

evaluated (11) and in North America it gives very satisfactory results. It is a dual purpose apple being readily accepted by processors as well as in the fresh trade.

In the fresh markets Mutsu receives high repeat sales and returns. For example, in the Toronto wholesale market from April to the end of June 1983, average price per bushel (42 lb.) for CA McIntosh was \$12.00 and for Mutsu was \$15.00.

### The Future

Larsen (7) predicts that Granny Smith may be the third most important world cultivar within this decade. It is unlikely that Mutsu will receive this prominence even though it is a high quality, premium apple. The

chief reasons are that it is newer (30 years vs. 100 years), growers are hesitant about planting triploids since they expect pollination problems, and it has not received the necessary promotion. Mutsu has relatively few faults or problems compared to Granny Smith (7). It should not be considered a substitute for Granny Smith, but an alternative especially since Granny Smith requires a long growing season which is not found in all apple producing regions in North America. Mutsu is a high value, premium apple with a great deal of consumer appeal. With a vigorous marketing program consumer acceptance and demand could increase in the marketplace to parallel Granny Smith.

### Literature Cited

1. Aldwinckle, H. S., R. D. Way, K. G. Livermore, J. L. Preczewski, and S. V. Beer. 1976. Fireblight in the Geneva apple collection. *Fruit Var. J.* 30(2): 42-55.
2. Anonymous. 1983. The pollination of apples and pears. Leaflet 377. U.K. Ministry of Agriculture, Fisheries and Food, Her Majesty's Stationery Office.
3. Brooks, R. M. and H. P. Olmo. 1972. Mutsu, p. 74. In: *Register of new fruit and nut varieties*. University of California Press, Los Angeles.
4. Cummins, J. 1971. Mutsu on clonal rootstocks, p. 14. In: *Rootstock Notes*, 1970. Special Report No. 2, New York State Agr. Exp. Sta., Geneva.
5. Dhanvantari, B. N. 1969. Bacterial blister spot of apple in Ontario. *Can. Plant Dis. Surv.* 49:36-37.
6. Ferree, D. C., J. C. Schmid and C. A. Morrison. 1982. An evaluation over 16 years of Delicious strains and other cultivars on several rootstocks and hardy interstems. *Fruit Var. J.* 36(2):37-45.
7. Larsen, R. P. 1982. Mrs. Smith goes to Washington. *HortScience* 17(6):875-877.
8. Ontario Fruit Tree Census, 1981. 1982. Part III, Apples. Ontario Ministry of Agriculture and Food, Toronto, Ontario. 44 pp.
9. Proctor, J. T. A., A. Hutchinson, and W. F. Pierce. 1974. A 10-year trial of seven apple cultivars on Malling 26 rootstock. *Can. J. Plant Sci.* 54:661-665.
10. Rom, C. C. and D. C. Ferree. 1984. Spur leaf characteristics of nine apple cultivars. *Fruit Var. J.* 38(1):2-5.
11. Stow, J. R. 1978. Controlled atmosphere storage of 'Crispin' apples. *Hort. Res.* 18:7-11.
12. Sudds, R. H. 1961. The Mutsu apple. *Fruit Var. and Hort. Digest* 15(4):62.
13. Wafler, F. 1981. Production and performance of Mutsu and other varieties on M.26. *Compact Fruit Tree* 14:58.
14. Warner, J. 1982. Winter injury to apple trees, 1980-1981. *Fruit Var. J.* 36 (4):99-103.
15. Way, R. D. 1979. Apple cultivars grown in Eastern United States. *Fruit Var. J.* 33(1):2-7.

### ERRATUM

Title in paper by G. Ames and R. Rom on page 155 of V. 38 (4) of FVJ should read "Black Ben Davis or Gano: A Question of Right, Truth and Justice."