that of the other strains since Marshall tended to develop less scald and brown core.

We therefore consider the Marshall strain of McIntosh to be an earlier and more intensively coloring strain, which ripens slightly earlier than other strains and appears to have good storage quality.

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Reviewed Research Paper

A Preliminary Trial of Some Exotic Stocks for Apricots

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Abstract

Trees of 'Alfred' apricot on BBX-1, a *Prunus besseyi* X *P. maritima* hybrid, were slightly more than half standard size, but most trees were killed by low temperature in the 8th year. A *P. cerasifera* X *P. spinosa* hybrid also showed promise as a stock for apricot, although there was little dwarfing. 'Manson' and 'Sapa' were not satisfactory stocks. Amphidiploid selections from (*P. cerasifera* X *P. spinosa*) X *P. domestica* showed little promise.

In the northeastern United States and southern Ontario, apricots have excellent potential for the "pick-your-own" market (PYO). The ideal tree for PYO should be dwarf or semi-dwarf, should begin bearing early, and should produce large, uniformly ripening fruits. Trees on apricot seedling stocks are larger than desirable for PYO, and apricots on peach roots have been short-lived. Some nurseries propagate apricots on myrobalan *(Prunus cerasifera)* seedlings, but there are serious incompatibility problems. For the home gardener, nurseries produce "dwarf" trees by propagating on *P. besseyi* seedlings, but a high frequency of delayed incompatibility has made such seedling stocks unacceptable for commercial operations.

A preliminary trial of 'Alfred' apricots was set at Geneva in 1973 to screen a number of stocks for compatibility, productivity, and dwarfing potential. Soil in the test site is a heavy Collamer silt loam, pH 6.4. Systematic tiling provides good internal drainage.

Eight vegetatively propagated selections, all interspecific hybrids, were compared with 'Sunglo' apricot seedlings as rootstocks. Virus-free 'Alfred' budwood was provided by Dr. Paul Fridlund, IR-2 Clonal Repository, Prosser, WA. The clonal rootstock candidates tested were 'Manson,' 'Sapa,' BBX-1, and 5 introductions from the USSR: PI 304921, 304928, 304929, 304930 and 304931. 'Manson' and 'Sapa' are *P. besseyi* X *P. salicina* hybrids. BBX-1 is a hybrid of *P. besseyi* 'Brooks' X *P. maritima* 'Patricia,' bred by Dr. H. C. Barrett. PI 304921 is a triploid hybrid of *P. cerasifera* X *P. spinosa.* The other 4 selections from the USSR are amphidiploids produced by colchicine doubling of chromosomes of PI 304921, followed by crossing with hexaploid *P. domestica* (2).

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Table 1. Orchard performance of 'Alfred' apricot propagated on 8 clonal and seedling rootstocks.

Rootstock	No. of trees	Survival 11 yrs. (%)	Cumulative yield (kg)	Trunk X-sectional area (cm)	Relative efficiency	Tree size as % of seedling
Apricot seedling	5	80	245.0	304.0	.93	100
Manson	3	100	264.8	358.8	.69	119
Sapa	5	20	111.4	185.6	.60	62
PI 304921	4	100	191.6	220.1	.89	73
PI 304928	4	50	226.4	355.8	.60	118
PI 304929	1	100	301.4	237.2	1.27	79
PI 304930	4	0	—	—	.94	—
PI 304931	2	100	286.8	283.0	1.02	94
BBX-1	8	12	111.8	172.0	.65	57

Trees began fruiting in the third growing season and produced crops in all years following except 1981 (Table 1, Fig. 1). The 'Alfred' trees on Barrett's BBX-1 were outstanding performers in the early years; they were dwarf, sturdy, and very productive of large fruit that ripened 7-10 days earlier than fruit on apricot seedlings. However, two trees on BBX-1 were lost to union breakage in the sixth year and the remainder died after the 1980-1981 winter, presumably from cold injury.

All 4 trees on PI 304930 developed classical incompatibility symptoms and broke at the union, beginning in the fifth growing season: no necrotic unions were observed and no tomato ringspot virus (TmRSV) was detected by ELISA assays of rootstock bark. The ELISA assays revealed TmRSV

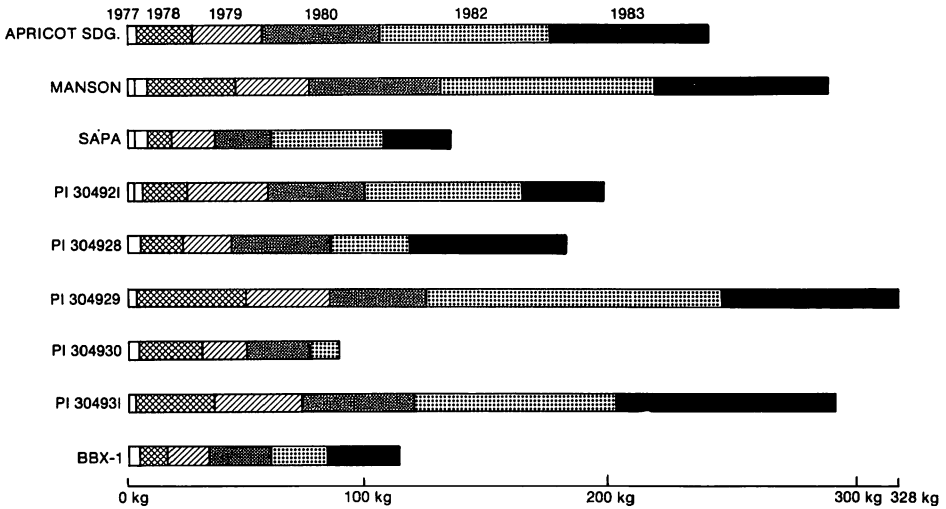

Fig. 1. Cumulative production of 'Alfred' apricot on 'Sunglo' apricot seedlings and on 8 vegetatively propagated stocks. PI 304921 is a triploid hybrid of *Prunus cerasifera* x *P. spinoso*. The other PI clones are amphidiploids derived from chromosome doubling of PI 304921 followed by hybridizing with *P. domestica*. BBX-1 is a hybrid between *P. besseyi* and *P. maritima*.

infection in the one tree of PI 304929; the typical brown plate was present at the union, but the tree exhibited no foliage or other symptoms (1).

Trees on 'Manson,' 'Sapa' and apricot seedlings were highly variable. Among trees on apricot seedling stocks, the largest was 3 times as large as the smallest; there was similar variability among trees on 'Manson.' Three of the trees on 'Sapa' were not thrifty from the beginning of the trial, and died before its completion. The 4 trees on PI 304921 were relatively uniform in size, yield and efficiency; these trees were about 80% as large as those on seedling roots.

The 'Alfred' fruit on the seedling-rooted trees ripened unevenly, requiring usually 3 pickings. Trees on apricot seedlings and on PI 304921, matured fruit 4 to 7 days later than trees on other stocks.

Although not as dwarfing as the PYO operator needs, PI 304921 merits further testing as a semi-vigorous stock for apricots. 'Manson,' 'Sapa,' PI 304928 and PI 304930 appear to have no promise as stocks for 'Alfred' apricot. Although BBX-1 had high mortality in this trial, it merits testing in more climatically favored locations such as Long Island.

Acknowledgement

Dr. H. C. Barrett kindly permitted us to enter his interspecific hybrid, BBX-1, in this trial, which we gratefully acknowledge.

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W. D. "Army" Armstrong Presented the Wilder Medal

W. D. Armstrong, retired Extension Pomologist, University of Kentucky, was singled out for his contributions to his profession by the American Pomological Society and presented the Marshall Pinckney Wilder Silver Medal. The medal was presented March 14, 1985 at the annual meeting of the Midwest Peach Pruning Conference by APS president, Kenneth W. Hanson. Preceding the presentation, four speakers outlined briefly some of the contributions Army has made to the fruit industry.

Frank Emerson, Richard Hayden, W. D. Armstrong, Kenneth Hanson, Gerald Brown.