



## Species and Combinations for Green Roofs in Northern Climates

Information on the selection of successful green roof plant species and species combinations from rooftop testing is currently limited in North America's northern climates, compared to many European countries. Choosing the right plant species is crucial for the success of a green roof installation, especially for extensive systems, such as pre-vegetated mat systems. **Vinson and Zheng (p. 563)** identified a variety of perennial plant species that were appropriate for use in pre-vegetated mat production (grown from seeds, cuttings, or clusters), had a wide range of inter-species compatibilities, and were suitable for extensive green roofs in northern climates.

## Buckwheat Cover Crops Control Northeastern U.S. Weeds

Vegetable growers can suppress late summer weeds by planting buckwheat as a cover crop following vegetable harvest. In the northeastern U.S., the window of opportunity is short, so timing is critical. **Björkman and Shail (p. 575)** determined the tillage and timing of sowing buckwheat that yield the best chance of success. Planting buckwheat only 1 week after crop incorporation of early vegetables was sufficient and better than waiting the traditional 2 weeks. However, buckwheat must be sown when there are at least 700 growing degree days remaining in the season.

## Exercise Intensity of Gardening Tasks for Children

**Park et al. (p. 589)** determined that some gardening tasks were moderate- to high-intensity physical activity in children aged 11 to 13 years [ $4.3 \pm 0.5$  to  $6.6 \pm 1.6$  metabolic equivalents (MET)]. Digging and raking were identified as high-intensity physical activities. Tasks like weeding, mulching, hoeing, sowing seeds, harvesting, watering, mixing growing medium, and planting transplants were moderate-intensity physical activities. The MET data for the gardening tasks will facilitate the development of garden-based exercise interventions for children, which can promote health and physically active lifestyles.

## Time to Flower Harvest Varies among Gentian Varieties and Plants

**Samarakoon et al. (p. 595)** evaluated the time to harvest maturity and the extent and source of variability in maturity dates among three gentian varieties used for field-grown cut flowers. Varieties differed in time to harvest maturity with a wider spread in 'Showtime Starlet' (41 days) than 'Showtime Diva' (35 days) or 'Showtime Spotlight' (29 days). Varieties differed by more than twice in their plant-to-plant variability for time to harvest. Potential strategies to control the spread in time to harvest among varieties are discussed based on contribution of each source of variability for a given variety.

## Southwest Plant Selector: A Mobile App for Homeowners

**Sutherin et al. (p. 602)** created Southwest Plant Selector, a mobile application that leverages an existing database of New Mexico landscape plants. The app, available for iPhone™, iPad™, and iPod Touch™, allows homeowners to select regionally appropriate, drought-tolerant landscape plants based on botanical or common name, plant type and category, hardiness region, sun exposure, and bloom color. The app was tested for usability and functionality. Positive user test results and download data suggest that the app is useful to New Mexico homeowners. New Mexico State University Extension horticulture agents use the app to maximize outreach efforts.

## Turfgrass Mixtures/blends Evaluated under Minimal-input Conditions

Several studies have been conducted on low-maintenance turfgrass species; however, relatively few have examined mixtures or blends. **Miller et al. (p. 610)** evaluated eight turfgrass mixtures/blends on a low-fertility soil to assess their adaptability to low-input conditions (minimal water/fertilizer and no pesticides after establishment). Under minimal mowing, a tall fescue blend performed the best for quality while three fine fescue mixtures and a tall fescue/kentucky bluegrass mixture also had acceptable quality ratings. Under no-mow conditions, the native grass mixtures and a tall fescue blend had the highest overall ratings.

## Economics of Grafted Tomato Production in Northern Florida

Using a partial budget analysis, **Djidonou et al. (p. 613)** compared the profitability of grafted and non-grafted tomato production in sandy soils in northern Florida in a 2-year study. The total costs required to produce, harvest, and market fresh-market tomato using grafted transplants were higher than those of non-grafted tomato by \$4488.03 to \$5189.76 per acre. However, because of the enhanced marketable yields of grafted plants, the net returns of grafted tomato production were increased by \$253.32 to \$2458.24 per acre compared with non-grafted tomato depending on the rootstock used and production season.

## Wind Loads on Single-span Plastic and Solar Greenhouses

Single-span plastic greenhouses and solar greenhouses frequently are employed in protected horticulture in developing countries; however, they are vulnerable to wind actions due to their simplicity. **Yang et al. (p. 622)** found that single-span plastic greenhouses were more vulnerable to wind actions than solar greenhouses, and that the top surface of a single-span plastic greenhouse was more susceptible to wind damage than the end surface. The minimum critical wind speeds required to impair a single-span plastic greenhouse and a solar greenhouse were 32.4 and 42.3 mph, respectively.

## South Korean Cut Lily Growers Surveyed

**Kang et al. (p. 629)** report trends in hybrid lily varieties and the challenges of growing cut lilies in South Korea based on a survey of lily producers. Participants mainly cultivated 'Siberia', 'Sorbonne', and 'Yelloween' and indicated that the primary factors considered in choosing varieties were the prices of bulbs and cut flowers. Growers used various cultivation systems and horticultural practices. The main pests that affected productivity were fungus gnats and bulb mites, and the most common horticultural problem was leaf scorch.

## Collaboration of Botanic Gardens with Academia and Extension

Although botanic gardens are increasing in number at academic institutions, **Meyer and Michener (p. 635)** found that there could be much more collaboration in teaching horticulture with academic classes, internships, and extension programs. Two-thirds of the gardens surveyed were offering partial or full academic classes at the botanic garden, and about half were doing internships. However, only 30% were offering academic credit internships, and only one-third described their relationship with extension as good to excellent. The authors offer suggestions for increased collaboration, including leadership as well as understanding and engaging the academic and extension communities.

## Fruit Industry Attitudes on Postharvest Handling, Flavor, and Consumer Purchasing

As part of a larger project to demonstrate how fresh fruit with enhanced flavor can be successfully handled to improve consumer satisfaction without compromising food safety, **Diehl et al. (p. 642)** interviewed industry leaders to collect information on attitudes and practices related to postharvest handling throughout the supply chain. Quantitative analysis revealed that the majority of respondents (70%) agreed that postharvest handling affects fruit flavor, with the most cited themes of agreement being gentle handling, cold chain management, and harvest timing. The majority of respondents (95%) agreed that increased taste quality of fruit would mean increased purchasing and consumption.

## Herbicide Placement Improves Yellow Nutsedge Control in Landscapes

Organic mulch and preemergence herbicide can be effective tools in managing yellow nutsedge in landscape plantings. Placement of granular EPTC (above vs. under pine nugget, pine straw, or shredded cypress mulches) was evaluated by **Chen et al. (p. 651)** in landscape beds infested with yellow nutsedge and planted with selected ornamental plants. Greater yellow nutsedge control was achieved by applying EPTC under mulches vs. above them, especially with shredded cypress. EPTC rate can be reduced when applying under mulches. No acute injury or growth and quality reduction were found from overhead application of EPTC in selected ornamental plants.

## Shading Reduces Sunscald of 'Murcott' Tangor Fruit in Taiwan

The effects of shading on the quality of 'Murcott' tangor fruit were studied by **Tsai et al. (p. 659)**. Among the five shading methods tested, a significant reduction in sunscald was observed when using white paper bagging and white, green, or black shading nets (0% sunscald). Less improvement (4% sunscald) was found with calcium carbonate sprays. The use of black nets resulted in larger and heavier fruit than the other treatments.

## Extension Workshops Reduce Residential Irrigation Water Use

The effectiveness of 2-hour extension workshops to improve residential water conservation was tested by examining monthly irrigation water-use data for 57 workshop participants and 43 non-participants from Osceola County, Florida. **Borisova and Useche (p. 668)** observed that workshops were effective in reducing participants' irrigation water use, with an average 2160-gal reduction in water use per household in the month of the workshop (as compared with average water use in the preceding 4 months). However, the effect was short-lived and dependent on the household sample considered.

## Asynchronous Continuing Education for Iowa's Green Industry

Continuing education programs that are not constrained by time or location are important to industry professionals. **VanDerZanden (p. 677)** reports the impact of two asynchronous online training programs developed for Iowa's nursery and landscape professionals. When these green industry professionals began using online training modules to prepare for a certification exam the pass rate increased from 57% to 85%. A series of advanced training webinars also had a positive impact for participants as evidenced by self-reporting that they learned new information and would be able to apply the information to their business enterprise.

## Students Design Marketing Strategies for Genetically Modified Carnations

Most distributors, flower auctions, brokers, wholesalers, floral designers, and consumers are unaware of genetically modified (GM) cut flowers. **Anderson and Walker (p. 683)** report a study in which 120 undergraduate floral design students designed with GM and non-GM carnations and were asked examination questions about their position on GM cut flowers and the development of a floral shop policy to inform customers. Most of the next generation of potential floral shop owners would sell both GM and non-GM flowers, with a majority of shops clearly identifying the GM flowers.

## Performance of TYLCV-resistant Tomato Varieties in Florida

Management of *Tomato yellow leaf curl virus* (TYLCV) primarily has relied on insecticidal controls targeting the vector, sweet potato whitefly (SPW). However, resistance of SPW to insecticides, increased length of the growing season, and asymptomatic hosts of TYLCV have increased

the need for wider use of TYLCV-resistant varieties. **Ozores-Hampton et al. (p. 689)** concluded that under high TYLCV pressure, most TYLCV-resistant varieties and advanced breeding lines produced higher yield than susceptible varieties. In contrast, no clear advantage was found by using TYLCV-resistant varieties under low TYLCV pressure.

## High-elevation Wine Grape Variety Evaluations in New Mexico

**Lombard et al. (p. 699)** evaluated 19 established non-grafted European and hybrid wine grapes at an elevation of 5600 ft in the Four Corners region of northwestern New Mexico. Hybrid varieties outperformed European wine grapes in establishment and yield. Winterkill and spring frost damage constrained grape growing to varieties capable of yielding on secondary buds. Top performing varieties had acceptable grape berry sugar (above 21%) and pH values (3.2). In the Four Corners region, variety selection must be combined with good site selection and management to reduce crop loss risk due to frost.