

### Literature Cited

1. Cummins, J. N. and H. S. Aldwinckle. 1982. New and forthcoming apple rootstocks. *Fruit Var. J.* 36(3):1-10.
2. Cummins, J. N. and H. S. Aldwinckle. 1983. "Breeding apple rootstocks" In *Plant Breeding Reviews*, (J. Janick, ed.) AVI Publishing, Westport, CT. pp. 294-394.
3. Ferree, D. C. 1982. Multi-state cooperative apple interstem planting established in 1976. *Fruit Var. J.* 36(1):3-6.
4. Ferree, D. C. and R. F. Carlson. 1987. "Apple Rootstocks" In *Rootstocks for Fruit Crops* (R. C. Rom and R. F. Carlson, eds.) John Wiley & Sons, NY. pp. 107-143.
5. Ferree, D. C. and R. L. Perry. 1988. Rootstock evaluation through the NC-140 project. *HortScience* 23(1):102-104.
6. NC-140. 1987. Growth and production of 'Starkspur Supreme Delicious' on 9 rootstocks in the NC-140 cooperative planting. *Fruit Var. J.* 41(1):31-39.
7. Rom, R. C. 1988. Rootstock breeding and evaluation symposium. XXII Int. Hort. Cong. 1986. *HortScience* 23(1):99-118.
8. Simons, R., R. Hayden, P. Domoto, F. Morrison, G. Brown, W. Lord, R. Perry, M. Warmund, D. Ferree and E. Stang. 1986. NC-140 cooperative apple interstem planting. *Fruit Var. J.* 40(4):108-115.

## Effects of Crop Load and Harvest on Apple Ripening

WESLEY R. AUTIO AND  
DUANE W. GREEN

Studies were conducted in 1989 to determine the effects of crop load and percent harvested on apple ripening. Twenty-seven 'Golden Delicious' trees were selected and partitioned into 9 blocks. The crop load on one tree in each block was adjusted to 3.4, 6.9, or 15.0 fruit  $\text{cm}^{-1}$  trunk circumference in late June. Internal ethylene was measured in 6-fruit samples taken from each tree on 25 Sept., 2, 9, and 16 Oct. Increasing crop load had a significant linear effect on delaying ripening. Approximately 11 days separated the ripening of fruit from the 3.4 fruit  $\text{cm}^{-1}$  and the 15.0 fruit  $\text{cm}^{-1}$  treatments. In a second experiment, 18 'McIntosh' trees with similar crop load were partitioned into 6 blocks. Forty percent of the crop was harvested from 1 tree and 80% from another in each block on 7 Sept. Internal ethylene was measured on 7, 14, 21, and 28 Sept. Increasing the portion of the crop initially harvested linearly delayed subsequent fruit ripening. Approximately 6 days separated the ripening of fruit from the control and the 80%-removal treatments.

*HortScience* 25:624, 1990

Department of Plant & Soil Sciences, University of Massachusetts, Amherst, MA 01003.

## Book Review

Abrikos (Apricot), 1989, edited by Vladimir K. Smykov, published by Agropromizdat, Moscow, U.S.S.R.

Written in the Russian language, this 240-page text is an up-to-date book, particularly concerned with the investigations in the U.S.S.R. This issue summarizes the following topics: 1) An understanding of species taxonomy and their native homes; 2) Morphology of the tree and root system; 3) Morphogenesis of generative buds; 4) Winter hardiness, drought resistance, response to soil conditions; 5) Breeding; 6) Characterization of 53 standard cultivars and 21 new cultivars still under state cultivar testing; 7) Data on fruit chemical composition; 8) Establishing the apricot planting; 9) Cultural practices in the fruit-bearing orchard; 10) Control of insects and diseases.

The Soviet Union is one of the world's leaders in apricot production, whereas Central Asia, together with China, is the general area of distribution of wild species. The rich collection of the Nikitsky Botanic Garden in the Crimea is so challenging to a trained fruit breeder that a lot of new cultivars were produced. This book is concentrated on the investigations of apricot culture in the southern part of the European U.S.S.R.

by Dr. Kalyu Kask