

California Peach Rootstock Evaluation - 1994

R. Scott Johnson, Ted M. DeJong, and Dave Ramming

In 1987 a collection of over 80 potential peach rootstocks were lined out in a nursery and budded to O'Henry peach. These items included numerous *Prunus* species, and many interspecific hybrids such as peach-plum, peach-almond, apricot-almond and plum-apricot. In 1988, 5 trees of each were planted at the Kearney Agricultural Center together with several standard rootstocks. Over the past 7 years, these trees have been evaluated for compatibility, suckering, tree size, yield, fruit size, and disease and nematode susceptibility. The top 10 showing promise as semi-dwarfing rootstocks are listed in Table 1.

In 1994, 2 of the 5 trees were thinned heavily to obtain information on fruit weight potential so that fruit load effect on fruit size could be factored out. The data obtained (Table 1) indicate that none of the rootstocks have quite the fruit weight potential as Nemaguard. However, with the exception of K144-100, all of the rootstocks have fruit weights greater than 220 g which is still a large fruit. Therefore, these rootstocks appear to have potential for reasonable production of large fruit as long as they are not overcropped. In 1994, under normal thinning, several of the rootstocks had similar yields and fruit weights to Nemaguard.

In November, 1994 several hundred hardwood cuttings of the 5 or 6 most promising rootstock selections will be lined out in a commercial nursery. In 1995, these will be budded to several peach cultivars so that replicated trials can be planted in 1996.

Table 1. Potential Dwarfing Peach Rootstocks

<u>Name</u>	<u>Type</u>	<u>Yield (kg/tree)</u>					
		<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>
Nemaguard	Peach	.6	28.3	57.3	65.2	74.5	77.5
Alace	Plum	.8	28.1	41.4	29.9	29.1	51.1
Citation	PeachXPlum	2.0	20.6	53.2	53.0	57.2	83.0
Hiawatha	Plum	4.5	24.7	46.0	49.9	56.1	70.7
K119-50	PlumXAlmond	1.2	21.7	52.3	50.7	61.7	76.8
K144-100	PlumXPeach	.8	21.1	39.5	46.1	45.2	40.1
K145-5	PlumXPeach	.8	14.4	44.5	46.1	43.8	60.5
K146-43	PlumXPeach	.7	21.3	38.0	48.2	52.1	84.0
K62-68	Peach	1.9	27.9	65.6	58.4	70.7	74.3
P30-135	PlumXPeach	.2	17.3	43.4	50.9	56.0	87.8
Sapalta	Plum	3.5	26.2	39.3	32.4	40.9	54.6

<u>Name</u>	<u>Type</u>	<u>Fruit Weight (g)</u>						<u>Fruit Weight (g) on heavily thinned trees 1994</u>
		<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	
Nemaguard	Peach	194	204	226	226	232	204	273
Alace	Plum	228	225	169	190	219	180	253
Citation	PeachXPlum	222	199	217	222	234	195	245
Hiawatha	Plum	184	190	184	207	200	192	244
K119-50	PlumXAlmond	199	220	192	205	225	213	238
K144-100	PlumXPeach	169	202	174	160	162	132	188
K145-5	PlumXPeach	182	193	194	187	199	193	245
K146-43	PlumXPeach	187	179	184	183	200	179	228
K62-68	Peach	219	206	186	193	200	209	233
P30-135	PlumXPeach	202	250	201	195	227	203	241
Sapalta	Plum	208	219	175	198	216	163	222