

# Almond/Marianna 2624 Performance

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Marianna plum 2624 rootstock is the most useful rootstock for Oak Root Fungus sites and has become increasingly important in the expansion of almonds onto heavier soils.

Mission, Ruby and Padre cultivars have shown excellent compatibility with M2624. Inconsistent field performance of Butte on M2624 has been common, yet Butte is the most desirable M2624 “compatible” variety. Evaluating the commercial potential of M2624 plantings however, requires closer spacings than typically used in almonds, resulting in more trees and higher investment expenses.

A test planting was established to check the productivity of four almond cultivars in a close planted hedgerow on M2624 rootstock. Butte trees were obtained as certified virus free (scion and root) to remove the virus interaction. Commercially harvestable replications were designed into the test for yield data collection. Butte, Mission, Ruby and Padre almonds were planted March, 1989, as single N/S rows at 10' x 20' spacings for 218 trees/acre.

## Results

Yield and kernel size data for 2000 are presented in the following tables.

		<u>Kernel - Lbs./Acre</u>	
<u>Plot</u>		<u>Mean</u>	
<b>Padre</b>	A	2,724	
<b>Butte</b>	B	1,803	
<b>Mission</b>	B	2,167	
<b>Ruby</b>	A	2,468	

		<u>Weight - gms/Kernel</u>	
<u>Plot</u>		<u>Mean</u>	
<b>Padre</b>	A	1.016	
<b>Butte</b>	A	1.009	
<b>Mission</b>	A	1.082	
<b>Ruby</b>	B	1.227	

Yields show a productive almond planting can be maintained using M2624 root. Three of the varieties Ruby, Padre and Mission produced respectable yields this year. Only Butte production was sub par. Yields in much of the district for Butte were lower this year, so the mediocre production of Butte here on M2624 this year probably isn't significant.

Noteworthy is the fact that the soil at this test location is quite shallow due to a restricting clay layer at 24-36 inches. Shoot growth has been weak in recent years especially during heavy sets. Attempts have been made to invigorate this block. Three years ago, a second drip line was added to one of the reps. This change has not resulted in any measurable difference in production. Last winter a mechanical topper (rotary saws) was used to prune one side of alternate rows to stimulate top and side shoot growth. An angled hedging cut was made on the shoulder of the canopy, positioned 2 feet from tree top center and angled 30 degrees down into the row middles. One side of all Ruby and Butte rows were cut this past winter. Next year all

Padre and Mission rows will be cut. Thus, four years will be needed to complete this hedging plan.

In response to the pruning, Ruby trees produced 2-5 shoots at each saw cut, which grew 24-36 inches in length during the season. Buttes grew 3-6 shoots at each cut, which grew 24-48 inches. The mechanical pruning appears to be invigorating the Buttes and Rubys, which have been the least vigorous of the four varieties. This is particularly instructive for Ruby given its' heavy crop load this year and for Butte given the questionable compatibility on M2624.

Kernels are of high quality in all varieties with Rubys showing the larger size while all others were of similar size. The shrivel problem experienced last season with Butte was not found this year.