

Incompatibility Between Apricot and *Prunus tomentosa* Seedlings

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The apricot cultivar Tilton currently is used as a virus indicator in the IR-2 virus-free scheme. This cultivar must be maintained until fruiting because symptoms of some apricot ring pox virus strains are expressed only in the fruits. Consequently, the trees become large and very difficult to handle after growing for three or four years in nursery rows on seedling peach rootstocks.

One alternative would be to find a seedling rootstock that would both dwarf and increase the precocity of apricot trees. *Prunus tomentosa* seedlings appeared to be a likely candidate for trial because they are susceptible to the ring pox virus, they have been used to dwarf other species, and apparently they have not

been reported as rootstocks for apricots. Therefore an experiment was devised to determine if *P. tomentosa* seedlings could be used as rootstocks for Tilton. Seven other apricot cultivars were included in the test for comparison.

Five *P. tomentosa* clones carried in the IR-2 inventory were chosen for use in this rootstock test. Two (IR473 and IR474) are used as *Prunus* ring-spot virus indicators and three (IR748, IR749 and IR845) are used as Montmorency bark splitting virus indicators.

Open-pollinated seed was harvested from virus-free trees of each clone in 1974, and field grown into seedlings. In the spring of 1976, 192 uniformly-

Table 1. Percentages of apricot tree survival obtained with buds of eight apricot cultivars budded on 24 trees each of open-pollinated seedlings from five sources of *Prunus tomentosa* and nine seedlings each from bulked seed of myrobalan plum. Budding date 24 August 1976.

Dates of survival counts	Prunus tomentosa Seedling Sources					
	IR749	IR473	IR474	IR845	IR748	Myrobalan
May 1977	76	71	68	67	51	96
Oct. 1977	38	35	34	28	19	94
Aug. 1978	2	2	4	1	0	94

Table 2. Percentages of apricot tree survival obtained with buds of eight apricot cultivars budded on 24 trees each of open-pollinated seedlings from five sources of *Prunus tomentosa* (total 192 trees of each apricot cultivar). Budding date 24 August 1976.

Dates of survival counts	Apricot Cultivars							
	Wenatchee	Royal	Tilton	Skaha	Perfection	Moorpark	Scout	Rival
May 1977	81	77	74	73	66	53	53	53
Oct. 1977	41	50	44	65	65	48	27	23
Aug. 1978	2	2	1	5	3	1	0	0

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sized seedlings of each of the five clones were lined out in nursery rows in the field. In August of 1976 each clonal line was budded to 24 each of eight virus-free apricot cultivars: Moorpark, Perfection, Rival, Royal, Scout, Skaha, Tilton and Wenatchee. All eight apricot cultivars were also budded on nine myrobalan seedlings each to serve as controls. Growth and survival counts of budded plants were made in May 1977, October 1977 and August 1978.

The data in Tables 1 and 2 show fair percentages of bud growth and survival of *P. tomentosa* seedlings up until May 1977, and excellent percentages on myrobalan seedlings. By October 1977 the survival percentage of apricots on *P. tomentosa* had deteriorated considerably, but survival on myrobalan seedlings remained constant.

At this time, incompatibility symptoms were observed on every apricot-tomentosa union, but none on apricot-myrobalan unions. Incompatibility was expressed as severe overgrowth of the apricot and weakness and breakage at the graft union.

By August 1978 only a few trees on *P. tomentosa* roots remained, and these broke readily at the graft union with slight bending. Thus, every tree on *P. tomentosa* roots in this test was lost due to breakage at the graft union. In contrast, all trees on myrobalan rootstocks had strong graft unions and grew normally.

In this test there were no *P. tomentosa* seed sources that produced seedlings compatible with apricots and therefore no compatible seedlings that could be selected for further trial as clonal rootstocks. Thus it appears that *P. tomentosa* is completely unsatisfactory as a rootstock for apricots.

The New York State Fruit Testing Cooperative Association— 60 Years of New Fruit Varieties

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Sixty years ago the New York State Fruit Testing Cooperative Association, Geneva, N.Y. was incorporated. The purpose of this non-profit organization was to provide an efficient means of getting new varieties from the fruit breeding program of the New York State Agricultural Experiment Station at Geneva introduced into the fruit growing trade. Another objective was to get a wider test and quicker evaluation for promising new selections and new varieties. Healthy, true-to-name fruit trees of new and promising varieties were made available to growers who in turn were en-

couraged to report on the performance of these fruit varieties under their conditions. These remain in the basic purposes of the Fruit Testing Association today. The aims have been broadened to encompass new pomological technology such as special rootstocks and virus-free material.

In 1918, Professor Richard Wellington, a fruit breeder at the New York State Agricultural Experiment Station at Geneva, found that nurserymen were unwilling to propagate new untested varieties and so he was looking for a means of getting new introductions from the fruit breeding program

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