

# 2007 Johns Grants

## **Towards improving soil biology and organic matter for urban tree health**

*Bryant Sharenbroch and Gary Watson, Morton Arboretum*

Examine biochemistry in urban soils, determine the effectiveness of mulching, compost teas, and fertilization to improve soil organic matter and soil biology. Particular focus will be placed on compost teas as a mulch alternative in situations where surface mulching is not possible.

## **Strategies and techniques to remediate compacted, poorly draining soil**

*Nina Bassuk, Cornell University*

Modify the new soil health protocols developed for farmers to be useful for arborists and landscape managers, evaluate various soil modification techniques and produce a free, Web-based manual that will take the landscape manager through the steps necessary to assess and ameliorate the soil in preparation for planting one tree or an entire landscape.

## **Novel disease control compounds to reduce pesticide usage in the arboricultural industry**

*Glynn Percival, University of Reading, UK, and Bartlett Tree Research Laboratory*

Investigate the efficacy of calcium,

phosphites, and sodium bicarbonate alone and with synthetic fungicides on controlling apple scab and *Phytophthora* root rot.

## **Effects of structural pruning on red maple trunk movement in wind**

*Ed Gilman and Forrest Masters, University of Florida*

*and Jason Grabosky, Rutgers University*

This study will determine if structural pruning enhances the ability of trees to withstand Category One hurricane force winds.

## **Effect of pruning on the stability of trees in windstorms**

*Ken James, Brunley College, Brian Kane, University of Massachusetts, and Nelda Matheney and James Clark, Hortscience*

Investigate tree and canopy management strategies that mitigate the effects of wind on shade trees.

## **The early years: An analysis of street tree mortality and survival in New York City**

*Brian McGrath, Columbia University, Erika Svendsen and Lindsay Cambell, USDA Forest Service, and Jason Grabosky, Rutgers University*

A sample of 14,000 trees from the 40,000 trees planted between 1999 and 2003 will be analyzed to determine factors that influence survival.