

*Restoration & Planting
Options
to address
Emerald Ash Borer Issues*

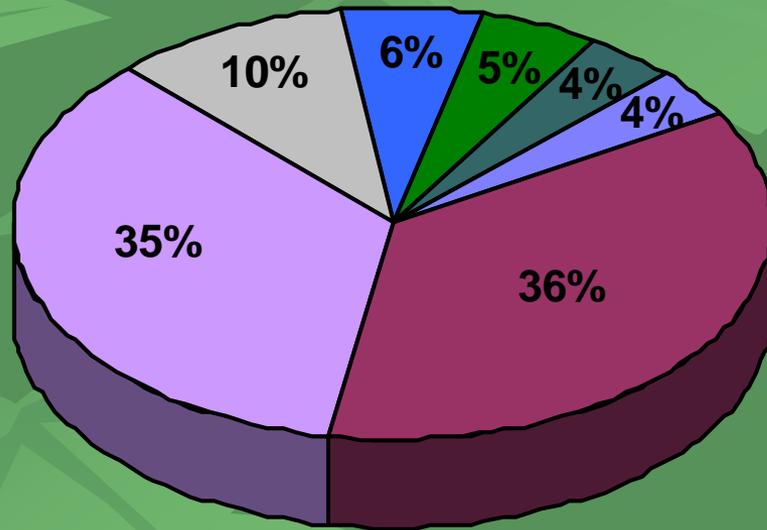
*Presentation made possible by a 2009 grant
from the USDA Forest Service,
Northeastern Area*



Discussion focus

- Alternatives list and their importance
- Looking at some of the recommendations
- Choosing what type of stock to plant
- How to plant stock

Lost canopy



-  *Acer* (maple)
-  *Fraxinus* (ash)
-  *Ulmus* (elm)
-  *Quercus* (oak)
-  *Malus* (apple/crabapple)
-  *Pyrus* (pear)
-  other

Indiana street tree distribution by genus

The Fort Wayne saga



The Project

- 400 ash trees removed
- 400 trees planted

Federal share:

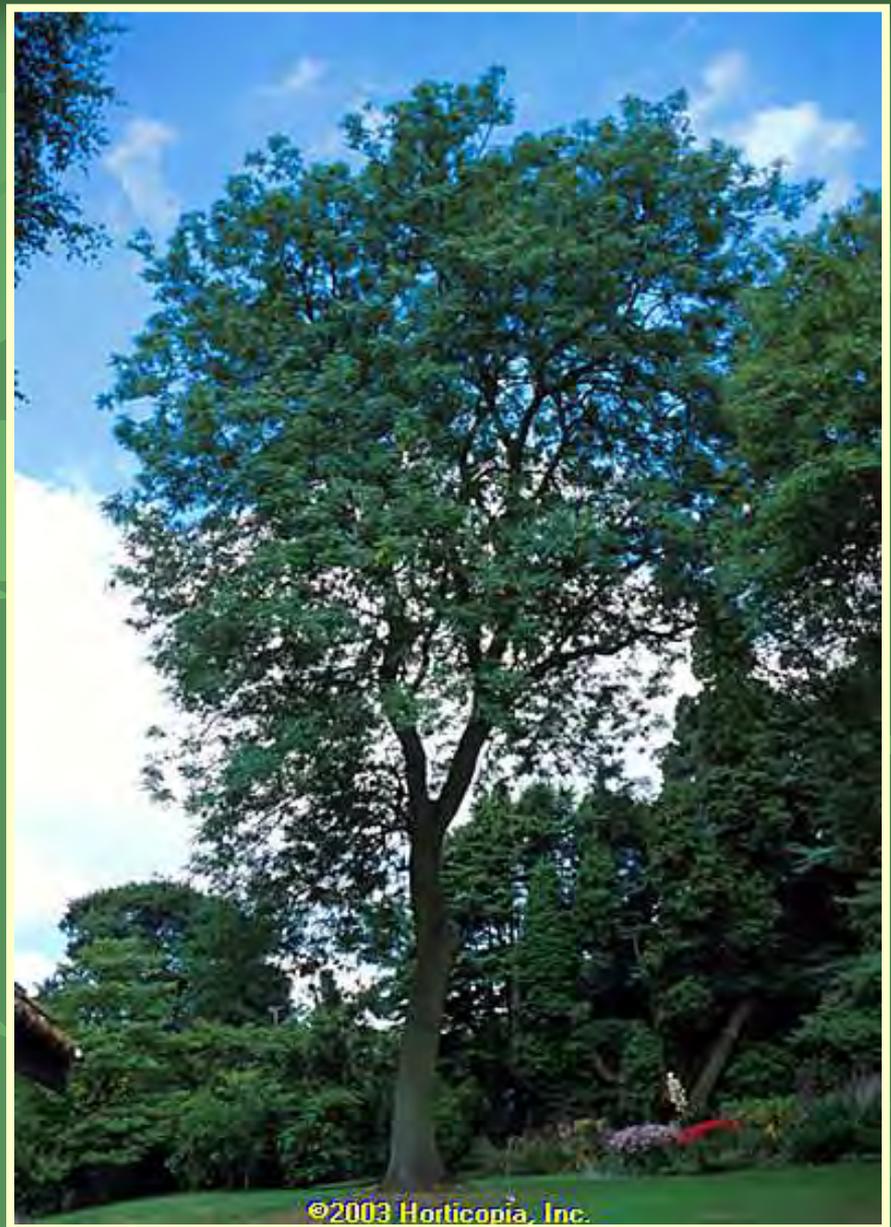
City share:

Indiana urban forestry recommendations

- Do not do a preemptive strike to remove all ash.
- DO begin to plant trees to replace the anticipated loss.
- Do remove problem and young ash .
- Plan for ash debris use and or removal.
- Urban woodlots-try for an ash timber sale.



Ulmus
Americana elm



Fraxinus Ash

Black Alder, *Alnus glutinosa*



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Fast growing, medium height, can
be invasive;

Introduced

Seedless Sweet Gum, *Liquidambar rotundiloba*



American Beech, *Fagus grandifolia*

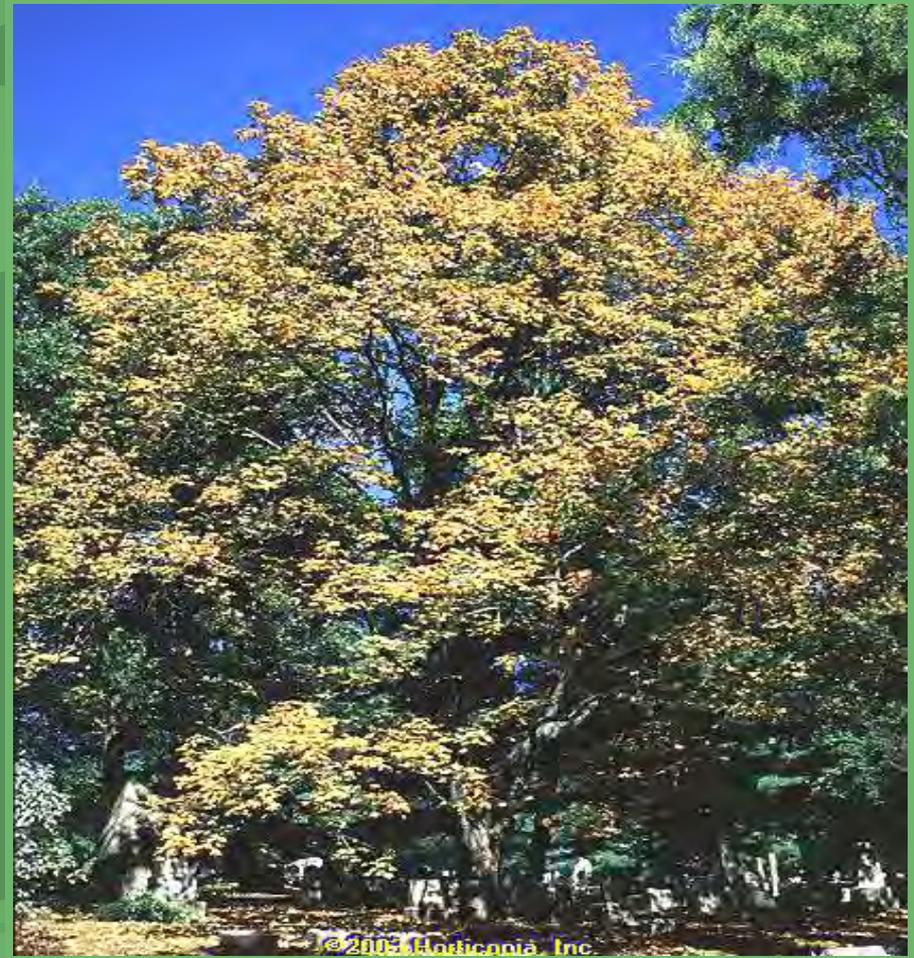


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Black Maple, *Acer nigrum*

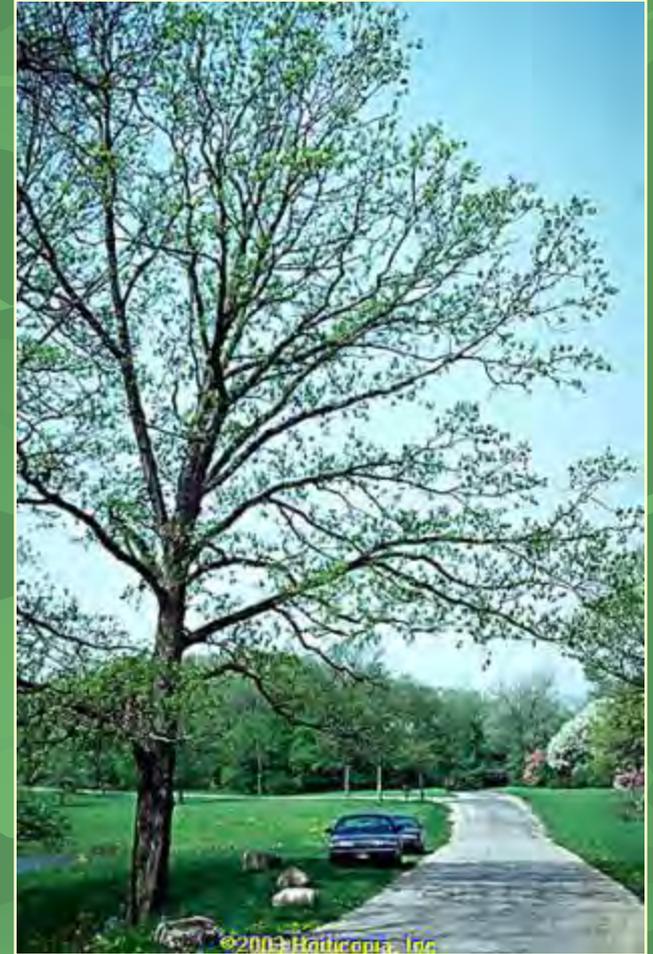


Heat and drought tolerant
50-60 ft high, 20-30 ft wide

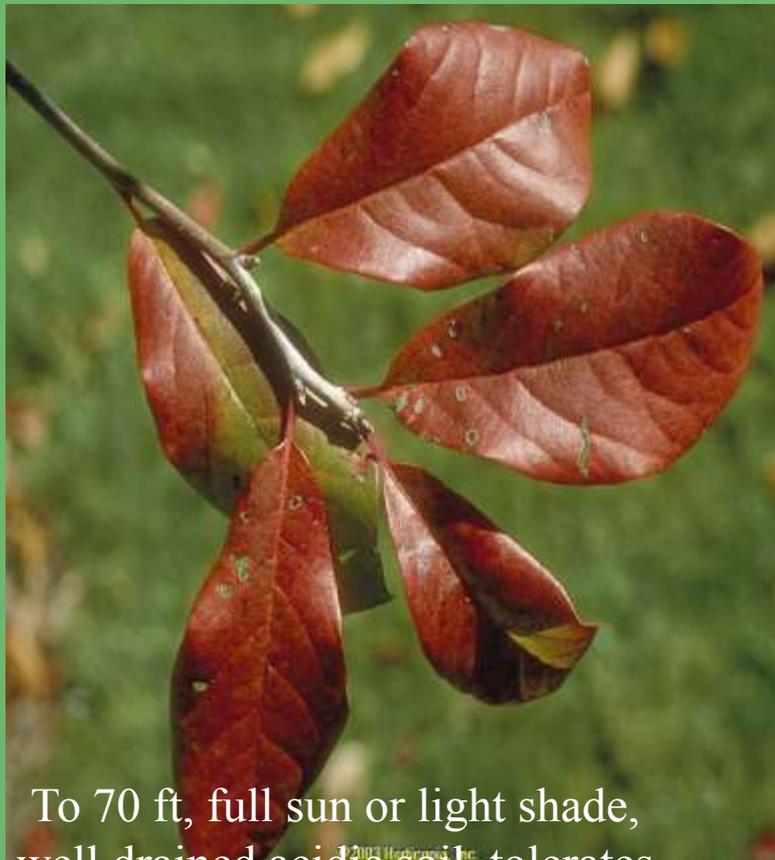


Swamp White Oak

Quercus bicolor



Black Gum, *Nyssa sylvatica*



To 70 ft, full sun or light shade,
well drained acidic soil, tolerates
salts; does not like compacted soil



Sugar Hackberry, *Celtis laevigata*; All Seasons



40-50 ft. high, to 30 ft. wide; tough guy can take sun, shade, wet, dry, compaction, salts, pollution; no issues YET

Bitternut Hickory, *Carya cordiformis*



90 ft. tall

Narrow crown
spreads with age;
various site
conditions

Freeman Maple, *Acer x freemanii*



Good for narrow spaces, 20-25 ft. wide, 50-60 ft. high

‘Armstrong’ considered to be hybrid between red and silver

3 R's of Tree Planting

- *R*ight tree
- *R*ight place
- Planted **R**IGHT

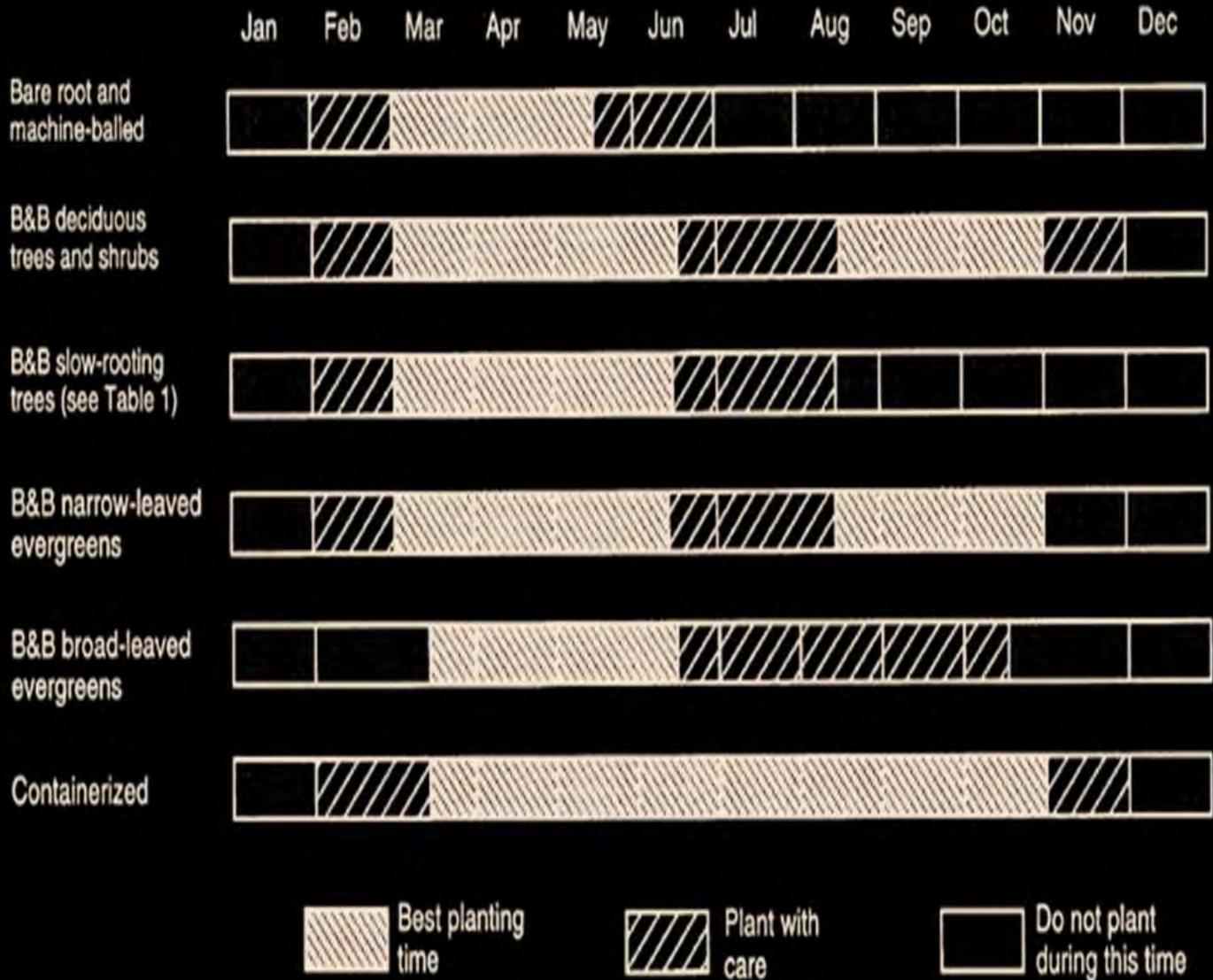


- *Acer rubrum* Red Maple
- *Betula spp.* Birches
- *Cornus florida* Flowering Dogwood
- *Crataegus spp.* Hawthorns
- *Koelreuteria paniculata* Goldenraintree
- *Liriodendron tulipifera* Tulip Tree, Tulip-poplar
- *Magnolia spp.* Magnolias
- *Nyssa sylvatica* Black Gum
- *Quercus alba* White Oak
- *Quercus coccinea* Scarlet Oak
- *Quercus macrocarpa* Bur Oak
- *Quercus phellos* Willow Oak
- *Quercus robur* English Oak
- *Quercus rubra* Red Oak
- *Salix spp.* Willows
- *Tilia tomentosa* Silver Linden
- *Zelkova serrata* Japanese Zelkova

Do best in spring

Root Condition

Time of Year



What to look at when choosing a high quality tree

- Roots
- Crown
- Trunk
- Root ball size



Common Types of Nursery Stock

Balled & Burlapped



Containerized



Bare-root



Pros

transplant anytime
higher survival rate
no matted roots

Slow adjustment period

Cons

heavy
initial root loss
hard to handle
soil compatibility problems
often planted as packaged

Pros

transplant anytime
lighter than B&B
easy to store
Usually 100% roots
easier to handle than
B&B

Cons

encircling roots
matted roots
dehydrate in container

Pros

light-weight
usually less expensive
100% root system
no soil-interface problems
no girdling, matted encircling roots

Cons

roots desiccate quickly
limited to spring/fall planting
lower short-term survival rate

B&B Trees

- Move carefully to site!
- Dig hole /measure depth of the soil and root ball
- NOT TOO DEEP
- How wide?
- Check root ball for trunk flare
- Remove soil on top of root ball until trunk flare is present
- Put the tree in ground so that TRUNK FLARE is at grade level.
- Wet site?



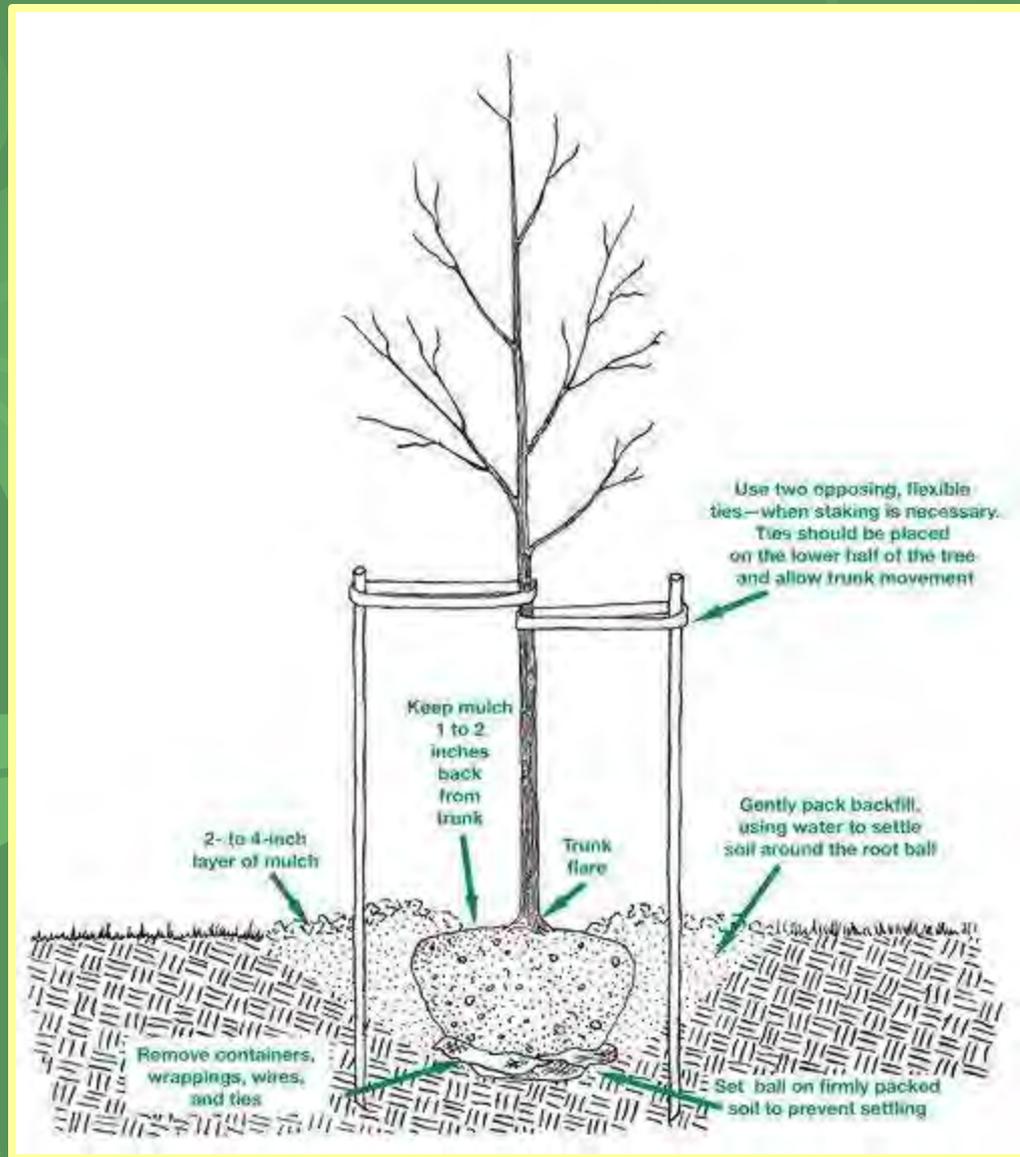
Check for trunk flare



Finishing up!

- Backfill the hole with the chopped up soil taken from the hole.
- Tamp the soil with hands, feet, or water as backfill is added.
- Don't water on top if the ball is dry...just as backfill is added to lose air pockets
- Usually, amendments not necessary

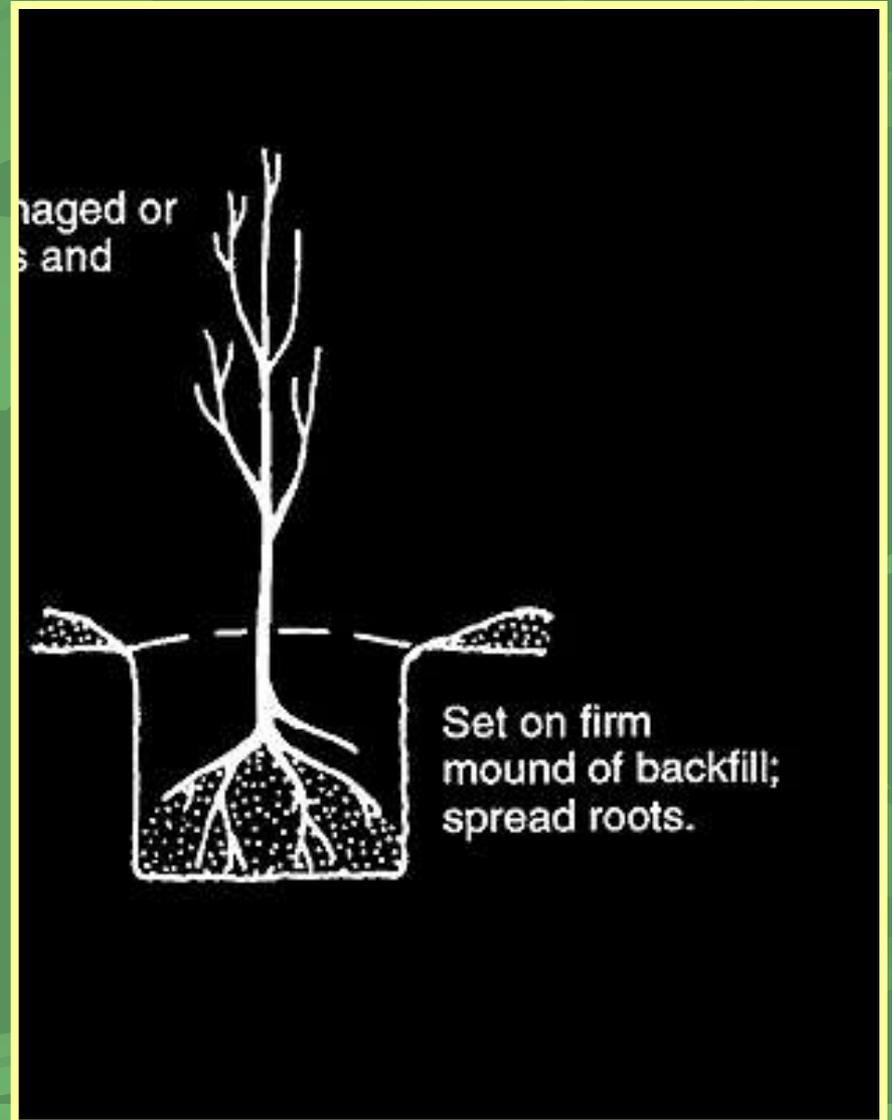
Trees are Good



Containerized



Bare root



AFTER PLANTING

- Water after all soil is in hole and has been lightly tamped..slow trickle--not deluge
- 2-4 inches of mulch
- pull away from trunk
- make a well
- Cover entire planting area
- Stake anyone?
- Only if a windy area or bare root.
- Prune after first year
- Stem protection can be used on thin bark trees from autumn thru winter.



References

Landscape Tree Factsheets

Trees for Urban and Suburban Landscapes

Indiana Alternative to Ash Tree Selection List

Indiana Community Tree Selection Guide

101 Trees of Indiana

The CUF Program gratefully acknowledges the USDA Forest Service, Northeastern Area for making the Indiana C&UF Program possible with grant dollars provided by the USDA Farm Bill.



