

Effect of Converted Organics™ LC on the Size and Yield of Non Pariel, Fritz and Monterey Almonds

TRIAL BACKGROUND

This trial was conducted with a large Grower in the Central Valley of California over a three year period. The almond orchard had 0.5 mile long 9-year old tree rows running in the North-South direction.



For the purpose of this trial the rows were numbered starting with number 1 on the West end of the orchard. Row numbers increased going East. According to the grower, this end of the field had a sandy streak running through it and thus was considered to be the weaker side of the field. Reportedly, there was a gradual improvement in soil quality as one

moved from West to East side of the orchard. *Converted Organics™* LC treatment was applied in 4x replicated design. Approximately 30 rows were skipped between applications. Non Pariel planted every other row, Fritz and Monterey planted every 4th row (e.g. NP, F, NP, M, NP, F, NP, M etc.)

Table 1: Almond Tree Trial Conditions

Product Tested	<i>Converted Organics™</i> LC
Crop	Almonds
Varieties	Non Pariel, Fritz and Monterey
Soil Type	-
Planting Date	1995
Application Date	03/04/04
Application Schedule (2004)	4 gallons per acre (gpa) in March 2004, 6.25 gpa in May 2004, 6.25 gpa in October 2004 (post harvest)
Application Schedule (2005)	7 gallons per acre (gpa) in April 2005, 7 gpa in May 2005, 7 gpa <i>Converted Organics™</i> LC and 2 gpa <i>Converted Organics™</i> XK in June 2005 and 4 gpa in October 2005 (post harvest)
Application Rates for 2006	2 treatments 7 gpa <i>Converted Organics™</i> LC, 1 treatment 7 gpa <i>Converted Organics™</i> LC and 4 gpa <i>Converted Organics™</i> XK, fall application of 4 gpa <i>Converted Organics™</i> LC
Growers Standard Program	-
Application Method	Double line drip tape
Treatment Location	Section 13-3
Other Details	80 acres treated, 80 acres control, Field replicated 4 times
Harvest Date	(1 st trial) 1 st week in August 2004 (2 nd trial) September 2005 (3 rd trial) August/September 2006

DATA COLLECTION and ANALYSIS

Ripe nut samples were collected by walking the 0.5 mile length of the orchard and picking 2 nuts at random from every fourth or fifth tree from closest treated and non-treated (control) rows. Samples from treated and control trees were kept in separate containers. After removing the shell, the individual nut length and width were measured using a pair of Mitutoyo digital calipers. After size measurement, the shelled nuts from each row were pooled and weighed collectively.

Statistical analyses done were paired samples t-test on the sets of *Converted Organics™* LC treated and Control samples collectively and separately for the pairs of samples in each field position. Two-way analysis of variance was performed to analyze the effect of field position and the application of *Converted Organics™* LC contribution to the nut size.

Table 2: Effect of *Converted Organics™* LC on Almond nut size

Attribute	n ¹	<i>Converted Organics™</i> LC	Control	2-tailed p	σ ³
Thickness, mm	449	8.03	7.77	0.0001	Y
Length, mm	336	22.18	21.55	0.0001	Y
Weight, g/nut	4 ²	1.28	1.22	0.1098	N

¹ Number of observations

² Mean weights of 4 groups of nuts representing an overall total of 449 nuts for *Converted Organics™* LC treated and 501 nuts for control

³ Significance at 95% confidence

Table 3: Field position effect on *Converted Organics™* LC treatment of Almonds

Attribute of Nut	Field position ¹	n ²	<i>Converted Organics™</i> LC treated	Control	2-tailed p	σ ³
Thickness, mm	1	123	7.94	7.57	0.0001	Y
Length, mm	1	123	21.27	20.64	0.0008	Y
Thickness, mm	2	130	8.73	8.33	0.0043	Y
Length, mm	2	130	22.25	21.40	0.0001	Y
Thickness, mm	3	112	7.75	7.64	0.1634	N
Length, mm	3	112	22.76	21.75	0.0001	Y
Thickness, mm	4	84	7.54	7.43	0.2540	N
Length, mm	4	84	22.47	21.99	0.0114	N

¹ Field position #1 – Rows 21 (SS) & 19 (Control); Field position #2 – Rows 53 (SS) & 51 (Control); Field position #3 – Rows 85 (SS) & 83 (Control); Field position #4 – Rows 115 (SS) & 117 (Control)

² Number of observations

³ Significance at 95% confidence

CONCLUSIONS

The 2004 trial showed that when *Converted Organics™* LC was used at 10.25 gallons per acre (gpa) in 2 applications, **significantly improved Non Pariel almond nut size** (length and thickness). The size improvement was more evident on the weaker side of the field (see Table 2).

Pooled nut weight was improved by **4.69%** after using *Converted Organics™* LC (see Table 2). However, this was not statistically significant at 95% confidence level.

The 2005 trial showed that the **Grower realized a 200 pound per acre increase for all three varieties**, after the addition of *Converted Organics™* LC and *Converted Organics™* XK. Assuming the market price for Almonds is \$2.50/lb., this equates to **a \$500 gross return per acre to the Grower**.

The 2006 trial showed that the Grower realized a **160 pound per acre increase for all three varieties** in the *Converted Organics™* treated area. The average price per pound for all three varieties was \$2.20. This equates to **an increased gross return per acre of \$352.00**.