**MICROBIAL INOCULANTS ALTER PRODUCTIVITY AND FLOWERING OF HARLEQUIN FLOWER**

Inocula of mycorrhizal fungi are commercially available; however, there is little information on how inoculation influences flowering and bulb production of ornamental geophytes. Scagel (p. 39) describes how addition of arbuscular mycorrhizal fungus (AMF) inoculum or rhizosphere organisms from AMF inoculum can alter aspects of flowering, corm production, and corm quality of harlequin flower for two growth cycles after inoculation. While inoculation was found to promote shoot emergence, leaf production, and flower production, inoculation also altered aspects of biomass partitioning and corm composition that play an important role in the production of this crop for corms and cormels.

**WARNING SYSTEM FOR APPLE SOOTY BLOTCH AND FLYSPECK CAN CUT COSTS**

Sooty blotch and flyspeck, the most serious summer diseases of apples, have been the focus of research at the University of Illinois, Iowa State University, and the University of Wisconsin. Babadoost et al. (p. 51) report that a warning-system-timed applications of the second-cover fungicide spray occurred when 175 hours of leaf wetness had accumulated. The warning system saved 1.8 and 2.3 fungicide sprays per season in 2001 and 2002, respectively. Based on an estimated cost of $20/acre per spray, two fewer fungicide sprays per year translates to an annual savings of $800 in a 20-acre orchard.

**PREHARVEST FUNGICIDES FOR POSTHARVEST DECAY CONTROL IN FRESH CITRUS**

Preharvest application of benomyl, currently the only registered preharvest fungicide with residual activity against postharvest decay, has been an important option for citrus growers and shippers to reduce postharvest decay. However, the manufacture and sale of benomyl was discontinued in 2001. After more than 3 years of studies in Florida involving 11 preharvest compounds on various citrus varieties, Ritenour et al. (p. 58) report that preharvest application of thiophanate-methyl reduced postharvest decay similar to benomyl, often by about half. Although not as effective as benomyl or thiophanate-methyl, pyraclostrobin and phosphorous acid also significantly reduced postharvest decay.

**MECHANICAL PRUNING OFFERS PECAN GROWERS A COST-EFFECTIVE ALTERNATIVE**

The diminishing profitability of pecan farming is driving a search for alternate husbandry strategies. Wood and Stahmann (p. 63) demonstrated that mechanical hedge pruning and topping were effective for nearly all varieties. Trees consistently produced high nut yields while being pruned in ways previously thought incompatible with nut production. Both discrete and continuous canopy pruning strategies produced high nut yields, while reducing alternate bearing. Depending upon variety, average annual in-shell nut yields of 2,200 to 3,626 lb/acre were achieved. North-south hedgerows were more productive than east-west hedgerows. These findings present pecan farmers with an attractive alternative to the conventional husbandry paradigm.

**NEW MEXICO SURVEY EXPLORES FACTORS AFFECTING LANDSCAPE CHOICES AND WATER CONSERVATION**

Municipalities in the arid southwestern U.S. are implementing landscape water conservation programs. Spinti et al. (p. 72) surveyed homeowners in Las Cruces, N.M., to evaluate respondents’ opinions on residential landscapes and factors affecting landscape water conservation. Although respondents reported a willingness to use desert plants, desert landscaping was not widespread. Respondents’ length of residency in a desert environment was associated with their use of desert plants. Longer-term residents were less likely to have desert landscaping. Participants ranked water shortages as the factor that would most likely cause them to reduce the amount of water applied to their landscapes.

**EFFECTICACY OF ETHEPHON ON VEGETATIVE ANNUALS**

Growers of vegetative annuals need plant growth regulators that stimulate lateral bud development and branching and reduce inter-node elongation to avoid high labor costs associated with manual pinching. Starman et al. (p. 83) compared foliar spray treatments of ethephon at 500 and 1000 ppm to determine the response of 27 varieties of vegetative annuals that have spreading and trailing growth habits. Plant height and/or width index were significantly reduced for 81% of the varieties tested. Flower number was reduced in 55% of the varieties due to a delay in flowering.

**HARVEST AND ESTABLISHMENT OF HARD FESCUE SOD**

Hard fescue, a fine-leaved grass with an abundant root system and excellent drought tolerance, is used extensively in urban landscaping for low-maintenance erosion control. Unmowed, this grass has a natural, meadow-like appearance. Hard fescue typically is established by direct seeding; however, germination and seedling emergence is slow. Delayed stand development often leads to problems with erosion and weed invasion. Harivandi et al. (p. 88) monitored establishment and turf quality of two sod thicknesses fertilized with differing rates of nitrogen before and after sodding. Thicker sod and more nitrogen accelerated rooting and enhanced turf quality.
free-hand or with the aid of a template. A mechanical shearing device described by Warnock (p. 95) improves topiary uniformity, and is appropriate for topiaries in pots up to 7 inches in diameter. A detailed description of the design and construction of this shearing device is presented. Manufactured in less than 2 days from over-the-counter components, the device can be economically produced, and produces uniformly shaped topiaries with an appropriate Christmas-tree taper.

**CONTROLLED DELAYED COOLING INCREASES PEACH MARKET LIFE**

In the last decade, total stone fruit production in California has increased, but the rate of consumption and return to the grower has remained the same or decreased. Consumer surveys have associated low consumption of tree fruit to the presence of internal breakdown (IB) symptoms. Crisosto et al. (p. 99) describe a controlled delayed cooling treatment that increased market life of IB-susceptible peaches by up to 2 weeks in the varieties tested. Controlled delayed cooling also can be used to pre-ripen peaches in order to deliver a ready-to-buy product to the consumer.

**POLLINATION TOOLS AFFECT GREENHOUSE TOMATO PRODUCTION AND RETURNS**

Most greenhouse tomato operations in the southern U.S. are too small to use bumblebees for pollination. Small growers are forced to choose between air blowers and electric vibrators to pollinate their crop. Hanna (p. 104) investigated the efficacy and economics of both tools to pollinate 640 plants in a popular-size greenhouse. Pollination with air blowers used less labor but reduced tomato yield, as compared to electric vibrators. Labor savings were not enough to offset yield losses; therefore, small growers should use the electric vibrators for pollination to enhance their returns.

**POWDERY-MILDEW-RESISTANT DOGWOODS HAVE A PRICE PREMIUM THROUGHOUT THE DISTRIBUTION SYSTEM**

A game was developed to simulate market reactions to the introduction of a powdery-mildew-resistant dogwoods. The simulation suggests (Gardner et al., p. 114) that a per-tree fee of $3.51, charged by the owner of the patented tree, would result in a net gain to nurseries of $0.8 million and a net return of $5.5 million at the retail level.

**CHANGE IN RETAIL MARKET CHANNELS SIGNALS ADJUSTMENTS FOR GROWERS**

Increases in the size of retail firms have substantial implications for growers. Hinson and Navajas (p. 119) contrasted items in the typical sales agreement between Louisiana growers and their garden center and mass merchandiser customers over the period 1996 to 2001. Growers dealt more traditionally with garden centers, but mass merchandisers used supply management chain principles (designed to drive time and cost from the system) in managing the garden category. Growers reported that these retailers asked for different and/or additional services that increased cost. Example items were barcode stickers, product information tags, returnable shipping equipment, and continuous inventory replenishment.

**PRODUCING AND MARKETING STRAWBERRIES FOR DIRECT MARKET OPERATIONS**

Strawberry growers who sell directly to the final consumers may have to attract over 1,500 customers per acre to their direct-market outlet just to cover the breakeven costs. Safl ey et al. (p. 124) estimated the breakeven costs and returns of producing, harvesting, and marketing strawberries in North Carolina using the plasticulture production system. They also report the results of a direct market consumer survey that included consumer demographic data, why customers select a specific pick-your-own operation or fruit stand, average expenditures per customer, typical driving distances to direct market strawberry operations, and the effectiveness of advertising.

**TESTING THE BENEFITS OF BRAND NAMES IN ORANGES**

The use of brand names is much less frequent for fruits and vegetables than for general foods or processed industrial foods. Heiman and Goldschmidt (p. 136) analyzed consumers’ choice between generic and brand-name products, and showed that consumers’ preferences for horticultural brands increased with their appreciation of quality and with low-quality generic products. An consumer survey involving oranges in the U.K. and Israel showed that in both countries consumers assign a relatively low value to orange brands. The gender of the buyer also affected the valuation of brand. Only highest quality oranges justify the investment in branding.

**ROCKY MOUNTAIN NATIVE SUCCESSFULLY PROPAGATED**

Osha (Ligusticum porteri) is an herbaceous perennial native to the Rocky Mountains. Osha taproots, used as a medicinal herb for respiratory ailments, are gathered in the wild. Consequently, the plant is in danger of over-harvesting. Panter et al. (p. 141) found that osha crown cuttings rooted with 90% success. Root cuttings did not develop any roots or shoots. Studies on seed germination revealed that 12 weeks of stratification at 40 °F produced the highest emergence rate, about 12%. These results are being used to develop production strategies for osha as a commercial horticultural crop.

**WATERMELON MOSAIC VIRUS REDUCES SLICING CUCUMBER REVENUES**

Cucumber plants often are devastated by watermelon mosaic virus (WMV) resulting in reduced fruit quality and yield. Walters (p. 144) examined the revenues associated with several slicing cucumber varieties grown under high WMV disease incidence in southern Illinois. Revenues for cucumber varieties having some level of resistance to WMV (‘Daytona,’ ‘Indy,’ and ‘Thunder’) were higher compared to those lacking resistance. Although many susceptible varieties produced greater yields compared to those having resistance, the excessive amount of unmarketable WMV-damaged fruit that were produced led to reduced revenues.

**MASTER GARDENERS TRADE PESTICIDES FOR BIOLOGICAL CONTROL**

On a per-acre basis, home gardeners use more pesticides than most agricultural commodities. Sadof et al. (p. 149) developed the web-based Alternative Control Outreach Network (ACORN) to help them conduct participatory research and to train Master Gardeners in biological control. After training more than 500 Master Gardeners in hands-on workshops, they found a significant percentage of gardeners stopped applying insecticides for up to two consecutive growing seasons. Adoption of biological control was most frequent among gardeners who reduced insecticide use and participated in home garden research projects.