

One disadvantage in using Ashworth in breeding is the susceptibility of seedlings of the crosses so far observed to witches'-broom. A large percentage of the seedlings already show the disease. So far, little is known about the resistance of named varieties to this trouble. Many desirable sites in the North, where greatly increased hardiness is desired, are near native

stands of fir, the alternate host of the causal organism.

The most valuable characteristics of Ashworth in breeding appear to be (1) resistance to low winter temperatures; (2) resistance to frost at blossom time; and (3) early ripening. Its chief limitation appears to be susceptibility to witches'-broom.



## Tydeman's Early Worcester — An Early McIntosh-type Apple

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The great and continuing popularity of the McIntosh apple, and the trend in merchandising methods to make apples available all year round makes it important that apples of McIntosh type be available to the market in late summer. Of all early varieties tested at the Research Station in Summerland only one has appeared to be of sufficient merit to warrant introduction for limited commercial trial. This variety is Tydeman's Early Worcester, the name of which has been abbreviated locally for convenience to Tydeman's Red.

Tydeman's Early Worcester was grown as a seedling in 1929, fruited in 1936, and introduced in 1945 by the East Malling Research Station, Kent, England. It was bred by H. M. Tydeman and is the result of a cross between McIntosh and Worcester Pearmain. This variety was selected for trial at the Summerland Research Station in 1948, propagated on Malling I rootstock and has been fruiting consistently since 1955. The favorable ob-

servations at the Summerland Research Station and at other Stations, and comments by visitors have led to its introduction.

### Tree

The tree is similar in appearance to McIntosh but its hardiness is not known. However, it would be reasonable to presume that it might be of about the same hardiness as McIntosh, since it is the result of a cross between McIntosh and a variety maturing earlier than McIntosh. In the nursery row, the young trees are exceptionally vigorous and make rapid growth when planted out in the orchard. The variety tends to be an annual bearer like its McIntosh parent.

### Fruit

The fruit of Tydeman's Early Worcester closely resembles McIntosh in size, shape and color. (See Fig. 1). Local observations and reports from elsewhere indicate that it is an extremely well-colored apple. The color

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is as good as or better than that of McIntosh, and may show both blushing and striping on the same apple with a tendency to develop a small greenish ring around the calyx end. The color has been described as a brilliant scarlet in reports from other Stations, but at Summerland appears only slightly brighter in shade than McIntosh. Another interesting feature of this variety is that although it usually matures in hot August weather, it nevertheless develops a full and attractive red color under conditions that would be unfavorable for coloring the McIntosh variety. Tydeman's Early Worcester has a slightly shallower cavity and a much smaller core than McIntosh. The variety ripens three to three and one-half weeks before McIntosh, is of similar or greater firmness, and the equal or almost the equal of McIntosh in quality. The variety tends to drop like McIntosh.

Quality varies a little from season to season but the variety has never been criticized for lack of quality. Its only weakness is a tendency in some

years for the flesh to be a little tougher than McIntosh; but in view of the other desirable characteristics of this variety, it is not too serious a factor. Storage trials at 32°F. indicate that Tydeman's Early Worcester may be held without any physiological damage to the fruit for periods up to two months. However, the purpose of this variety is to supply an early-season apple of McIntosh type and, hence, storage should not be a problem.

### Pollination Status

While pollination tests have not been carried out at the Summerland Research Station, the variety is diploid and is known to be a satisfactory pollinizer for Cox Orange and Worcester Pearmain. The indications from this are that it would also be satisfactory as a pollinizer for other varieties.

### Commercial Status

Because of the great interest of the apple industry in British Columbia in supplying a McIntosh-type apple early in the season, Tydeman's Early Worcester was recommended for limited commercial trial in 1959. It should be emphasized that not everything is known about this variety under Okanagan conditions, and it will probably take another ten or fifteen years to assess fully its strengths and weaknesses. However, it appears so promising and fits so well into a season in which there is no good competitive variety, that marketing authorities feel that satisfactory returns can be obtained from limited plantings. Those growing this variety should plant a minimum of ten trees and up to one acre, but not more. Tydeman's Early Worcester produced in these quantities would be worth while to a grower and not too much trouble for packing house handling.

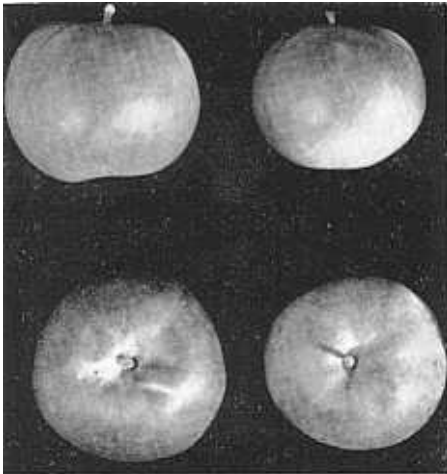


Figure 1. Tydeman's Early Worcester (Tydeman's Red), a McIntosh type apple from England which matures three-and-one-half weeks before McIntosh.