Effects of Rootstocks on Marginal, High Boron Soil

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Background: As the industry expands, growers are increasingly planting on marginal soil using lower quality irrigation water. For many Westside plantings, this means high boron.

Objectives: To evaluate different rootstocks on heavy clay soils with high boron soil and water.

Methods: Marvin silty clay loam, Water: <1 - 3.1 mg/l B, Soil: 1.3-2.2 mg/l B.
cv. Nonpareil, Nursery grafted, Planted Feb, 2011 (Titan not replicated), Spacing: 22' x 18'

Summary:

- Vigorous rootstocks → Larger Trees.
- Some rootstocks decrease B to scion → Decreased B toxicity effects.
- So far, looks like Lovell combines worst: Low vigor + high B. Krymsk 86 also continues to have low yields. More years of data needed.

Rootstock	Origin	Hull B (ppm) † (2015)	Light Intercep't (% PAR)	Avrg Yield (kernel lbs/acre)
Titan SG1	Peach-Alm	349	76%	2,223
FxA	Peach-Bitter Alm	312 abcd	78% a	2,089 a
Nickels	Peach-Alm	265 a	77% ab	2,068 a
Brights 5	Peach-Alm	322 bcd	68% c	1,876 ab
Hansen 536	Peach-Alm	333 cd	74% b	1,560 bc
Rootpac-R	Myro Plum-Alm	290 abc	58% d	1,263 cd
Viking	Pch-Al-Myro-Apr	269 ab	57% d	1,122 de
Krymsk 86	Myro Plum-Pch	322 bcd	52% e	876 ef
Lovell	Peach	360 d	55% de	657 f

*Per-acre yield based on average of 5 trees over 6 replications, scaled for the 110 trees per acre spacing. Titan SG1 Not replicates so statistical comparison made.
† > 300 ppm = "toxicity"