

INTRODUCING DR. ELIZABETH J. MITCHAM

I am pleased to introduce Dr. Elizabeth J. Mitcham, Postharvest Pomologist in the Department of Pomology at UC Davis. She joined the UC Postharvest Group as of July 15, 1992, and her responsibilities in research and extension will focus on postharvest biology and technology of fruit crops.

Dr. Mitcham received a B. S. degree in horticulture from the University of Maryland (1984), a M.S. degree in Horticulture from North Carolina State University (1986), and a Ph.D. degree in Horticulture from the University of Maryland (1990). Her M.S. thesis was on "soluble carbohydrates and postharvest needle retention in fraser fir as affected by harvest date and postharvest storage conditions." The publication based on her M.S. thesis was selected for the 1988 Ornamentals Publication Award of the American Society for Horticultural Science. Her Ph.D. thesis was on "cell wall synthesis during tomato fruit softening." In 1989, she received the Scott Award for Excellence in graduate study from the University of Maryland.

During the past two years Dr. Mitcham worked as a Research Associate in the USDA, ARS Horticultural Research Laboratory in Orlando, Florida. She explored the effects of high temperature quarantine treatments on mango fruit physiology, ripening, and quality; also, she characterized the ripening of carambola fruit.

Dr. Mitcham will participate in teaching postharvest courses beginning in September 1992, and will develop a program of research and educational activities on postharvest biology and technology of fruits. Her focus area during the next few years will be nonchemical alternatives for controlling postharvest pathogens and prevention of physiological disorders.

Please join me in welcoming Dr. Mitcham to California and to UC Davis.

Adel Kader

FIRMNESS OF STRAWBERRIES IS ENHANCED BY POSTHARVEST CARBON DIOXIDE TREATMENT



R.B. Smith and L.J. Skog of the Horticultural Research Institute of Ontario, Canada have found that in 21 of 25 cultivars evaluated, firmness was increased when strawberries were held in high carbon dioxide atmospheres. Berries were pre-cooled to 0.5C, then stored for 42 hours

in 15% CO₂ (balance air). Firmness was then measured using a shear test. Most cultivars were an average of 30% firmer than the non-treated fruit. "Chandler" and "Vantage" were two cultivars that did not respond to the treatment. It is possible that a longer treatment time could have made a difference.

The carbon dioxide treatment had no effect on pH, color, or soluble solids. This study is thought to be further justification by the authors for the practice of subjecting berries to high, relatively brief, carbon dioxide atmospheres during marketing and may be a viable method for improving fruit quality, especially if combined with the current popular practice of modified atmosphere pallet covering for botrytis control.

Information in this article originally appeared in HortScience 27:420-421 and is reported by M.J. Ahrens.

RELIABILITY OF FRUIT COLOR AS A MATURITY INDEX FOR 'TWENTIETH CENTURY' ASIAN PEAR GROWN UNDER SAN JOAQUIN VALLEY CONDITIONS



In the Pacific Northwest, there were some inquiries about the brown spots found in 'Ya-Li', 'Dan Be', 'Hosui', and 'Shingo' Asian pear flesh after storage during the 1990 season. This disorder is known as flesh spot decay (FSD) in New Zealand and Australia, and limits opportunities to grow and market Asian pears. We have previously discussed FSD in newsletter No. 72. In New Zealand, large size 'Nijisseiki' ('Twentieth Century') fruits are so badly affected by FSD that their exportation has decreased since the late 1980s. In Australia, FSD was obvious on 'Nijisseiki' when the trees were thinned hard to produce fruit weighing 300 grams or larger. Japan also has a problem, but it depends on the climate during the season. From 1970 to 1985, when the emphasis of the Asian pear industry was on production of large fruit, the FSD problem was especially severe. However, it has nearly been overcome by soil amelioration; i.e., deep cultivation and use of organic fertilizers (personal communication with Dr. Yoneyama in Tottori, Japan).

We recently undertook a project to study the effect of fruit maturity (fruit color) on fruit quality, and FSD development on 'Twentieth Century' Asian pear.

Results

There were no significant differences in fruit firmness, soluble solids content, fruit weight and FSD incidence measured at harvest time (Table 1).



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