



Spotlight

Amended backfill has no benefit when planting palms

In an 18-month study in southern California, **Hodel et al. (p. 457)** evaluated amending backfill with a commercially available, composted, nitrogen-stabilized douglas fir shavings product incorporated at 0%, 25%, and 50% by volume when planting five species of palms out of 1-gal containers (king palm, mediterranean fan palm, queen palm, windmill palm, and california fan palm). Crown volume, stem diameter, visual quality, quantity of new leaves produced, and foliar nitrogen, potassium, and magnesium did not differ significantly among treatments for all species or among treatments within a species at the end of the study.

Bermudagrass varieties respond differently when irrigation intervals vary

Identifying bermudagrass varieties with superior drought tolerance and genetic variability for drought tolerance will benefit turfgrass breeding programs and practitioners. **Baldwin et al. (p. 466)** investigated the drought tolerance of six bermudagrass varieties in response to daily, 5-, 10-, and 15-day irrigation intervals by monitoring turfgrass quality, root weight, evapotranspiration, and soil moisture status. Variability was observed among the bermudagrass varieties tested. Results also indicate that those irrigating in 5-day intervals should proceed with caution. Only 'Aussie Green' and 'Celebration' maintained an acceptable standard of quality at the 5-day interval after 2 weeks.

Green roof substrates and fertility

Green roof substrates must be lightweight, permanent, and capable of sustaining plants without leaching nutrients that may cause environmental problems. **Rowe et al. (p. 471)** evaluated two stonecrops (*Sedum* spp.) and six non-succulent species native to the midwestern U.S. prairie that were grown in green roof modular units using various substrate compositions and fertility levels. They observed that a moderately high level of heat-expanded slate (80%) and a relatively low level of controlled-release fertilizer could be utilized for green roof applications when growing succulents such as stonecrop. The non-succulents used in this study required deeper substrates, additional organic matter, or supplemental irrigation.

Irrigation for optimum profit versus optimum yield in muscadine grape

Recent periods of drought across the southeastern U.S., coupled with concerns over water supplies, have fruit growers seeking to use irrigation more efficiently. While in the past irrigation applications have been aimed at maximizing yields, recent trends have been to determine irrigation levels that maximize profitability. **Carpio and NeSmith (p. 478)** present an economic assessment of irrigation usage in muscadine grape grown in Georgia. The level of irrigation for maximizing profits was less than that which maximized yields. Also, the analyses found substantial profit increases when using irrigation as compared to dryland production of muscadine grape.

Porcine hemoglobine hydrolysate used as plant biostimulant

Animal blood traditionally has been used as an organic fertilizer. **Polo et al. (p. 483)** describe the effectiveness of porcine blood subjected to hydrolysis as a biostimulant that lessens the effects of thermal stress. Lettuce plants were subjected to episodes of cold and heat. After the episodes, different doses of porcine hemoglobine hydrolysate were applied to the substrate. Measurements carried out several days after the episodes showed that the highest-tested dose promoted a reaction that lessened the harmful effects caused by cold and heat treatments.

Nonuniform sand deposition may impact swamp dodder control in cranberry

Uniform applications of sand to cranberry vines are needed to suppress dodder seed germination. Soil cores were collected from 24 commercial cranberry farms where sand was applied by either water barge or directly on ice. **Hunsberger et al. (p. 488)** report that both application methods delivered nonuniform depositions of sand, with the majority of the samples measuring less than the target depth. The irregularity of deposition patterns and the large proportion of sand depths that were less than 25 mm (the depth expected to suppress germination) indicated adequate control of the parasitic weed would be unlikely with either sanding method.

Benefits of kinetin sprays on greenhouse vegetables

Papadopoulos et al. (p. 493) evaluated the usefulness of kinetin foliar sprays [2.5, 5, and 10 ppm concentrations (formulated as KIN-Gro)] on rockwool-grown 'Bodega' cucumber, 'Rapsodie' tomato, and '4-Ever' and '444' pepper. It was concluded that cucumber production would benefit from a dilute spray (2.5 ppm), and pepper production from a high concentration spray (10 ppm). Tomato transplant growth benefited from a kinetin spray at 2.5 ppm.

***Phytophthora ramorum* survives well in soilless media**

Many container-grown nursery plants are susceptible to ramorum blight and dieback caused by *P. ramorum*. The disease has been considered to be largely an aboveground disease, but spores of the pathogen from foliar infections could be washed into the container medium. The question of whether the pathogen could survive and be disseminated in potting media was addressed by **Linderman and Davis (p. 502)**, who demonstrated that sporangia survived in media components or soil for up to 6 months, and chlamydospores for more than 14 months. These results indicate that this regulated pathogen could be disseminated geographically by surviving in the media.

Road salt injures blueberry fields bordering Michigan highways

Blueberry fields adjacent to highways treated with deicing salt have exhibited abnormally high levels of flower bud injury during the winter. **Berkheimer et al. (p. 508)** surveyed affected fields, and report that injury levels generally increased with proximity to the highway. In severely affected fields, injury was apparent up to 120 m from the road. Salt residues on twigs were also highest nearest to the road. This injury appeared to result from wind-blown salt spray or dust that was generated by traffic and deposited directly on plant tissues.

Drought stress of american ginseng increases the concentration of some ginsenosides

In a greenhouse pot-culture experiment, **Lim et al (p. 517)** evaluated the effect of moderate drought stress in american ginseng on the concentration of six major pharmacologically active root ginsenosides (Rg1, Re, Rb1, Rc, Rb2, and Rd). Stressed plants were watered on a 10-day dry-down cycle while controls were watered every 5 days over the 40-day experiment. Although soil moisture content was only half as high in the control compared to the stress treatment, there were no treatment-related differences in root or shoot dry weight. Ginsenosides Re and Rb1 were significantly higher in roots of the stressed plants.

Mulches for production of organic Vidalia onions

A small market has emerged for organically grown Vidalia onions. This has prompted research efforts on organic production practices for these famous onions. **Boyhan et al. (p. 523)** tested natural mulches as an alternative to plastic mulch or hand weeding for the suppression of weeds. Mulches such as wheat straw and pine needles were not effective. Additional research on this and other production problems continues for organic Vidalia onions.

Labeling fruit and vegetables using laser technology

Fruit labeling using a laser-etching beam is an efficient alternative to self-adhesive tags. The advantages of this system are numerous, but potential secondary effects remain unknown. **Ettxeberria et al. (p. 527)** describe the anatomical characteristics of the CO₂ laser beam-generated dot-matrix-type pinholes. Microscopic observations of the laser-generated pinholes were accomplished using fluorescent, light, and confocal microscopy soon after and 4 days after labeling of tomatoes and avocados. The laser-generated depressions averaged 200 μ m in diameter and 25 μ m depth. Wax was observed within the depressions after etching, with additional wax and phenolic deposition occurring during storage.

Engineering studies on granular applicators can help horticulturists and turf professionals

Theory and practical use of granular applicators have been studied extensively by engineers for 50 years. Theoretical studies have focused on mathematical models of granule trajectory in an effort to predict spreader distribution patterns from spreader and granule parameters. Applied studies have looked at practical effects of spreader and granule parameters on distribution patterns and ways to improve pattern test procedures to better predict field performance. **Parish (p. 533)** reviewed the engineering research on spreaders and showed how applied research can be used to improve use of granular applicators. Topics such as pattern testing, calibration, and operating mode are discussed.

Consumers' preferences and willingness to pay for chrysanthemum varieties

When growers determine what new varieties to introduce into the market, they need information on the "potential buying decisions" of retail consumers for the new products. A survey conducted by **Posadas et al. (p. 539)** showed that 'Mithra Maroon', 'Venus Purple', 'Amory Yellow White', 'Adonis Purple', and 'Road Runner Bronze' garden chrysanthemums were preferred by consumers over 'Night Hawk Lemon', 'Freya Salmon', 'Amata Purple', and 'Starlet Ivory'. Of the five preferred varieties, respondents were willing to pay more only for 'Mithra Maroon', 'Road Runner Bronze', and 'Amory Yellow White'.