



INTRODUCING: GRIZZLY CLONAL WALNUT ROOTSTOCK™ (USPP 31,862)

IT ““THRIVED WHEN ALL THE REST BARELY SURVIVED!”™



- ✓ The **FIRST WALNUT ROOTSTOCK** cloned due to its superior performance in a commercial orchard!
- ✓ The **FIRST WALNUT ROOTSTOCK** cloned due to its superior performance in a replant walnut orchard!
- ✓ The **FIRST WALNUT ROOTSTOCK** observed with a variety on it for 20 years!

The “Mother” tree (shown below) of Grizzly Clonal Walnut Rootstock™ is a Tulare variety grafted onto a seeding Paradox rootstock. It thrived when all the rest barely survived, in an orchard that faces many challenges. Our early data indicates this rootstock is, indeed, a bigger, tougher, more productive tree.

This orchard (below), planted in the 90’s is a replant site after removal of extremely large Serr trees. Much of the orchard is very sandy soil, so the replanted orchard had to contend with replant disorder, heavy populations of lesion nematodes, generally low nutrition and poor soil structure. It’s no wonder that the average walnut tree struggles... and it is from this orchard that we found, and cloned, Grizzly Clonal Walnut Rootstock™.



REPLANT DISORDER & NEMATODE AFFECTED BLOCK (OCT'18)

3RD LEAF CHANDLER ON VX211 58% SIZE INCREASE*	3RD LEAF CHANDLER ON GRIZZLY® 131% SIZE INCREASE!*
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**As measured by cross-sectional area of trunk during 2018.*

(See above) We planted Chandler on Grizzly Clonal Walnut Rootstock™ in this challenging replant site and saw astonishing results when compared to Chandlers on VX211, RX1, Vlach or any seedling paradox.

We currently have Grizzly Clonal Walnut Rootstock™ in replicated field trials in multiple orchards and it is among the largest and most productive of all rootstocks in all trials, including current commercial rootstocks. We have never observed crown gall on Grizzly Clonal Walnut Rootstock™.



THE ORIGINAL “MOTHER” GRIZZLY®



FOR MORE INFORMATION ON WHERE TO BUY GRIZZLY CLONAL WALNUT ROOTSTOCK™ PLEASE VISIT OUR LICENSED NURSERIES PAGE AT:

WWW.GRIZZLYWALNUT.COM

FIELD DATA
RIO-Trial Location
Planted Spring 2016

The Take Away: Chandlers on Grizzly Rootstock have a significantly higher yield in this new orchard trial planted on heavy, Class 2 type soil. Grizzly’s better yield compared to RX1, VX211 and Vlach track the size difference, in terms of percentage, documented in the same orchard. Meaning, the larger, more vigorous and strong tree yields more, as we would have expected. We see no evidence of different yield efficiency, only greater productivity because of better vigor and likely better stress tolerance. In the same trial orchard, Vlach exhibits significantly more crown gall than either Grizzly, RX1, or VX211, so we would expect that to hurt the yield of Vlach trees over time. This greater occurrence of crown gall in Vlach supports other similar observations in the walnut industry. To date, crown gall has not been identified on a single Grizzly tree.

Table 1. In-shell yield stated as tons per acre

Rootstock	2020
Grizzly	2.1 tons/acre
VX211	1.75 tons/acre
RX1	1.85 tons/acre
Vlach	1.85 tons/acre

Image Showing Chandler on Grizzly at this location with a heavy crop for a 5 year old tree





**FIELD DATA
D-Trial Location
Planted Spring 2016**

The Take Away: At this sandy, replant orchard site with multiple challenges, Chandlers on Grizzly were almost double the size of trees on RX1 and more than 6 times larger than trees on VX211 at the beginning of the 5th leaf. Vlach and NCB failed to grow at all at this location.

Table 1. Yearly average circumference of scion on each rootstock

Rootstock	2017	2018	2019
Grizzly	6.5"	10.1"	15.4"
VX211	3.6"	4.5"	6.4"
RX1	5.1"	8"	11.8"

*Vlach and NCB could not grow at this location and were removed after 3 years

Table 2. Average cross-sectional area of Chandler trunk of trees on each rootstock at latest measurement

Rootstock	Diameter	Cross-sectional area of trunk in square inches	Percentage size of largest rootstock
Grizzly	4.9"	18.5 sq. in.	100%
VX211	2.0"	3.1 sq. in.	17%
RX1	3.8"	11.3 sq. in.	61%

*Cross-sectional area of the trunk is the most significant and most accurate measure to compare relative sizes of trees

Image showing typical size difference at this location between Grizzly and VX211





**FIELD DATA
L-Trial Location
Planted Spring 2019**

The Take Away: At this replant orchard site (planted after 60 year old walnuts were removed!) where Livermore is the variety, there are almost all soil types from clay and loamy clay with seepage problems to pure sand. Replications of Grizzly are planted in all soil types in this orchard where VX211 is the main rootstock. While the trial is only 2 years old, Grizzly appears to be outperforming VX211 in most/all soils at this early point.

Table 1. Average cross-sectional area of Livermore trunk of trees on each rootstock at latest measurement

Rootstock	Average Circumference	Average Diameter	Cross-sectional area of trunk in square inches	Percentage size of largest rootstock
Grizzly	6.15"	2.0"	3.0 sq. in.	100%
VX211	4.55"	1.45"	1.6 sq. in.	53%

*Cross-sectional area of the trunk is the most significant and most accurate measure to compare relative sizes of trees.

Image showing 2 typical Livermores on Grizzly, with numerous smaller trees on VX211 behind.



FIELD DATA
S-Trial Location
Planted Spring 2016

The Take Away: At this 20 acre Chandler orchard planted on “virgin” soil, at the end of the 5th leaf, Grizzly appears to be supporting a slightly larger, more productive tree compared to RX1, VX211, and Vlach. The main orchard is on RX1, but the orchard contains a large, replicated trial of all clonal walnut rootstocks. While “virgin”, the soil is somewhat heavy and shallow, and because it is geographically low, the orchard can become saturated on wet winters like 2017 and 2019. All rootstocks are performing reasonably well at this location, with Grizzly showing some advantage. To date, it should be noted, crown gall has never been seen on Grizzly at any location.

Table 1. Average circumference and cross-sectional area of Chandler trunk of trees on each rootstock at latest measurement

Rootstock	Average Circumference	Average Diameter	Cross-sectional area of trunk in square inches	Percentage size of largest rootstock
Grizzly	18.5”	5.9”	27.3 sq. in.	100%
VX211	17”	5.4”	23.1 sq. in.	85%
RX1	16.8”	5.35”	22.6 sq. in.	83%
Vlach	17.1”	5.45”	23.2 sq. in.	85%

*Cross-sectional area of the trunk is the most significant and most accurate measure to compare relative sizes of trees

Image showing typical crop load of Chandler on Grizzly Rootstock at this location demonstrating that it crops heavy and that larger size is NOT an effect of setting lighter crops

