Plant form (ex. upright, aggressiveness, self seeding)
 - Floral characteristics- bloom time, aesthetics
 - Pest/disease presence and types
 - Overall plant rating
 - Pollinator activity- diversity, species seen, activity (1-2 pollinators visiting= low; 3-5 visiting= medium; 5 or more= high)



Results

The following slides detail the combined results of monitoring in the trial garden for 2023 and 2024. Click on the links view a specific plant species or scroll down to see all plants.

Refer to the next slide for photos of common pollinators that visited the plants.

[Purple Giant Hyssop \(*Agastache scrophulariifolia*\)](#)

[Nodding Onion \(*Allium cernuum*\)](#)

[Blue Wood Aster \(*Symphyotrichum cordifolium*\)](#)

[Common Boneset \(*Eupatorium perfoliatum*\)](#)

[False Sunflower \(*Heliopsis helianthoides*\)](#)

[Golden Ragwort \(*Packera aurea*\)](#)

[Blue Vervain \(*Verbena hastata*\)](#)

[Hoary Mountain Mint \(*Pycnanthemum incanum*\)](#)

[Narrow Leaf Evening Primrose \(*Oenothera fruticosa*\)](#)

[Eastern Beebalm \(*Monarda bradburiana*\)](#)

[Big Bluestem \(*Andropogon gerardii*\)](#)

[Broomsedge \(*Andropogon virginicus*\)](#)

[Blue-Stem Goldenrod \(*Solidago caesia*\)](#)

[Zig Zag Goldenrod \(*Solidago flexicaulis*\)](#)

[Stiff Goldenrod \(*Solidago rigida*\)](#)

[Sneezeweed \(*Helenium autumnale*\)](#)

Common Pollinators Seen



Bicolored Striped Sweat Bee (*Agapostemon virescens*)



Brown-belted Bumble Bee (*Bombus griseocollis*)



Small Carpenter Bee (*Ceratina strenua*)



Confusing Furrow Bee (*Halictus confusus*)



Eastern Carpenter Bee (*Xylocopa virginica*)



Leafcutter Bee (*Megachile mucida*)



Sharptail Bees (Genus *Coelioxys*)



Longhorn Bee (Genus *Melissodes*)



Neighborly Mining Bee (*Andrena vicina*)



Blue-winged Scoliid Wasp (*Scolia dubia*)



Hump-backed Beewolf (*Philanthus gibbosus*)



Northern Paper Wasp (*Polistes fuscatus*)



Thick Headed Fly (*Phyocephala tibialis*)



Black-shouldered Drone Fly-syrphid fly (*Eristalis dimidiata*)



Margined calligrapher-syrphid fly (*Toxomerus marginatus*)



Silver Spotted Skipper (*Epargyreus clarus*)



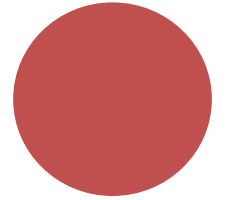
Sachem (*Atalopedes huron*)



Locust Borer Beetle (*Megacyllene robiniae*)

Purple Giant Hyssop (*Agastache scrophulariifolia*)

- Max size: 5 ft tall; 2 ft wide
- Tall, upright and well behaved
- Flowered from mid-July to early/mid September
- Pollinators
 - Common: small sweat bees, bumble bees
 - Less common: syrphid fly, ants
 - Activity: low
 - Diversity: low
- Pests: minor holes, chew marks, leaf spots
- Interesting attributes:
 - Mint foliage has pleasant licorice scent
 - Small carpenter bees were found nesting in the hollow stems



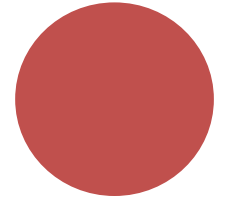
Nodding Onion (*Allium cernuum*)

- Max size: 3 ft tall; 2 ft wide
- Remained upright, well-behaved
- Flowers are showy and beautiful
- Flowered from mid-July to late August
- Pollinators
 - Common: honeybees, bumble bees
 - Less common: furrow bees, silver spotted skipper butterfly, margined calligrapher syrphid fly, native paper wasp
 - Activity: low
 - Diversity: low
- Pests: none
- Interesting attributes:
 - Has a pleasant onion scent
 - Stayed green deep into the fall
 - Produces interesting seedheads that persist into the winter (top right photo)



Blue Wood Aster (*Symphotrichum cordifolium*)

- Max size: 6.5 ft tall; 2 ft wide
- Can get very tall and floppy without support from adjacent plants or staking.
- Flowers are very numerous, small, but beautiful
- Flowered from mid-September to early November
- Pollinators
 - Common: bumble bees, honeybees, green sweat bees, bicolored striped sweat bees, small carpenter bees
 - Less common: ligated furrow bee, black shouldered drone fly, sharp tailed bee, Hawaiian beet webworm moth
 - Activity: High
 - Diversity: High
- Pests: Minor holes, chew marks, leaf spots and yellowing of leaves
- Interesting attributes:
 - Spreads by rhizomes (underground horizontal stems) and easily self seeds so it can get aggressive. Site accordingly.





Common Boneset (*Eupatorium perfoliatum*)

- Max size: 4-6 ft tall; 2-3 ft wide
- Quite tall but mostly stayed upright. Would benefit by being put in the back of a garden and next to other plants for support.
- Flowered from mid-late July and through September
- Pollinators
 - Common: syrphid flies, furrow bees, bumble bees, honeybees, various wasp species (braconid wasp, humpbacked beewolf, blue-winged scoliid wasp, great black backed wasp, bald faced hornet, four banded stink bug wasp)
 - Less common: locust borer beetle, thick headed fly, sachem, masked bee
- Activity: Medium to High
- Diversity: High
- Pests: Many holes were noticed in leaves during year 1, but only minor ones occurred in year 2. These holes were only cosmetic and did not affect the health of the plant. They were not very noticeable.
- Interesting attributes:
 - Leaves are hairy which give them an interesting look.
 - Fall interest with fluffy seedheads.
 - Would be a great plant to attract a lot of pollinators!



False Sunflower

(Heliopsis helianthoides)

- Max size: 5 to 6 ft tall; 2.5 ft wide
- Quite tall with some flopping issues. Would benefit by adjacent plants for support.
- Flowers are large, beautiful, and bright
- Flowered from late June until October. It has a very long bloom period!
- Pollinators
 - Common: bumble bees, bicolored striped sweat bees, syrphid flies, longhorned bees, sharptail bees, leafcutter bees, potter/mason wasps, eastern carpenter bees
 - Less common: other wasps, sachem skipper, American lady, silver spotted skipper
 - Activity: High
 - Diversity: High
- Pests:
 - In the first year it had an issue with aphids (honeydew and sooty mold were present), but this did not occur in second year. The plants flowered extremely well despite this issue.
 - Other minor cosmetic issues included holes, leaf spots and chew marks.
- Interesting attributes:
 - Stems turned red in October which provided nice fall color.
 - Seeds provide food for birds.



Golden Ragwort (*Packera aurea*)

- Max size: 1-2 ft tall (with flowers); 2.5 ft wide
- Its short stature would make it a great groundcover.
- Flowered from mid-April to mid-May
- Pollinators
 - Common: furrow bees, small carpenter bees, mason bees (*Osmia* sp.), sweat bees
 - Less common: eastern carpenter bee, nomad bees, mining bee, sachem skipper, black shouldered drone fly, bumble bee
 - Activity: Medium/High
 - Diversity: Medium
- Pests: Minor holes and chew marks.
- Interesting attributes:
 - Fluffy seedheads look nice.
 - Early spring blooms provide resources for early pollinators like bumble and mining bees.
 - Self seeds well so site accordingly.

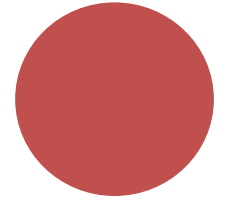
Blue Vervain (*Verbena hastata*)



- Max size: 6-7 ft tall; 3 ft wide
- Taller plant with some flopping issues. Would need support from other plants. Best suited for the back of a garden.
- Flowered from late June to mid-September. Long bloom period!
- Pollinators
 - Common: honeybees, leafcutter bees, bumble bees, small carpenter bees, syrphid flies
 - Less common: wool carder bee, silver spotted skipper, ruby throated hummingbird
 - Activity: Medium to High
 - Diversity: Medium
- Pests: Very minor holes in leaves
- Interesting attributes:
 - Sharpley toothed leaves and red stems
 - Long seed heads (see photos) look nice in late summer/autumn
 - Two bee species were found nesting in cut hollow stems (small carpenter bee and possibly a leafcutter bee)

Hoary Mountain Mint (*Pycnanthemum incanum*)

- Max size: 3-5 ft high; 4-5 ft wide
- Taller plant but stayed mostly upright.
- Flowers are white with a purple hue
- Flowered from late June to early November. Has a very long bloom time!
- Pollinators
 - Common: many species of wasps, bumble bees, carpenter bees (large and small), furrow bees, many syrphid fly species, silver spotted skippers, sachem skippers, leafcutter bees, thick headed fly
 - Less common: locust borer beetle, bicolored striped sweat bee
 - Activity: High
 - Diversity: Very high
- Pests: Very minor chew marks and holes, discoloration and spots on leaves.
- Interesting attributes:
 - Foliage has wonderful sweet, mint scent.
 - Upper leaves and bracts below flowers have a beautiful silvery white cast.
 - With a very long bloom time and ability to attract pollinators this is a must have for a garden!



Narrow Leaf Evening Primrose (*Oenothera fruticosa*)

- Max size: 2.5 ft tall; 2.75 ft wide
- Well behaved and upright plant.
- Flowers are gorgeous and bright yellow, cup shaped.
- Flowered mostly from June to July, but small numbers of flowers kept opening until August/September.
- Pollinators
 - Common: bumble bees, syrphid flies, honeybees
 - Less common: sachem skipper, large carpenter bee, leafcutter bee, bicolored striped sweat bee
 - Activity: Medium
 - Diversity: Low-medium
- Pests: Very minor holes and chew marks in foliage.
- Interesting attributes:
 - Has a beautiful mix of green and red foliage, with it turning red in autumn (see photo).
 - Would do well in a small garden space.



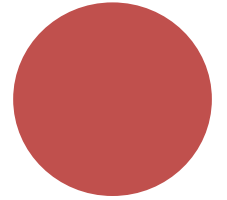
Eastern Beebalm (*Monarda bradburiana*)

- Max size: 2 ft tall; 2.5 ft wide
- Very well behaved with no flopping.
- Flowers are large, globular, looking like pom poms.
- Flowered from mid May until late June.
- Pollinators
 - Common: bumble bees, sachem skippers, small carpenter bees
 - Less common: syrphid fly species, furrow bee, other sweat bee species, plant bug
 - Activity: Low
 - Diversity: Low
- Pests: None seen
- Interesting attributes:
 - Not native to NY, it is native to the southeastern US. With climate change yielding warmer temperatures in our area this plant did well over the two monitoring seasons.
 - Foliage has purple and red tinges.
 - Seed heads are attractive (top photo).
 - Would do well in a small garden space.



Big Bluestem (*Andropogon gerardii*)

- Max size: 6-7 ft tall; 2.5 ft wide
- Taller plant but stayed mostly upright. Would do well in the back of a garden.
- Pests: None
- Interesting attributes:
 - Has purplish 3-parted, finger-like flower clusters resembling turkey feet. These are wind pollinated.
 - Some insects collect the pollen from these 'flowers' including a bumble bee, two spotted longhorned bees and syrphid flies that were seen doing this in August 2024.
 - Grass turns a beautiful reddish-bronze in autumn (top photo)
 - Adds structure to a garden space





Broomsedge **(*Andropogon virginicus*)**

- **Max size: 2.5-3.5 ft tall; 2-3 ft wide**
- **Remained upright with some blades drooping down.**
- **Pests: None seen**
- **Interesting attributes:**
 - **Blades and stems are beautiful with a medium green color in spring and summer and tawny brown color in autumn.**
 - **Seed heads are silvery white and hairy, giving a nice contrast with the leaf blades.**
 - **Have a tiny flower that is wind pollinated. Pollinators may use to collect pollen.**



Blue-Stem Goldenrod (*Solidago caesia*)

- Max size: 4-5 ft tall; 3-4 ft wide
- Taller plant with some flopping issues. Would need support from other plants.
- Flowered from early/mid September to mid/late October
- Pollinators
 - Common: bumble bees, small carpenter bees, green sweat bees, locust borer beetles
 - Less common: masked bee, honeybee, blood bee (*Sphecodes* sp.), two spotted scollid wasp, paper wasp, potter/mason wasp, thread waisted wasp, syrphid flies, thick headed fly, perennial mason wasp
 - Activity: High
 - Diversity: High
- Pests: Minor chew marks, holes, and some yellowing of leaves
- Interesting attributes:
 - Fluffy seedheads look beautiful in late fall and are a good winter food source for birds
 - Flowers are loved by bumble bees (see photo!) and are a great late season food source for a variety of pollinators



Zig Zag Goldenrod (*Solidago flexicaulis*)

- Max size: 3-4 ft tall; 2-2.5 ft wide
- Some slight flopping, but mostly remained upright.
- Flowers are showy and bright in autumn.
- Flowered from mid-August until mid to late October.
- Pollinators
 - Common: bumble bees, Cerceris wasps (ground nesting solitary wasp), sachem skippers, paper wasps
 - Less common: thick headed fly
 - Activity: Medium
 - Diversity: Medium
- Pests: slight yellowing of leaves (may be caused by too much sun as this plant likes part-shade conditions)
- Interesting attributes:
 - Fluffy seedheads look beautiful in late fall and are a good winter food source for birds.



The following plants were removed after year 1 due to their large size and were transplanted to the pollinator garden at Clark. The following are preliminary results from year 1:

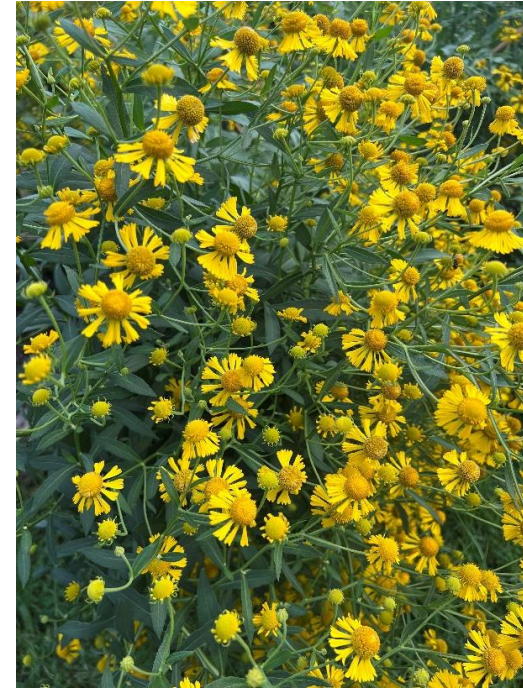
Stiff Goldenrod (*Solidago rigida*)



- Max size: 6 ft high, 2.5 ft wide
- Heavy stems will flop without support of other plants or stakes
- Flowered from early September to early October
- Bumble bees were the most common pollinators.
- Pests: Minor chew marks on foliage.
- Interesting attributes: fluffy seedheads are beautiful in the late fall and are a good winter food source for birds

Sneezeweed (*Helenium autumnale*)

- Max size: 6.5 ft tall, 2.5 ft wide
- Heavy stems flop without support
- Flowered from mid September to early November
- Pollinators:
 - Common: bumble bees, furrow bees, sweat bees, small carpenter bees, sachem skippers
 - Less common: sharptail bee, drone flies, thick headed fly, silver spotted skipper
 - Very high pollinator activity and diversity.
- Pests: Minor chew marks on foliage.
- Interesting attributes: seedheads are beloved by birds



We hope you use the information in this report to inspire the use of these beneficial native plants in your yard!

**For more information on native plants visit
NorthHempsteadny.gov/Sustainability**

