

Exotic Plants

Threaten our native plants (natural heritage)

1. Aggressive invasive Aggressive growth characteristics
2. Vectors for diseases – natives have no defense
 - a. American Chestnut blight
 - b. Woolly adelgid – Eastern hemlocks
 - c. Emerald ash borer - Ash trees – Silk tree

Characteristics of Invasives

1. High production – highly viable seeds
2. Dispersed by seed consuming animals – birds
3. Monecious or vegetative production
4. **No effective predation (Why not??)**
5. Early and prolonged fruition
6. Widely tolerant sunlight range
7. Introduced due to perceived benefit
8. Often (not always) native to Orient
9. Some still commercially available
10. **Exceedingly difficult to eradicate**



Western temperate Asia

Ornamental

Allelopathic

Morrow's Bush Honeysuckle

Lonicera morrowii

Centennial Park





Morrow's Bush Honeysuckle

Lonicera morrowii

Centennial Park





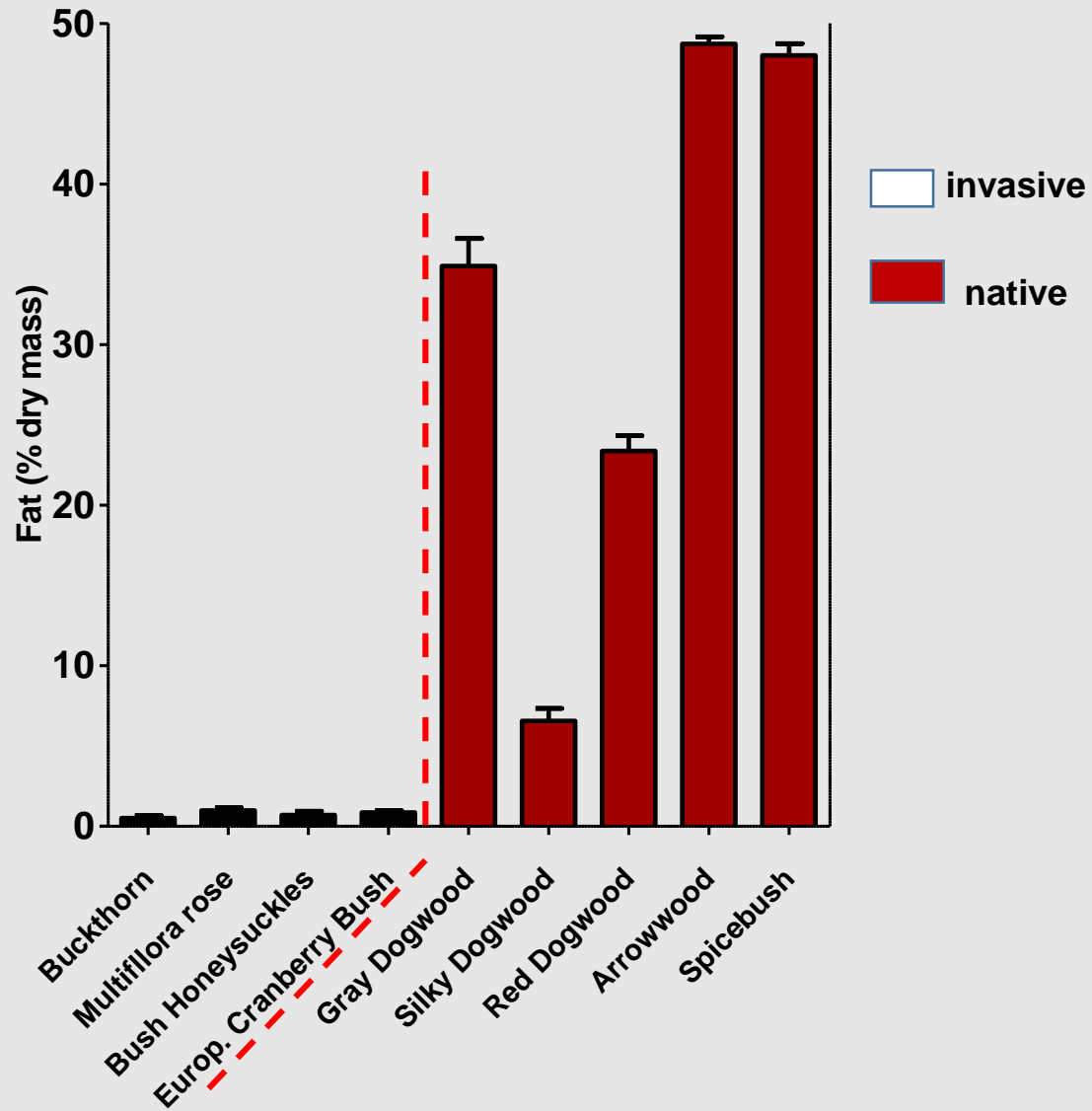
Morrow's Bush Honeysuckle

Lonicera morrowii

CoLinx – Genesis Road



Average High Energy Nutritional Values for Invasive vs Native Fruit Species



42-50c



Japanese Honeysuckle

Lonicera japonica

Sunset Ridge

42-41c





67-50c

Japanese Honeysuckle

Lonicera japonica



67-15c

Colinx- Genesis Road



76-54c

Japanese Honeysuckle

Lonicera japonica

Colinx- Genesis Road

Wild cherry



67-57c



67-88c

Asian Bittersweet

Taber Loop – 127N

Celastrus orbiculata



China – 19th Century

Asian Bittersweet

Celastrus orbiculata



Asian vs Native bittersweet



Asian bittersweet
Celastrus orbiculatus



American bittersweet
Celastrus scandens



78-175

Kudzu

**blocks the sun
rare on Plateau**



78-156c

Pueraria montana var. lobata

Crab Orchard and 70W - Sparta

**Philadelphia Exposition 1876
Southern landscaping
Civilian Conservation Core planted**



Kudzu

Pueraria montana var. lobata

Trifoliate leaves – confused with poison ivy – stem of center leaflet - longer



Chinese Privet

Ligustrum sinense

CoLinx – Genesis Road

all nine species are considered invasive

Lowes - hedges

Opposite leaves



92-39c



Multiflora Rose

Rosa multiflora

92-32c



Multiflora Rose

Rosa multiflora

92-70c



Eastern Asia

Multiflora Rose

Rosa multiflora

71-159c





Tree of Heaven

Ailanthus altissima
Sunset Ridge



allelopathic

China



Tree of Heaven

Ailanthus altissima

Sunset Ridge

Ailanthus – look-a-like



Black Walnut
Juglans nigra



Ailanthus – look-a-like



Winged Sumac – Shining Sumac

Rhus copallinum





75-48c

China – late 1700
fast growing
disease – insect resistant

Tree of Heaven

Ailanthus altissima

Claysville Road



75-41c



75-91c

Tree of Heaven

Ailanthus altissima

Claysville Road



75-98c



Bradford Pear “Callery Pear”

Pyrus calleryana ‘Bradford’

little seedy berries

Sunset Ridge

Lowes

China – Vietnam “cultivar”





Bradford Pear

***Pyrus calleryana* 'Bradford'**

CoLinx – Genesis Road



Bradford Pear

***Pyrus calleryana* 'Bradford'**

CoLinx – Genesis Road



Burning Bush

Euonymus alatus

Sunset Ridge

winged stems



Burning Bush

Euonymus alatus

Sunset Ridge

**Lowes
Amazon**





Burning Bush

Euonymus alatus

my driveway





**North Carolina, Tennessee,
Georgia, Florida**

Nandina - Heavenly Bamboo

Nandina domestica

Sunset Ridge

Lowes

Eastern Asia





68-223c

English Ivy

Hedera helix

Obed River Park

Europe and western Asia



67168c

English Ivy *Hedera helix*



strong will to live

regrow from fragments

10 inches per year

Japanese Knotweed

Reynoutria japonica

Fallopia japonica

Community Center





77-15c

Japanese Knotweed

Reynoutria japonica

Fallopia japonica



77-20c



99-337c



73-10c

Mimosa Tree
Persian Silk Tree

Albizia julibrissin

grow fast – die young
first to sprout from disturbed soil

Highway 58 – Gallager Exit

Tabor Loop



73-14c



Princess Tree – Empress Tree

Paulownia tomentosa

Plantation Apts.



99-333c



99-325c



99-328c

Princess Tree – Empress Tree

Paulownia tomentosa

Grows rapidly in disturbed areas,
rocky slopes, infertile acid soils

World's fastest growing tree

Herbicide to prevent resprouting



99-330c



Claysville Road

Johnson Grass

Sorghum halepense

Positives – considered good forage

Negatives - prolific seed production – aggressive growth,
killing frost – or rain following drought – produces prussic or hydrocyanic acid – toxic particularly to ruminants (cattle, sheep, goats) rumen microorganisms convert dhurrin to free HCN
first federal grant issued to eradicate

Prominent white midvein



75-85c

Johnson Grass

Sorghum halepense



103-01c

Johnson Grass

Sorghum halepense

Sunset Ridge



Japanese Spirea

Spiraea japonica

invades variety of habitats
forms dense stands
displaces native vegetation
eastern Asia – 1879
widely available commercially

serrate (slightly toothed), alternate,
lanceolate leaves; somewhat
Resembles Silky dogwood

Obed River bank



Japanese Spirea look-a-likes



Japanese Spirea



Elderberry



Silky Dogwood

Eradication

1. Identify the plant
2. Don't purchase plant
3. Mechanical removal (usually requires herbicide treatment as well)
4. Herbicides – (immediately following cutting)

Roundup

Rodeo – roundup without surfactant

can apply in aqueous environment

- a. brush or wand – immediately after cutting
- b. use preferable in July and August (90% kill in Fall)
- c. too much upward flow of sap in spring

5. Volunteer on Obedwatershed eradication projects

Native Alternatives



Maple Leaf Viburnum

Viburnum acerifolium



100-42c

Blueberry *Vaccinium sp.*



100-21c

Black Chokeberry *Aronia melanocarpa*



100-26c

Winter Berry *Ilex verticillata*



52-104c

Flowering Dogwood *Cornus florida*

Helpful Websites

Tennessee Invasive Plant Council

- a. Invasive Plants
- b. Landscaping

UT Institute of Agriculture

W 242 – Brush control in urban landscapes

The End