

<u>Almonds</u>

Effect of Converted Organics[™] LC on the Growth of Young Almond Trees

California produces 99% of the almonds in the United States



occupying 550,000 planted acres. The annual total dollar value for shelled almonds is more than \$1.6 billion in sales according to the California Department of Food and Agriculture statistics (2003). With such a large investment, growers are constantly looking for ways to improve harvest yields, crop quality and plant uniformity, in addition to

reducing fertilizer and pesticide usage plus protecting the largest investment of all – their soil.

DATA COLLECTION and ANALYSIS

The almond orchard had interspersed rows of 1, 2, 3 and 4 year old trees of both Carmel and Non Pariel varieties. Trials with *Converted Organics*^T *LC* were conducted on all sections, including all ages and varieties. This report includes studies of *Converted Organics*^T *LC* effect on the first year growth (7 month old) trees.

Table 1: Almond Tree Trial Conditions

Product Tested Crop Soil Type Irrigation Schedule Planting Date Application Date	Converted Organics [™] LC Almonds (Carmel and Non Pariel) Sandy Loam Flood irrigation 01/04/04 03/04/04
Application Schedule	8 gpa each on 03/22/04, 05/26/04 and 10/04/04
Growers Standard Program	Manure based compost along tree line before digging holes. Holes fumigated with methyl bromide before planting 2 x ½ lb/tree/season 17-7-27 banded around tree
Application Method	Spray 7 foot band each side of tree row, follow with flood water
Treatment Location Harvest Date	Interspersed throughout orchard 07/12/04 to 07/13/04

For the effect of *Converted Organics*^{∞} *LC* on the growth of young trees one row of each treated and control trees on East and West side of the center road were picked for data collection. Ten consecutive trees in each row were selected and marked. All primary branches were counted on the selected trees. The length of 10 largest primary branches on each selected tree was measured with a yard stick. All secondary branches of the longest 10 primary branches were counted on each selected tree. The trunk diameter of the same tree was measured with a micrometer. Nut size was estimated by measuring the length and thickness of 12 nuts from mature trees in each study group and comparing these dimensions statistically. Paired samples t-test was used to compare the statistical difference between the

Converted Organics ${}^{\mathbb{T}}$ LC treated and control samples for each measured parameter.

Table 2: Effect of Converted Organics[™]LC on Growth of 7month old Carmel Almonds

	Conv Organi	erted cs [™] LC	Cor	itrol		
Parameter	Mean	SD	Mean	SD	2- tailed p	$\sigma^{\scriptscriptstyle 1}$
No. 1 ^{°*} Branches, n=20	14.55	1.99	13.10	2.13	0.0725	N
No. 2° Branches, n=18	146.72	72.80	94.11	46.28	0.0055	Y
Length of 1° Branches, (in) n=200	59.77	10.77	48.30	16.14	0.0001	Y
Trunk Diameter, (mm), n=20	34.32	3.41	32.52	5.00	0.1524	N

¹ Significance at 95% confidence

Table 3: Effect of *Converted Organics*[™]*LC* on Growth of 7 month old Non Pariel Almonds

	Converted Organics [™] LC		Control			
Parameter	Mean	SD	Mean	SD	2- tailed p	σ^{1}
No. 1 ^{o*} Branches, n=20	15.70	3.08	14.45	3.14	0.2216	N
No. 2° Branches, n=20	180.70	89.48	170.65	74.45	0.7435	N
Length of 1 [°] Branches, (in) n=196	51.49	13.23	47.14	15.77	0.0042	Y
Trunk Diameter, (mm), n=20	31.85	3.54	30.66	4.61	0.4376	N

Significance at 95% confidence

CONCLUSIONS

At 95% level of confidence, *Converted Organics*^T *LC* significantly contributed to the length of primary branches in both Carmel and Non Pariel 7 month old almonds. The immergence of secondary branches on the same trees was statistically significant for *Converted Organics*^T *LC* treated Carmel almonds (52.61 more branches per tree), but not for Non Pariels, even though there was an average of 10.05 branches per tree increase when *Converted Organics*^T *LC* was used. The *Converted Organics LC* was used. The converted Organics *LC* treated trees grew longer primary branches by an average of 11.5 inches for Carmel and 4.35 inches for Non Pariel varieties.

Number of primary branches was not significantly affected by *Converted Organics*^T *LC*, even though in both varieties number of primary branches was greater for *Converted Organics*^T *LC* treated trees (see Tables 2, 3). At 95% level of confidence

Converted OrganicsTM LC treated trees did not have thicker trunks, even though average trunk diameter of Converted OrganicsTM LC treated trees for both varieties was greater (see Table 2 &3).