

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.

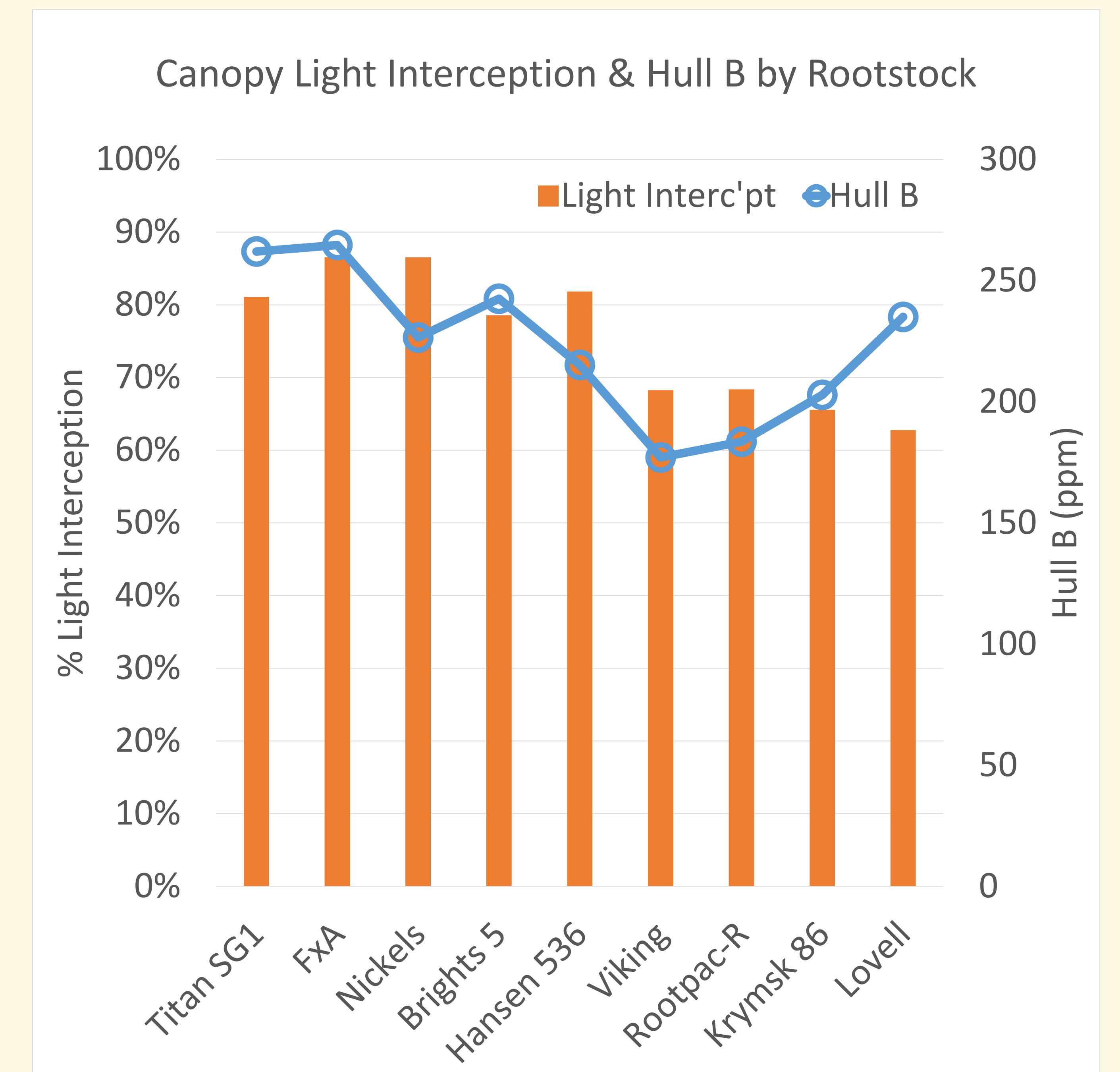
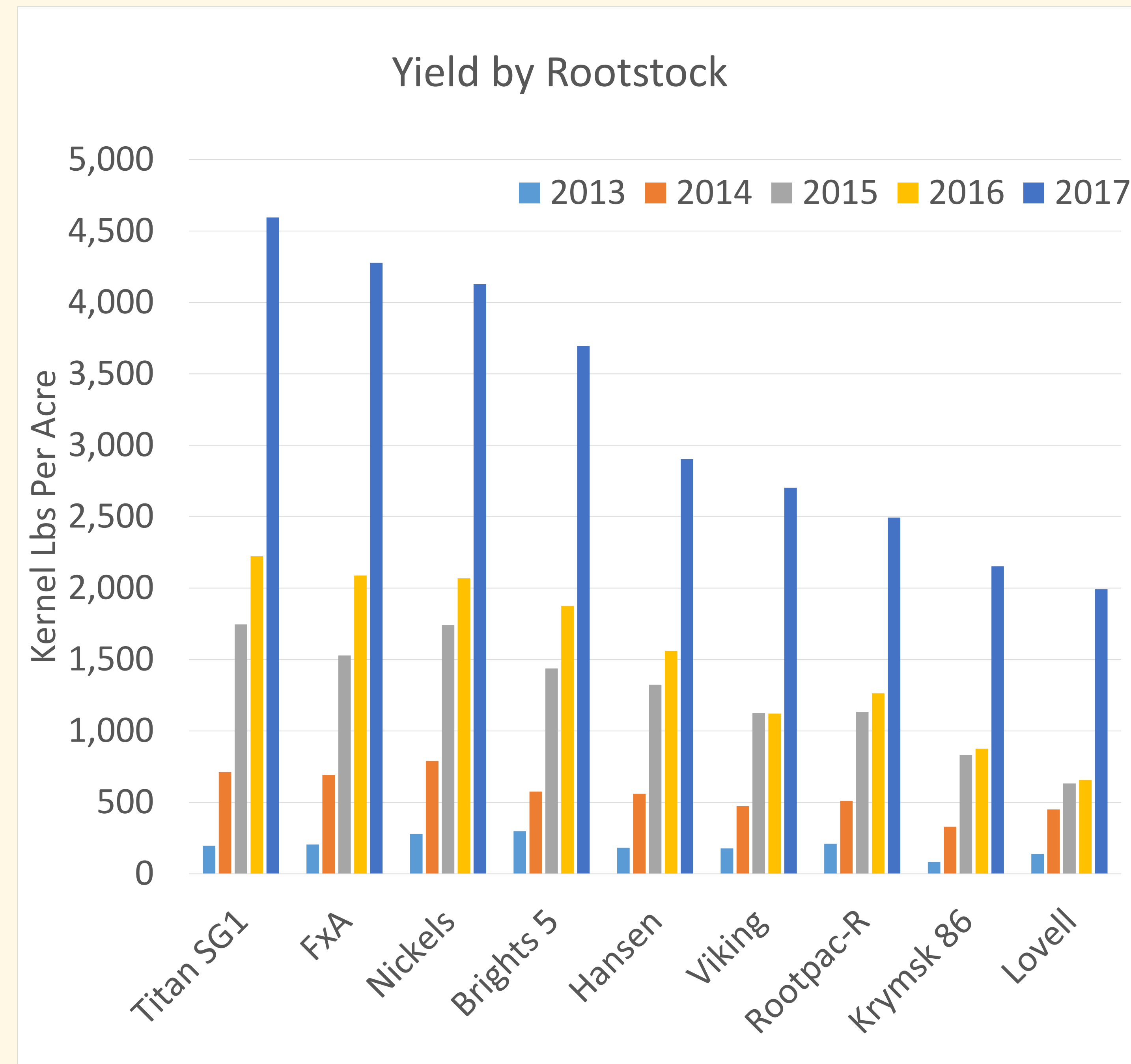
Objectives: To evaluate different rootstocks on heavy clay soils with high boron soil and water.

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	Avg Yield (kernel lbs/acre)	Hull B (ppm) †	Light Intercep't (% PAR)
Titan SG1	Peach-Alm	4,596	262	81%
FxA	Peach-Bitter Alm	4,278 a	265 a	87% a
Nickels	Peach-Alm	4,129 ab	227 ab	87% a
Brights 5	Peach-Alm	3,697 abc	243 ab	79% abc
Hansen 536	Peach-Alm	2,903 abcd	215 abcd	82% ab
Viking	Pch-Al-Myro-Apr	2,704 abcd	177 b	68% bc
Rootpac-R	Myro Plum-Alm	2,495 bcd	184 b	68% bc
Krymsk 86	Myro Plum-Pch	2,154 cd	203 ab	66% bc
Lovell	Peach	1,993 d	235 ab	63% c



*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"