

WALNUT ROOTSTOCK ORCHARD TRIALS – YUBA COUNTY

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GROWTH AND PERFORMANCE OF CLONAL PARADOX ROOTSTOCKS TOLERANT TO *PHYTOPHTHORA*

Research cooperators: Samuel Metcalf and Claudia Negrón

Grower/cooperator: Doublenut Farms, Yuba County.

Established: May 23-24, 2005

Design: 5 rootstocks – 4 clonal Paradox, VX211, AZ2, NZ1, JX2, and one seedling Paradox control. Rootstocks are replants in an orchard with severe tree loss from *Phytophthora*, randomized complete block design, 12 single tree replicates.

2007 Growth and Survival Results

All rootstocks generally grew well in 2007. There was 100% survival of all replant sources. VX211 continues to be significantly larger than any of the other rootstocks. The trees were grafted to Chandler on May 15, 2007. Seventeen out of sixty grafts failed. The percentages for each rootstock are noted in the table below. These will be regrafted in the Spring of 2008.

Treatment	June 2005 Diameter (mm)	Dec. 2005 Diameter (mm)	Nov. 2006 Diameter (mm)	Nov. 2007 Diameter (mm)	% Change (June 2005 to Nov. 2007)	Graft failure (%)
VX211	29.0	31.2	42.5 a	60.0 a	+107.0	25
AZ2	26.9	28.5	26.2* c	41.6 b	+54.6	33
NZ1	23.5	25.8	35.6 b	48.7 b	+107.2	50
JX2	23.7	26.4	35.2 b	47.1 b	+98.7	17
CONTROL	20.5	22.4	30.0 bc	42.3 b	+106.3	17

*rootstocks were headed near or below 2005 diameter measurement point. 2006 and 2007 measurement was on new shoot growing above previous cut

WALNUT GRAFT COMPARISON

Grower/Cooperator: Joe Conant

Plot Established: 2005

Trees Planted: 1999

Design: Unreplicated comparison between nursery grafted Chandlers on Paradox (NG), own-rooted Chandlers (OR), and field grafted Chandlers on Paradox (FG, grafted same year as planted). Ten trees per treatment were measured. Yield data was collected in the middle between two treatment rows and represents five trees.

2005 -07 results are the means of ten trees; yield is in lbs/tree.

Treatment 2005	Circumference Cm	X Sect area cm²	Dry In-shell (lbs)	Yield Efficiency	# Nuts/lb
NG	62.9	315.0	82.3	.26	47.2
OR	65.9	345.7	66.6	.19	44.1
FG	65.4	340.5	64.6	.19	41.0
Treatment 2006	Circumference Cm	X Sect area cm²	Dry In-shell (lbs)	Yield Efficiency	
NG	68.5	373.6	80.7	.22	
OR	72.6	419.7	72.6	.17	
FG	73.7	432.5	81.0	.19	
Treatment 2007	Circumference Cm	X Sect area cm²	Dry In-shell (lbs)	Yield Efficiency	
NG	74.4	440.7	68.0	.15	
OR	78.7	493.1	77.0	.16	
FG	80.2	512.1	81.1	.16	