

**Performance of ‘Puget Gold’ Apricot on Rootstocks
‘Lovell,’ ‘Marianna 4001,’ and ‘St. Julien A.’**

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Abstract

In the cool, humid climate of western Washington, apricot trees are subject to a number of problems and diseases. The possible effect of different rootstocks on tree survival and productivity was tested in a trial plot from 1990 to 1995. The apricot cultivar, ‘Puget Gold,’ which had a previous record of better performance than most apricots, was grafted onto the rootstocks ‘Lovell,’ ‘Marianna 4001,’ and ‘St. Julien A.’ Trees were evaluated for productivity and tree health in 1994, and for productivity in 1995. Trees on ‘St. Julien A’ performed poorly in both aspects, and this rootstock appears to be a poor choice for apricots grown in a maritime climate.

Introduction

A test planting of ‘Puget Gold’ apricot on three different rootstocks was established at Mount Vernon research station in the spring of 1990. It consisted of 6 trees on each of the following rootstocks: ‘Lovell,’ ‘Marianna 4001,’ and ‘St. Julien A.’ The cultivar ‘Puget Gold’ was selected for its previous record of good productivity in the cool, moist climate conditions of western Washington (1). The planting was set up as a randomized block, with a standard program of orchard maintenance (pruning, spray schedule, etc.) the same as that provided to apricot trees in the rest of the research plots. When trees were in their 5th leaf, July 20, 1994, each tree was rated for vigor (Table 1) and for disease (Table 2), using the following rating system:

Vigor:	Disease:
4 = highly vigorous	4 = no visible disease of tree
3 = vigorous	3 = few symptoms, small limbs affected
2 = moderate	2 = main limbs affected
1 = low vigor	1 = limbs or trunk severely affected
0 = dead	0 = dead

Table 1. Comparative vigor ratings for trees of ‘Puget Gold’ apricot on 3 rootstocks.

Rootstock	Tree 1	Tree 2	Tree 3	Tree 4	Tree 5	Tree 6	Average
Lovell	2	4	0	3	3	4	2.67
Marianna	0	4	0	3	4	4	2.50
St. Julien A	0	2	3	3	0	1	1.50

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Table 2. Comparative disease ratings for trees of ‘Puget Gold’ apricot on 3 rootstocks.

Rootstock	Tree 1	Tree 2	Tree 3	Tree 4	Tree 5	Tree 6	Average
Lovell	3	3	0	3	1	3	2.17
Marianna	0	3	0	3	2	3	1.83
St. Julien A	0	2	2	2	0	3	1.50

At the same time a count was taken of all fruit on each tree, including fruit damaged by rot or birds. The next year, when trees were in their 6th leaf, May 18, 1995, a fruit count was taken of all the fruit set just before fruit thinning, when fruits were approximately marble-sized (1.5 to 2 cm. diameter.) Results are shown in Table 3.

Table 3. Comparative productivity of trees of ‘Puget Gold’ apricot on 3 rootstocks.

Rootstock	Year ^a	Tree 1	Tree 2	Tree 3	Tree 4	Tree 5	Tree 6	Average
Lovell	94	263	301	0	86	11	57	119.67
Lovell	95	291	382	0	229	78	1009	331.50
Marianna	94	0	289	0	263	17	42	101.83
Marianna	95	0	252	0	75	158	92	96.17
St. Julien A	94	0	16	9	32	0	13	10.17
St. Julien A	95	0	17	85	121	0	0 ^b	37.17

^aIn 1994 fruit was counted just before harvest; in 1995 it was counted before thinning.

^bTree 6 on ‘St. Julien A’ died in the interim between the 1994 and 1995 fruit count.

Discussion

In all three areas for which these rootstocks were evaluated (vigor, tree health, and productivity) it is clear that ‘St. Julien A’ performed more poorly than either of the other two rootstocks. In terms of vigor, there was no distinction between ‘Lovell’ and ‘Marianna 4001;’ both rated much higher than ‘St. Julien A.’ Comparing the ratings for overall tree health, ‘Lovell’ ranked best and ‘St. Julien A’ last, with ‘Marianna 4001’ in the middle. In fact, by the time the trial concluded in 1995, 3 of the 6 trees on ‘St. Julien A’ originally planted were dead, a mortality of 50% as compared with 17% and 33% for ‘Lovell’ and ‘Marianna 4001,’ respectively.

The effect of different rootstocks on productivity is less clear, though here, too, ‘St. Julien A’ was unsatisfactory in terms of total fruit produced, both in 1994 and 1995. Wide variability occurred in the amount of fruit produced on any individual tree, regardless of the rootstock. Certain trees on ‘Lovell’ and ‘Marianna 4001’ were just as unproductive as some of the trees on ‘St. Julien A,’ and conversely the best performing tree on ‘St. Julien A’ was comparable in productivity to trees on the other two rootstocks. Still, the overall picture indicates that trees of

'Puget Gold' apricot grafted on 'St. Julien A' rootstock were weaker, more likely to become diseased and die, and less likely to produce good crops of fruit, than trees grafted on 'Lovell' or 'Marianna 4001.' Since 'Puget Gold' is a cultivar that has proven to perform better than most apricot cultivars in the given climate conditions, it is likely that similar or worse results would occur with other apricots.

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Literature Cited

Norton, R.A., J. King, and G.A. Moulton. 1988. 'Puget Gold' apricot. HortSci 23(3):639.