

Almond Varieties on Plum Roots

plum rootstocks being tested for suitability to almonds in wet areas or in soils infected with oak root fungus

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Almond and peach seedlings are the rootstocks most generally used for the almond and—usually—they are satisfactory except in heavy, wet soils or in areas infected with oak root fungus.

To find a rootstock for those two special situations, several types of plum stock have been tested, including selections of the Marianna and the myrobalan.

Marianna 2623 and Marianna 2624 have proved to be the most promising as stocks for almond in these particular situations. Ne Plus Ultra, Texas, Peerless, Jordanolo, and in most cases IXL are making satisfactory growth on the two Marianna stocks, although considerable overgrowth usually occurs at the union. Nonpareil and Drake, on the other hand, nearly always make unsatisfactory growth on either Marianna 2623 or 2624. Trees of these varieties may grow for several years but in most cases gradually weaken and die. Some trees of Davey on these stocks have recently been planted, but it is too early to know if the combination will be satisfactory.

The accompanying photograph shows a Peerless almond tree on Marianna 2624 roots. The rootstock is nine years old, while the grafts which were placed in the secondary scaffold branches are six years old. Although considerable overgrowth is evident at the graft union, no breakage has been observed to occur at this point. Equally good results have been obtained with nursery-budded trees if the union is high enough above the soil so it will not be buried.

The ultimate size of these almond varieties on plum roots is not known, but observations during the first 12 to 15 years indicate that they will be relatively smaller than trees on almond or peach roots. Whether or not the trees will remain healthy as they grow older is not known either. The table shows that despite the smaller size, moderate to good crops have been produced by quite a few of the trees grown in the Davis orchards.

Intermediates for Nonpareil

Because of the importance of Nonpareil, an effort is being made to grow it on plum roots, using an intermediate stock of another almond variety or another plum variety. One of these trials



Peerless almond tree on Marianna 2624 roots. Note the considerable overgrowth at the graft union.

consists of five-year-old grafts of Nonpareil on Marianna 2624 with an intermediate stock of Jordanolo. These trees are reasonably healthy at the present time, although the growth seems to be slowing down more than it should. A

Yield of Almond Trees on Marianna 2623 and Marianna 2624 Roots

Variety	Marianna root-stock	Age of tree in 1954	Wt. of hulled nuts in lbs.				Ave. '51-'54
			'51	'52	'53	'54	
IXL Jordanolo	2624	11	11	14	4	14	10
	2623	11	17	11	12	16	14
	2623	11	22	25	17	19	20
	2624	11	6	10	12	10	9
Ne Plus Ultra	2624	11	14	20	15	13	15
	2623	13	35	29	9	25	24
	2624	11	24	23	13	21	20
	2624	11	22	13	12	18	16
Peerless	2623	13	29	24	3	26	20
	2623	14	65	57	23	50	48
	2624	11	17	30	12	34	23
	2624	11	21	36	10	29	24
Texas	2623	13	27	24	4	26	20
	2624	11	26	26	11	30	23
	2624	11	18	16	7	19	15
							20

* The crop was greatly reduced by a severe frost in 1953.

plum variety known as Havens 2B has shown some promise in preliminary trials as an intermediate stock and is also being tested further. It will be several years before definite conclusions can be drawn regarding the value of intermediate stocks for the Nonpareil.

Oak Root Fungus

Marianna 2624 appears to withstand oak root fungus better than do other plum stocks thus far tested. This does not mean that the stock is immune, however, since some Marianna 2624 roots have been killed by oak root fungus. To determine whether the stock has enough resistance to justify its continued use for this purpose will require additional experience over a period of several more years. Marianna 2623 may be used in heavy, wet soils but is not as resistant to oak root fungus as Marianna 2624.

One not very serious objection to these rootstocks is that they sometimes produce an undesirable number of suckers. Marianna 2623 appears to be a little worse in this respect than Marianna 2624.

Myrobalan Stocks

The Marianna stocks should not be confused with the myrobalan plum stocks. Results to date show that the myrobalan plum usually does not make a commercially satisfactory rootstock for the almond. Although sometimes fairly large and reasonably healthy trees are produced, even these apparently healthy trees often produce a high percentage of sticktights.

Growing almond trees on plum roots involves some risk because the ultimate behavior of the tree is not known. When the use of these rootstocks is restricted to wet areas in orchards or in areas infected with oak root fungus, that risk might be justified. However, present experience is too limited to warrant planting whole orchards on the Marianna plum rootstocks.

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