Gardening with Native Plants

Whys and Hows

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Hanover Master Gardener

2019 Training Class

Part One: Why Native Plants?

- **Definitions: native vs. exotic vs. invasive**
- **Why choose native plants over non-native**

Yellow False Foxglove

What Are Native Plants?

- Plants that flourish with no human intervention in the habitat in which they evolved

American Beautyberry

- Plants that have evolved over a long period of time in a particular geographical area and habitat
- Plants that through the millennia have developed in relationship to the insects, animals and other plants in that habitat

Difference Between Native and Naturalized

Naturalized plant: A non-native plant that does not need human help to reproduce and maintain itself over time in an area where it is not native. Notes: Even though their offspring reproduce and spread naturally (without human help), naturalized plants do not, over time, become native members of the local plant community. Many naturalized plants are found primarily near human-dominated areas

Why choose native plants over non-native?

What's Wrong with Using Non-Invasive Exotic Species?

Common reasons for planting exotic species:

- **Different**
- **Add more variety to the landscape**
- **Less susceptible to insect damage**
- **More available in nurseries and garden centers**
- **Cheaper & sold in big box stores**
- **Deer resistant**

Why Should We Use More Native Plants?

- Native plants adapted to area in which they evolved
- Grow well in that climate
- No risk of releasing exotic plants that can become invasive into the landscape

EWellsGian

Advantages of Using Native Plants

Ginger Glen-Calvert

Butterfly weed & coneflower

- **Need no special winter or summer protection**
- **Less watering necessary**
- **Less money spend on fertilizers and pesticides**
- **Once established, less maintenance**

Is Purple Coneflower (*Echinacea purpurea*) Native to the Richmond Area?

- Attractive to butterflies, bumble bees and other insects
- Only native to 7 widely scattered counties in VA
- More typical of Midwestern prairies
- Benefits to pollinators make it fine choice

Survival of our Native Wildlife Species Is at Stake*

- **Native plants are the most important building block in the food web**
- **Insects have evolved over millennia in association with their food plants**

Pipevine Swallowtail eggs, larvae and butterfly – Enchanters Garden, Hinton, WV

***Doug Tallamy**

Why should we value a large, diverse insect population in our landscapes?

- Insects invaluable part of food web – high in fat and protein
- Over 90% of songbirds depend on insects to feed young
- Fewer insects = fewer songbirds

Most Important Reason to Go Native

- Native plants at base of food web
- Many plant eating animals prefer natives
- Birds, reptiles & amphibians depend on insects for food
- More species = diversity = ecosystem health

Pollinators Are Critical for Survival of Flowering Plants

EWellsGian

Native Bees Underappreciated

Green sweat bee

Squash bees

Halictid bee

Bumble bee

Bumble bee

Habitat for Native Species Shrinking

- Less land available for native plants and animals due to
  - Development
  - Land fragmentation
- Over 70% of forests on East Coast destroyed

Enchanters Garden, Hinton, WV

What Is the Value of Turfgrass to the Ecosystem?

How many insects does a lawn support?

- **Japanese beetle/white grubs**

Wildlife?

- **Moles, skunks (eating grubs)**

Diversity of Animals Depends on Diversity of Plants

Mountain mint

EWellsGian

Wintergreen/teaberry (EWellsGian)

- **Variety of soil, water, nutrients, light = greater plant variety**
- **More plants with different shape, size and chemistry = more insect variety**

Turn this

DGIF slide

Into this

Mt. Cuba Center, Delaware

Or this

Part Two: How To Garden Using Native Plants

- Ideal = create a habitat that supports the native ecosystem
- Even a container garden can feed native insects and birds

https://mtcubacenter.org/springs-edible-buffet/

Balanced Ecosystems: Gardens on Larger Properties

Chatham Mills, NC Cooperative Extension

- Consider growing conditions
- Sun or shade? Woodland or full sun?
- Moist soils or dry?

Ways to Use Native Plants in Smaller Gardens

- Butterfly or pollinator gardens
- Balcony or patio gardens
- Rain gardens

How Do You Begin the Transformation?

- **Define the good and the bad**
  - **Survey property for both invasive native plants**
  - **Locate problem areas**
- **First steps**
  - **Tackle select invasives**
  - **Reduce lawn**
  - **Use native plants instead of exotics**

***Silene virginica* – fire pink**

***Jeffersonia diphylla* - twinleaf**

Strategies for Establishing Natives

- Scout property
- Identify and take inventory of plants on property
- Get rid of non-native weeds and invasives
- Selective use of herbicides if necessary
- Wait to see if a native plant will take the place

Strategies for Establishing Natives con'd

- Research native plant communities for area
  - Good resources to start with:
    - DCR brochure *Native Plants for Conservation, Restoration & Landscaping*
    - FWS booklet: *Native Plants for Wildlife Habitat and Conservation Landscaping*
- Try a variety of natives
  - Shop at native plant sales and nurseries
  - Start plants from seed
- Trial and error: see what works well in a particular area

Converting from Conventional to Mostly Native Gardens

- Think of design approximating nature
  - Consider the way a meadow or woodland looks
  - Less formal (no closely pruned shrubs)
- Plan for wildlife
- Use plants native to the region
- Strive for variety
  - Reduce lawn areas
  - Go against design principle of masses of the same plant (monocultures)

Manage the Garden Differently

Ginger Glen-Calvert

Rskoon on Flickr.com

- Leave seed heads, don't deadhead
- Provide pollinators with flowers for each season
- Provide food plants for caterpillars
- Reduce use of fertilizers, especially quick release or water soluble

- **Avoid insecticides! (butterflies and bees are insects)**
- **Embrace some insect damage to plant leaves (you are feeding your songbirds)**
- **Let beneficial insects control pests**

Natives for Central VA

I. Shrubs Native to Hanover

II. Perennials Native to Hanover

III. Buying Native Plants

New Jersey Tea *(Ceanothus americanus)*

- **Dry, open woodlands or dry sunny slopes**
- **Height 2-4 ft.**
- **Flowers June-August**

Silver-spotted skipper on NJ Tea
Photos by Will Cook, Duke Univ.

Arrowwood Viburnum *(Viburnum dentatum)*

UConn plant database

- Adaptable to wet or moist soils
- 5-9 ft. tall
- Full sun to part shade
- Easily transplants
- Attracts birds
- Deciduous

Blueberry *(Vaccinium spp.)*

UConn Plant Database

- Requires acidic soil (4.5-5.5 pH)
- Full sun to part sun
- Moist, well-drained soil, high organic content
- Mulch shallow, fibrous roots

Virginia Sweetspire *(Itea virginica)*

UConn plant database

- **Semi-evergreen to deciduous shrub**
- **3-6 ft. tall, colonizes**
- **Adaptable to pH, prefers moist, rich soil**
- **Full sun to partial shade**

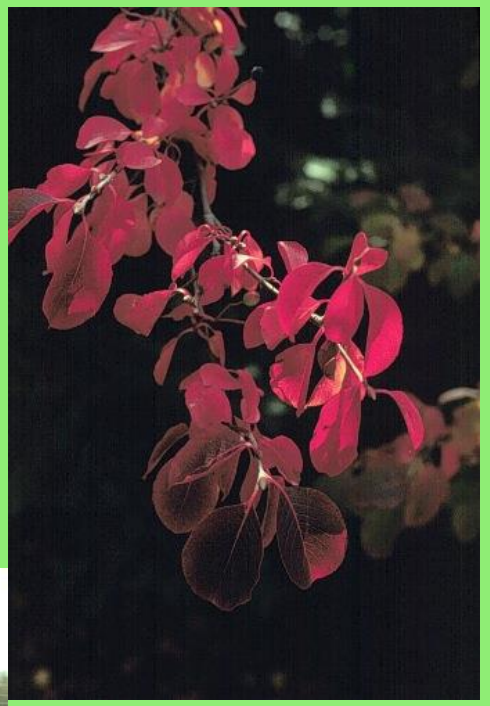
Shining Sumac *(Rhus copallinum)*

- **Deciduous tree, 20-30 ft.**
- **Dwarf forms available (10 ft.)**
- **Good in dry, rocky areas**
- **Acidic, well-drained soil**
- **Bright red fall color**

UConn Plant Database

Black Haw Viburnum *(Viburnum prunifolium*

- Slow growing, 15-25 ft. tall
- Easy to grow
- Full sun to part shade
- Adaptable to wide variety of soils
- Deciduous



Uconn Plant Database

Possomhaw Viburnum
(Viburnum nudum)

Will Cook, Duke University

EWellsGian

- **Deciduous, green, glossy foliage**
- **Wetland shrub, tolerates flooding, but not drought**
- **Full sun to partial shade**
- **6-12 ft. tall**

Winterberry Holly *(Ilex verticillata)*

- Native habitat – edge of woods and swamps
- 6-10 ft. tall
- Male and female plants
- Full sun to part sun
- Moist, acidic soils
- Tolerates poor drainage

UConn Plant Database

Spicebush *(Lindera benzoin)*

- **Slow growing, 8-12 ft. tall**
- **Full sun to part shade**
- **Moist, well-drained soil**
- **Larval food for spicebush swallowtail butterfly**

Uconn Plant Database

Chris Miller, NRCS

www.delawarewildflowers.org

Mapleleaf Viburnum *(Viburnum acerifolium)*

Connecticut Botanical Society

Lady Bird Johnson Wildflower Center

- **Small shrub 4-6 ft.**
- **Deciduous**
- **Full sun to shade**
- **Slightly acidic, well-drained soil**
- **Flowers on new wood**

American Beautyberry *(Callicarpa americana)*

- Well-drained soil
- Plant several for more fruit
- 6-8 ft. tall
- Full to part sun
- Birds love fruit
- Native eastern

VA but grows here

- Birds eat fruit

www.wildflower.org

Will Cook, Duke Univ.

Summersweet Clethra/Sweet Pepperbush *(Clethra alnifolia)*

- Shrub 4-8 ft. tall
- Forms colonies in moist areas
- Full sun to shade
- Flowers best in sun
- Moist sandy or loamy soil
- Good substitute for butterfly bush
- Numerous cultivars

Pinxter Azalea *(Rhododendron periclymenoides)*

- 6-12 ft. shrub
- Part shade (less leggy if some sun
- Tolerant of dry soils
- Acid soils

Janet Novak

Will Cook, Duke University

Early Spring Blooming

Native bleeding heart

Wild columbine

Moss Phlox - *Phlox subulata*

Perennials for Shade and Woodland Gardens
Spring Ephemerals

Green and Gold *(Chrysogonum virginianum)*

W J Hayden, Univ. of Richmond

- Spreading groundcover 4-8 in. tall
- Semi-deciduous
- Average to rich soils
- Full sun to part shade
- Blooms spring to midsummer

Foamflower (*Tiarella cordifolia)*

- **Most growth takes place in spring before trees leaf out**
- **If soil moist enough does not fade away in summer**
- **Pretty white flower spikes in spring**
- **A cultivated variety has red streaks in leaves**

Wild Ginger *(Asarum canadense)*

- Forms low colony 4-8 in. high
- One pair of leaves per plant
- Shade
- Single dark, red-brown flower
- Rich, moist soil
- Neutral pH (6-7)
- Host to pipevine swallowtail butterfly

www.wildflower.org

www.wildflower.org

Bellwort

Bellwort (*Uvularia*)

- **Dry, open woods**

Thimbleweed (*Anemone virginiana*)

- **Rocky woods**
- **Drought tolerant**

Early Summer Blooms

Beebalm –
Monarda didyma

Canada lily

Woodland Phlox

Alumroot (Heuchera)

Alumroot (*Heuchera americana*)

- Good groundcover in dry shade
- Tolerates poor, acid soil
- Can be grown in pots

Amsonia – Blue Star

Blue & Yellow Wild Indigo

Baptisia australis & *Baptisia tinctoria*

Midsummer Flowers

Bees on two monarda species

Monarda fistulosa

Great Blue Lobelia – *Lobelia siphilitica*

- Floodplain forests, moist shade
- Adaptable to sun
- Seeds readily

Great Blue Lobelia (*Lobelia siphilitica*)

- Short lived perennial
- 2-3 ft. tall
- Flowers July & August
- Pollinated by bumblebees
- Self-seeds

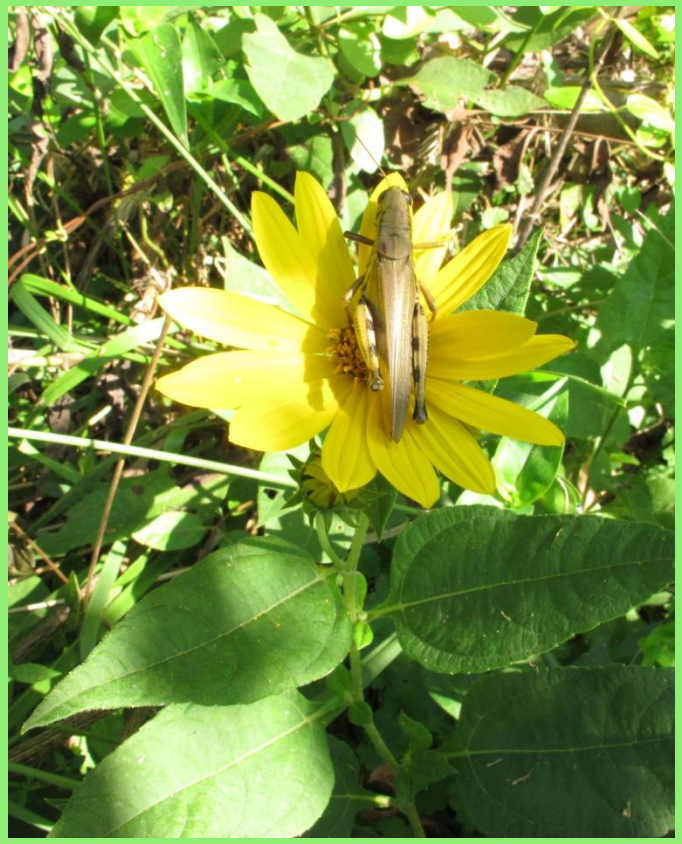
Familiar Natives

Coneflower

Black-eyed Susan

Cardinal Flower

Late Summer/Fall Blooms



Sneezeweed - *Hellenium autumnale*

New England Aster – *Symphyotrichum novae-angliae*

Herbaceous Plants for Dry Shade

Ferns: Christmas fern, ebony spleenwort and grape fern

- **Evergreen or semi-evergreen**
- **Christmas fern spreads by rhizomes**

Groundcovers for Dry Shade

Wild Ginger

Virginia Green & Gold

Woodland Phlox

Alumroot (Heuchera)

Bellwort

Bellwort (*Uvularia*)

- Dry, open woods

Thimbleweed (*Anemone virginiana*)

- Rocky woods
- Drou

Buying Native Plants

- **Check whether plant is native to your county with *Digital Atlas of Virginia Flora* http://www.vaplantatlas.org/**
- **Buy from local nursery specializing in native plants if possible**
- **Look for the native species over the cultivars or "nativars"**

Current Research on Native Plants

- **What about cultivars of native plants?**
  - **If certain traits are selected (big flowers), does this make them less palatable to those that use them?**

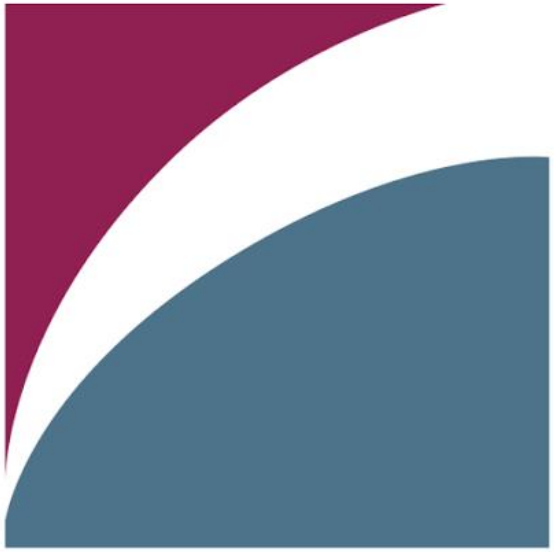
Clethra alnifolia 'Ruby Spice'

Fothergilla gardenii 'Blue Mist'

Itea virginica 'Little Henry'

Research from University of Vermont

- Some research shows native bees prefer nectar and pollen from native species as opposed to the cultivar
  - Depends on the plant and the cultivar
  - Plants bred for larger flowers, double flowers, different color less attractive
  - Farther the cultivar deviates from the species, more likely it is to be less attractive



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www.ext.vt.edu

Questions?

Brandywine Conservancy, PA