

Table 1. Comparison of estimated yields of 'Liberty,' 'McIntosh,' and 'Delicious' (trees topworked in 1973, on 10 year old trees).

Cultivar	Yields (kg/tree)			
	1975	1976	1977	1978
Liberty	0.5	80	80	140
McIntosh	0.5	40	60	120
Delicious *	—	40	15	50

'Liberty' is relatively precocious. More 'Liberty' trees (7 of 8) flowered and set fruit in their third year than any of 37 other cultivars on Malling 7 in an experimental orchard at Geneva. All 8 trees had good bloom in their fourth year.

The bark of the shoots is dark red with small light colored lenticels. The shoots are rather small in diameter.

The blossoms of 'Liberty' are large and a faint pink color. Individual pedals measure 20 by 15 mm. The blossoming season is early midseason or just after 'McIntosh.' It produces good pollen and has successfully pollinated 'McIntosh,' 'Idared,' 'Northwestern Greening,' 'Tydeman Early' and 'Red Spy' as well as numerous other cultivars in controlled pollinations. It has similarly been successfully pollinated by many cultivars, thus, we have no evidence of cross incompatibility.

The average ripening date at Geneva is Oct. 6 or about 4 days before 'Delicious.'

The fruit is typically oblate to oblate conic in shape but it may be rather variable, and round or even oval apples may be found. The fruits average 70 mm in size but may be much smaller on heavily loaded trees. The color is 90% deep, but bright, red striped on greenish-yellow ground color. It is an attractive apple and its 'McIntosh' parentage can be easily recognized. The dots are rather small, inconspicuous, and sunken. The stem (pedicel) is short and frequently clubbed with a fleshy lump on one side or even all around. The cavity is obtuse, smooth and greenish. The calyx is medium large and closed. The basin is obtuse, slightly furrowed and symmetrical. Skin is thin, slightly tough, smooth and glossy.

The flesh of 'Liberty' is crisp, juicy, and slightly coarse in texture. The color is a very pale yellowish or nearly white. The flavor is sprightly-subacid and good. The flesh turns brown fairly rapidly on exposure to air. Soluble solids at harvest time were 14% and the pressure test reading for optimum date of maturity is 9.5 kg with a 8 mm plunger. 'Liberty' will store well in refrigerated storage until January.

This cultivar is primarily a dessert apple. It did give a good product, however, when processed as sauce and canned or frozen slices by the Food



Fig. 3. Branch of 'Liberty' with some of the leaves removed showing the fruiting habit. Note that fruit is set terminally and laterally on the 1977 growth and that the many spurs in 1976 growth are also bearing fruit.

Science Department. It scored very well in processing tests as juice or cider.

#### Availability

'Liberty' has not been patented and there are no restrictions on its distribution. The New York State Fruit Testing Cooperative Association, Geneva, N.Y. 14456 has trees available and can also supply buds or scions. Some commercial nurseries have obtained buds and should have trees available in 1980 or 1981.

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## 'Harogem' Apricot<sup>1</sup>

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'Harogem' is an exceptionally attractive, very firm, high quality, mid-to late season apricot (*Prunus armeniaca* L.) suitable for the fresh market. It is cold hardy, resistant to brown rot [*Monilia fructicola* (Wint.) Honey], perennial canker (*Leucostoma* spp.), and skin cracking but moderately susceptible to bacterial spot [*Xanthomonas pruni* (E. F. Sm.) Dows]. It was introduced in 1979 to meet the need for a better adapted, more consistently productive, cold hardy and disease tolerant cultivar for the Ontario fresh market.

#### Origin

'Harogem' resulted from the cross 'Rouge du Roussillon' × NJA2 ('Morden 604' × open-pollinated) made in 1963 by L. F. Hough and Catherine H. Bailey at Rutgers, The State University of New Jersey, USA. It was selected at Harrow in 1969 from a progeny of 76 seedlings. The original tree was observed in fruiting trials from 1969 to 1972. It was propagated for regional trials through the Western Ontario Fruit Testing Association beginning in 1969. The first trees were released in 1971 under the designation H6305044. In subsequent years it was released under the number HW 405. 'Harogem' has performed well at several locations in Ontario near Lake Ontario and Lake Erie. Early reports of its performance in British Columbia, New York, Pennsylvania and France are encouraging. In this report 'Harogem' is compared

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with 'Harcot', 'Goldcot', 'Sun Glo' and 'Veecot' (Table 1) which are recommended for culture in Southwestern Ontario (1, 2).

The overall performance of 'Harogem' was similar to that of 'Harcot' and 'Veecot' and superior to that of 'Goldcot' and 'Sun Glo'. 'Harogem' was the most productive of the 5 cultivars in the last 3 years, the most attractive, had the firmest flesh and the best storage ability at room temperature and in cold storage (Table 1). Its major weaknesses included greater susceptibility to bacterial spot in some seasons than 'Harcot', 'Goldcot' or 'Sun Glo' and processing ability similar

to 'Harcot' but inferior to the others. In most other respects this cultivar rated good to very good (7 or higher) for 13 of 17 characters evaluated (Table 1). All 5 cultivars exhibited a good level of cold hardiness and resistance to perennial canker and brown rot.

### Description

Trees of 'Harogem' are of medium vigor, open, spreading, consistently productive and self fertile. The flower buds are harder than those of 'Veecot' and more comparable with those of 'Goldcot' while the wood is similar

in hardness to that of 'Veecot' and less hardy than that of 'Goldcot'. The trees are apparently resistant to brown rot and perennial canker but are moderately susceptible to bacterial spot. Flowers are white and bloom midway between the early and late blooming cultivars. They are 1 or 2 days later blooming than 'Sun Glo'. Leaves are large, cordate, with acuminate apices and crenulate margins. The petioles are long with several globose leaf glands on the petioles of the youngest leaves and 1 or 2 on the older leaves.

Fruits ripen about July 30 at Harrow in the mid- to late season, 16 days after 'Harcot', a week after 'Goldcot' and 5 to 6 days after 'Veecot' and 'Sun Glo'. Their shape is ovate to round with the sides somewhat compressed. They are small to medium in size, and when properly thinned can attain a length and width of 4.5 cm (Fig. 1). The fruits are exceptionally attractive with a waxy, glossy sheen. A bright red blush, superimposed on a bright orange background, covers 60% or more of the skin surface.

The flesh is orange, exceptionally firm, moderately juicy, and completely freestone. Texture and flavor are good. The fruits have very good keeping quality and can be held for a week at room temperature and several weeks in cold storage.

The pits are ovate, brown, small and somewhat flattened with a conspicuous keel and wings on the dorsal suture. They are sparsely pitted on the ventral suture.

Table 1. Average ratings of performance of 'Harogem' compared with cultivars recommended for Southwestern Ontario (1976 - 1978).

Characters evaluated	Rating scale <sup>z</sup>				
	Harcot (July 14) <sup>y</sup>	Goldcot (July 23) <sup>y</sup>	Sun Glo (July 24) <sup>y</sup>	Veecot (July 25) <sup>y</sup>	Harogem (July 30) <sup>y</sup>
Tree type	8	8	7	8	7
Vigor	8	8	6	8	7
Winterhardiness	8	9	7	7	8
Perennial canker	8	8	8	9	8
Bacterial spot	9	9	8	5	5
Brown rot	8	8	8	8	8
Bloom time	6	6	5	6	6
Crop	4	6	6	5	7
Ripening uniformity	7	5	6	7	7
Fruit size	8	5	6	7	6
Attractiveness	7	5	7	7	8
Flesh firmness	8	4	6	8	9
Flesh texture	8	6	6	7	8
Flavor	8	5	6	7	7
Flesh adherence to pit	7	8	7	9	9
Storage ability	7	5	6	8	9
Processing ability	5	6	6	7	5
Total score (17 characters)	124	111	111	123	124

<sup>z</sup>Ratings were subjective on a scale from 1 (least desirable) to 10 (most desirable).

<sup>y</sup>Ripe date.

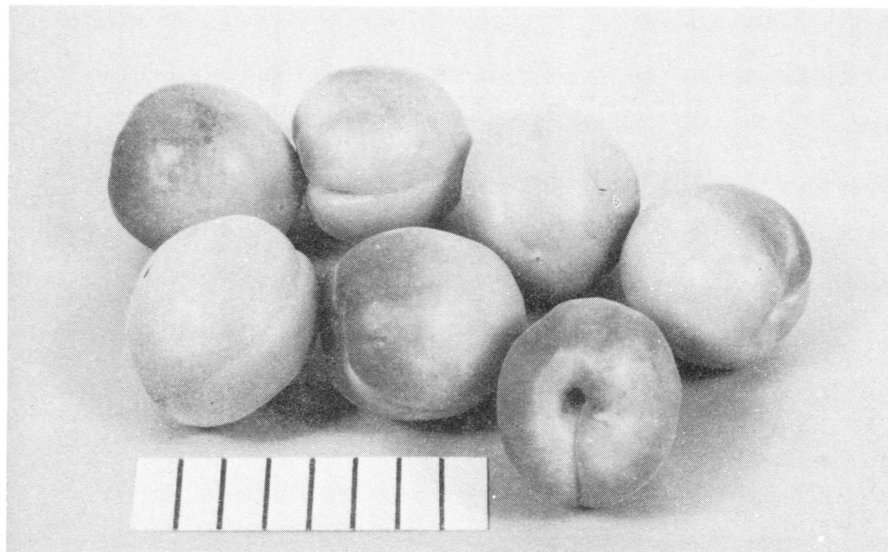


Fig. 1. Fruits of 'Harogem' apricot (scale in cm).

### Availability

Trees of 'Harogem' are available in Canada from the Western Ontario Fruit Testing Association, Harrow, Ontario, NOR 1G0 and in the United States from the New York State Fruit Testing Cooperative Association, Geneva, N.Y. 14456. Budwood from virus indexed trees is available from the Harrow Station through the Western Ontario Fruit Testing Association.

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