Hand-thinning gauge Is Effective in Tall Spindle Apples

Apple growers reduce crop load via hand thinning to improve fruit size and quality at harvest. Final crop load targets can vary widely, as personal experience is a frequent driver of the intensity of hand-thinning treatment. Kon and Schupp (p. 830) evaluated a hand-thinning gauge that uses limb diameter as a predictor of crop density. The hand-thinning gauge was compared to a control and a traditional hand-thinning heuristic on three apple varieties trained to tall spindle. In all varieties, use of the hand-thinning gauge increased fruit size while maintaining yields comparable to the control.

Photographic Analysis of Mulch Deterioration after Incorporation

Three potentially biodegradable mulch products were tilled into field plots following a late-summer broccoli crop. Beginning 42 days after incorporation, and every 3 months thereafter for a total of 13 months, soil samples were collected and sieved to recover mulch fragments, which then were cleaned and photographed. Using image analysis to measure the number and area of recovered mulch fragments, Cowan et al. (p. 849) found that two mulch products deteriorated 100% and 64%. Although the third mulch fragmented into smaller pieces over time, no decrease in total area was measured.

Optimizing Irrigation of Fresh Market Tomatoes

Irrigation needed for a crop can be determined by calculating a crop’s evapotranspiration (ET). Fleming et al. (p. 859) observed the impacts of irrigation rates based on long-term ET averages along with automated irrigation treatments using tensiometers on fresh market tomatoes grown using polyethylene mulch systems in the mid-Atlantic U.S. An irrigation rate of 0.5x ET provided optimal yields with minimal irrigation input. Tensiometers proved to be advantageous in protecting yields in an unseasonably hot and dry season, resulting in optimal yields. Residual soil nitrate showed an inverse relationship to yield, with higher soil nitrate concentrations following treatments with lower fruit yields.

U.S. Consumer Preferences/consumption of Spicy Peppers

A web-based survey of 1104 U.S. consumers was conducted by Lillywhite et al. (p. 868) to explore preferences toward seven common spicy pepper types. Jalapeño peppers and paprika powder were the most popular fresh and dried spicy pepper types, respectively. Many consumers appeared to enjoy spicy peppers, and consumption varied by pepper type and form. The most popular pepper types did not necessarily appear to be the “hottest” or “mildest” of those available in the market, and the popularity or frequency of spicy pepper use differed among demographic groups. Results suggest opportunities for spicy pepper market growth in the U.S.

New Method Identifies Sweetpotato Varieties Susceptible to Storage Disorders

Sweetpotato varieties were evaluated in multiple environments for end rots and internal necrosis in response to curing and ethephon treatments. The objective of this study was to develop a screening tool for sweetpotato clones to assure future releases are resistant to these two disorders. Foliar application of ethephon 2 weeks prior to harvest and omitting curing prior to storage resulted in the greatest end rot incidence, while curing enhanced the incidence of internal necrosis in susceptible clones. Clark et al. (p. 886) determined that this assay could aid in the improvement of future sweetpotato releases.

Efficacy of Preparations Used in Biodynamic Agriculture

Biodynamics is a form of organic agriculture gaining popularity among farmers and gardeners. What sets biodynamics apart from other organic methods is the inclusion of nine preparations used to treat plants, compost, or soil. Chalker-Scott (p. 814) reviews the published science behind biodynamic preparations, concluding that there is little evidence of consistent or significant efficacy on any soil or plant parameter measured to date. This review will assist extension educators, including Master Gardener volunteers, in answering questions they might receive on this method of alternative agriculture.