Stem: 2 cm (¾ in.) medium thickness
Cavity: Acute, deep, medium width, russetted
Basin: Shallow to medium and broad
Calyx: Persistent, closed, recurved
Calyx tube: Funnel-shaped, closed
Stamens: Marginal
Core lines: Clasping, turbinate
Core: Median, partly closed, small
Carpels: Ovate, mucronate, smooth
Seeds: Acute, not tufted
Flesh: Texture: Medium grained, crisp, juicy. Quality: Excellent; sub-acid, rich flavor. Color: Empire yellow (plate 603/3). Aroma: Very pleasant.
Maturity season: 4 weeks before 'Delicious'
Keeping quality: Retains quality and textured a month or more at 34°F.
Use: Excellent dessert apple

'Prima' is expected to be adapted to the Midwest and northern areas. Trees will be available from qualified commercial nurseries. Application has been filed for a public use patent.

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Montmorency Cherry Selections

R. F. CARLSON*

Summary

Fifteen Montmorency cherry clones have been selected, propagated and planted since 1966. These were selected because of the apparent need of the industry for improved tart cherry strains or varieties. The selected strains show improved characteristics such as added vigor, mor bearing surface, differences in flowering dates, and higher yield potential.

To-date, 318 trees of ten Montmorency clones have been planted at three locations—two in the Michigan's northwest cherry producing area, and at the Horticultural Research Center of Michigan State University, near East Lansing. In 1970, trees of these and an additional five selections will be planted at a fourth location.

Performance data for these first generation trees will be available later, since several years of evaluation are still required to determine if one or more clones are worth releasing to the industry.

Introduction

Although Michigan is the leading cherry producing state, it has only one main tart cherry variety—the Montmorency. Over the years, this variety has satisfied the industry with its good vigor, health, productivity and fruit quality. However, over the years, it also has been exposed to several factors such as climatic and soil variations, insects and diseases, and to variable "bud-stick" sources in nursery tree production. All of these and other factors have contributed to a gradual and general decline of the variety expressed in the form of variation in tree vigor and decrease in fruit yields and quality. Since improved horticultural practices have

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not prevented the decline, it has been concluded that the variations are now permanent characteristics of the Montmorency variety now grown in Michigan.

After recognizing these facts, it was obvious that the variety had to be improved, either through strain selection approach, or through a breeding program. The former approach was pursued because of the probability that it would require less time to find a superior strain, and because superior Montmorency strains had already been reported by growers.

Methods and Materials

In 1966 a request was sent to growers and horticulture extension personnel to report any Montmorency trees of superior qualities. About 40 trees were reported, and these were observed during the 1967 fruiting period.

Eleven out of these 40 trees were tagged as showing improved tree and fruit characteristics. In the summer of 1967 scionwood was collected, and up to 200 trees of each strain were budded on Mahaleb seedlings. Another four trees were found, and from these more trees were budded in 1968. Out of eleven MC (Montmorency) clones propagated in 1967 six were bud-compatible with Mahaleb, and five were not as compatible, possibly due to a virus complex. The ones which showed poor bud-take (MC-2, 4, 6, 7 and 8) were budded again in 1968, and these will be planted at another location in 1970.

In selecting these 15 MC-clones, several characteristics were taken into consideration, such as: tree vigor and health; fruit spur formation and development; time of flowering and fruiting; and fruit size and yield potential.

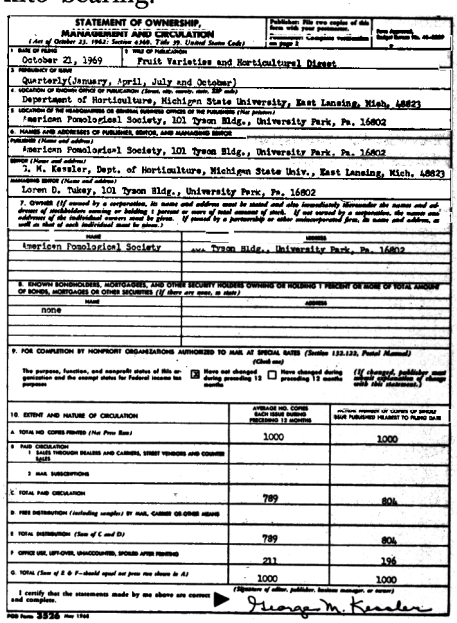
Following planting, all trees were "whipped" by removing all branches. In this way stronger wider angled branches are formed which adapt to mechanical harvesting.

Progress and Results to Date

In 1969, trees from 10 improved Montmorency cherry selections were planted in two growers orchards and at the Horticultural Research Center. Trees of regular Montmorency/Mahaleb were interplanted with cherry selections to give an accurate evaluation of the second generation trees in the orchard. Another planting will be made in the spring of 1970 in order to have the 15 MC-clones represented by a minimum of three soil conditions and micro-climates.

Since several years of observations and data recording are required to evaluate clone performance, no conclusions can be drawn after one year in the orchard. However, some differences in growth and vigor, bud take, and tree uniformity has been noted among these clones in their first generation.

The MC-clones will also be indexed for viruses to determine their influence on growth and fruiting. The processing (freezing and canning) qualities also will have to be determined as soon as these selections come into bearing.



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I certify that the statements made by me above are correct and complete. George M. Kessler

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