RPM Ecosystems LLC

- International headquarters located in Dryden, NY (Ithaca / Cornell University)
- 4 other nursery locations - NY, SC, MS, MO
- We grow 1.5-2M trees annually for conservation/ restoration/ reforestation/urban development projects nation wide and in Canada as well.
- We contract grow nationally for specific sites/projects using the regional seed source for optimum acclamation and project success.
Root Production method

We grow 200+ species of science based high performance native hardwoods, with our patented technology (RPM) that results in:

- 2-3 x faster growth
- 2-3 x earlier fruit and nut production
- 95% or more survivability in walk away systems
- 2-4 x great biomass/carbon sequestration in above and below ground biomass annually
- 2-3 x earlier canopy
- 18 x larger root ball mass which allows the trees to adapt and survive difficult environmental conditions
Ecosystems Partners

Collaborative partnerships with other organizations, and agencies for larger ecosystems restoration projects - private, federal, public lands (profit and not for profit)

- Conservation/restoration
- Biomass/biofuels
- Carbon sequestration
- Reforestry/afforestation
- Urban communities
- Reclamation/remediation
- mitigation
Root System Comparison

1 year RPM and bare-root seedlings
75 Day Old RPM Seedling
3 month old RPM root system
Accelerated Growth

RPM oaks were acorns in Feb; 3-5 ft tall in July
Acclimation and Planting

RPM Oaks ready to plant at 210 days
Earlier Nut Production

Walnuts after 3\textsuperscript{rd} growing season
Accelerated growth

3 year old maple & 7 year old pin oak
3 year old RPM oaks
RPM Growth Comparison

8 year bare-root Pecan

8 year RPM Pecan
Urban reforestry case studies

- 1. In response to natural disasters
- 2. In response to the increasing negative impact of climate change and man on the urban environment and the need to increase tree canopy coverage as fast as possible.
- 3. The important of educating the community from age 5-95 on the value and benefits of planting trees.
- Collaboration - volunteers - maintenance
Buffalo Audubon

Buffalo Ice Storm, October 2006
16 million in tree damage in park areas alone
Audubon’s Response to Disaster

Their response to disaster was to hold a fundraiser tree sale to provide homeowners with trees to replant the Buffalo area and to raise money to support their stewardship and conservation efforts as well as promote their educational programs.

• Learned about RPM Ecosystems from the US Army Corps of Engineers

• Held a fundraiser campaign fall of 2007 and spring of 2008
Fall 2007 Fundraiser sale

- Promotion of RPM Tree Sale for September delivery in Fall Conservation August newsletter and included an order form for purchasing RPM trees.

- All orders were pre-sold and paid in advance, with a deadline date the first week in September and delivery the second week of September.

- 600 color posters distributed by volunteers locally and throughout the region.

- Spots on three different radio stations—good coverage to reach broader demographic targets.

- Spots highlighted the Buffalo Audubon Society and that the proceeds of the sale benefit and support urban reforestry, nature education and stewardship, with an additional message of advantages and the “promise of RPM trees” – fast growth and higher survivability.
Volunteer Organized Tree Pick Up Day

Volunteers organized the logistics of unloading, trees inventory management and order fulfillment, plus developed a protocol for easy pick up for buyers. The pick up day was a fall celebration with trees, education, and food for volunteers and supporters.

• Tree planting demonstrations and pruning techniques were taught
Results

• 1,580 trees were planted by 580 Buffalo Audubon Society supporters into the Buffalo urban community

• Audubon Society had $43,900 net return from a 1 month fall conservation tree fundraiser.

• ($71,100 Gross sales - $27,200 expenses (promotion & tree costs)

• Buyers received high quality native hardwood trees for planting and education about native trees, urban reforestry and membership.

• Audubon gained new members and supporters for the organization and additional funding to do continued restoration work.
After the hurricanes in 2005, RPM Ecosystems LLC was brought to the Gulf Coast by the USDA Natural Resource Conservation Service in order to accelerate the restoration efforts.
• RPM Ecosystems Gulf Coast LLC worked directly with the United States Congress to generate a $800,000 appropriation through the USDA Forest Service Agency, funded through Mississippi State University to jump start restoration efforts.

• Matching funds were secured from the State of Mississippi Department Wildlife, Fisheries and Parks to begin replanting in 6 coastal counties.

• These efforts were implemented through “Replant South Mississippi”, a “grass roots” initiative of the local communities and the Land Trust for the Mississippi Coastal Plain.
Hurricane Katrina was the largest natural disaster in US history. 320 Million trees were destroyed.
Replant South Mississippi

- In the fall of 2007 RPM shipped 150,000 trees to Mississippi grown from collected coastal seed.

- Green print workshop - municipal teams throughout gulf coast came together to put together a plan

  - Communities went back and developed their individual plans for public parks, schools, industrial and private land areas

  - 60,000 trees planted fall 2008, another 60,00 will be this fall

  - All organized community volunteer plantings
200 people signed up for trees with the agreement they would do community public plantings and then get to take home a few trees for their own yards.

Education and maintenance classes were given by arborists.

Local trucking company delivered trees, utility co. dug holes on school grounds etc.
Replant Fall 2008 - Goshe, MS
- Greenprint 2 day workshop
- 6 county regional planning session
Charleston Horticultural Society Helps Replant
Boyscouts
Volunteers help replant schools
“Seeing the restoration to maturity of “trees in our lifetime” is the hope that RPM plants bring to the Mississippi Gulf Coast. We would replant for our children, but now we will be able to see our heritage and native trees restore our urban forests as well as our coastal habitats re-established in our lifetime.”

Judy Steckler, Director
The Land Trust for the Mississippi Coastal Plain
Neighborhooods, watersheds groups, youth environmental groups came together to do a series of urban reforestry projects.

As a group they went after local and larger governmental grants, combined with fundraiser sales (profit and not for profit combo) to plant 2500 plus trees with volunteers in their communities.
Volunteers planting
Ithaca and Syracuse, NY

Working with city forester Andy Hillman and Nina Bassek, director of the Institute of Urban Horticulture, we have been test piloting a different urban planting model using smaller stock wherever possible as a means of meeting the green infrastructure goals for greater canopy coverage for urban landscapes.

New tool in the tool box:
Plant smaller caliper trees wherever possible.
Are you planting more trees than your community removes?

To increase street tree stocking by 1% in a city like Syracuse may require 1000 trees a year. But to increase CANOPY COVER 1% may require up to 50,000 trees.

To do this, a community needs to plant on all types of property: private, institutional, industrial, parks and vacant land.
Small trees in urban neighborhoods
The need for increased canopy

NY communities are still only keeping pace with removals or increasing stocking by 1% a year. And that is just stocking in Right-Of-Ways.

Now we are remaining stable and that is not good enough given the challenges and goals at hand. Increasing would require 5 x more trees planted annually.

Communities/home owners assume anything smaller than 2” caliper cannot survive a lawn or park planting.
80% of the urban forest is on private property

Trials in Syracuse and Ithaca with the planting of 3 to 5’ tall trees in 2-gallon pots in TREE LAWNS reveal high survival and limited incidence of vandalism. Small trees container trees are not appropriate everywhere but collectively we can identify and categorize where they can be planted.
Small trees in urban neighborhoods
Small trees carry many distinct advantages.

1) Lower unit costs - more diversity/species choices
2) Wide planting window- limited transplant shock
3) All species can be transplanted spring or fall
4) Logistics (planting rates and quality control can be increased and managed effectively) - easy to train others
5) Easier implementation for volunteers and home owners
6) Lower unit cost. Easier to replace vandalized trees

Every community large and small can have its own 1000, 5000 or 25,000 tree planting program over a 15 to 30 year period on a $5000 budget or less.
Small trees in urban neighborhoods
Think partnerships and community collaborations!

- Educate your community about the value and importance of planting trees
- Think of creative ways to fundraise to purchase trees for your community
- Get people to donate trees to your city park and natural areas
- Encourage homeowners to plant trees every year in their yards
- Keep going after those funding opportunities!
- Restore the earth one tree at a time
Thank you!
Contact Information and Sales

RPM Ecosystems LLC
607-844-9590
E-mail: lc@rpmecosystems.com
Web Page: www.rpmecosystems.com