CropHealth Advising & Research
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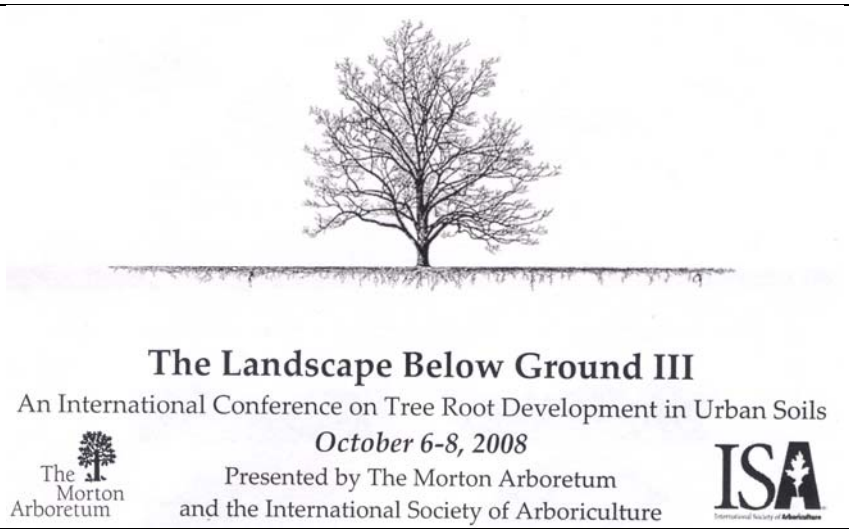
To Date

Monday December 8, 2008

4 pages from Mario Lanthier



"The Landscape Below Ground" was the 3rd international conference on tree root development in urban soils. It was attended by 200 persons from 8 countries. It was organized by the International Society of Arboriculture and the Morton Arboretum, a 1700-acre facility dedicated to plant collections and tree research.

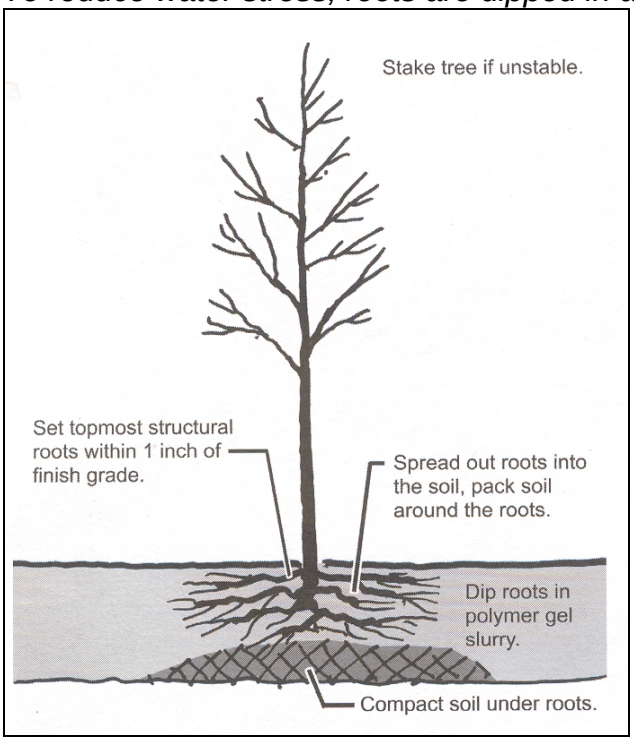
For more information, visit http://www.landscapebelowground.org/.

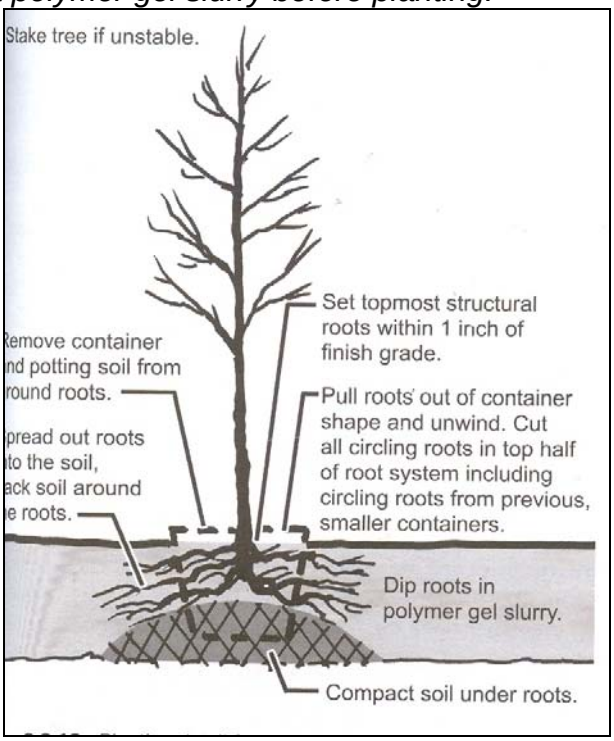
The "hot topic": What type of root ball should be planted?

- Bare root tree: all researchers agree this is "the best tree to plant".
  Less expensive to buy, no soil is removed from the nursery, roots can be inspected.
  Comment: "Bare root trees offer the best rate of survival after replanting".
- Balled and burlapped (B&B): it is "one of the better ways to harvest and ship trees".
  Trees have minimal root problems and recover quickly from transplant.
- Container-grown tree: this is "the least desirable tree to plant".
  If the nursery is not careful, the tree has roots circling, or kinked, or planted too deep.
  Repotting into a larger container "hides" the circling roots from the smaller container.
  Comment: "Stop using container trees until nurseries implements solutions".
- Research by Ed Gilman, University of Florida, http://hort.ifas.ufl.edu/woody/roots.html.
  Dr. Gilman will speak at an arborist conference in Kelowna in October 2009.

Recommended practices (from "Up by roots", 2008, Jame Urban, ISA)

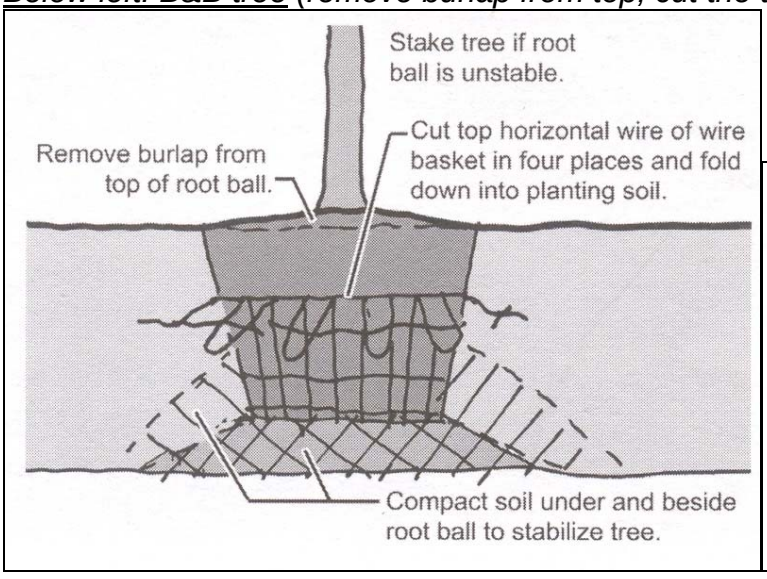
<u>Below left: Bare root tree</u> (dig a hole wide but shallow, avoid planting deep)
To reduce water stress, roots are dipped in a polymer gel slurry before planting.

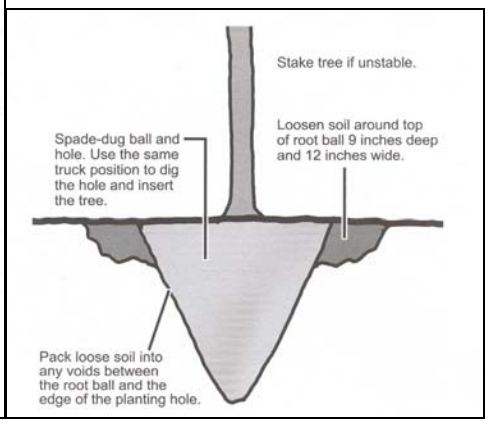




<u>Above right: Container-grown tree</u> (remove potting mix, cut circling roots, spread roots).
Cutting the circling roots is more critical than slicing the sides or butterflying the bottom.

<u>Below left: B&B tree</u> (remove burlap from top, cut the top wire and fold into soil).





<u>Above right: Spade-dug tree</u> (remove air pockets, loosen soil near top roots).

Organic soil amendments

There were many presentations on the impact of soil amendments.

- Rex Bastian, The Care of Trees: “Mulching is one of the best plant health practice”.
- Ferrini, University Florence: “Mulch creates a favorable environment for root growth”.
- May, University Melbourne: “Mix into the whole soil profile to get better root growth”.

Organic matter is important to tree health.

- From Morton Arboretum, meta-analysis (synthesis of results) of studies 1975 to 2008.
  Organic matter has a significant impact on soil physical properties.
  Applied on soil surface: positive impact on tree growth. Mixed in soil: no impact.

Emerald ash borer: current status

Emerald ash borer is devastating mature ash in certain neighbourhoods.

- The insect was found in Michigan in 2002. So far, 15 million trees have been lost.
- The insect was found in Chicago in 2006. Currently confirmed in 5 different locations.
- The insect is difficult to manage: once damage is seen, the adults have already left.

Trees promoted as “ash alternatives” (from J. Frank Schmidt Nurseries, Oregon).

- Zone 3: Celtis occidentalis (hackberry) / Acer X freemanii ‘Jeffersred’ (Autumn blaze)
- Zone 4: Acer rubrum ‘Franksred’ (red sunset) / Acer miyabei ‘Morton’ (State Street) / Gleditsia triacanthos ‘Skyline’ / Gymnocladus dioicus (Kentucky coffee tree) / Quercus bi. (swamp white) / Ulmus japonica X wilsoniana ‘Morton’ (Accolade elm)
- Zone 5: Platanus X acerifolia ‘Bloodgod’

Suggested trees for urban plantings

City of Chicago: “diversity goal” requires maximum of 15% from one species.

- Current inventory is 21% Norway maple, 17% silver maple, 15% honeylocust, 15% green ash. Inventory was much higher in Norway maples, no planting for many years.

LOCATION	SUGGESTED FOR FUTURE PLANTINGS	AVOID
Grass park	London planetree bloodgood / Maple silver / Oak burr and swamp white	Norway maple Silver maple
Parking island	Catalpa northern / Hackberry Chicagoland / Elms hybrids (Accolade, Pioneer, Triumph)	---
Sidewalk tree pit	Elm hybrids / Ginkgo Princeton Sentry / Honeylocust skyline / Pear Chanticleer / Kentucky coffeetree / Hackberry / Zelkova	Norway maple Red maple Little leaf linden
Under line	Maple hedge, Amur / Japanese lilac / Pear redspire	---

Tour of the City of Chicago

Above: Overview of the Millenium Park in downtown Chicago (picture taken from waterfront).
This 25-acre park was just completed at a cost of $800 million. It is a tourist destination.
The park was built over an open-sky underground railway station. The site is now street grade.
For more about the park, see the website http://www.millenniumpark.org/.

Below: Close-up of the Amphitheater. Note the trees lining the walkway.
The park was a feat of civil engineering, but also a feat of horticulture engineer.
Soil was "constructed" to support roots of large trees yet without shrinkage over time.