



## **Nuts Crop Report Directory**

### **Recommended Application Rates For Nuts**

<b>2000</b>	<b>Walnuts</b> Chico, California
	<b>Pistachios</b> Newberry Springs, California
	<b>Almonds</b> Madera, California
<b>1997</b>	<b>Almonds Non Pareil and Carmel</b> Madera, California

## Application Rates for Nuts

### New Orchards

#### Use one of the following treatments:

- Root dip: Dip the bare roots in a 5% Vitazyme solution  
or
- Root Drench: During or after planting, drench the root zone with a 1% solution  
or
- Spray Vitazyme at 16oz/acre (1 liter/hectare) with first foliar or weed spray

After planting, apply Vitazyme at the rate of 16oz/acre (1 liter/hectare) at approximately 30 day intervals during the growing season, 4 applications total.

### Non Bearing Blocks

Apply at the rate of 16oz/acre (1 liter/hectare) with herbicide or with first foliar applied spray, and again at approximately 30 day intervals.

### Bearing Blocks

#### Apply 1-1.5 pints per acre (1-1.5 liters/hectare):

- To the soil at budbreak or foliar at first flush of growth in Spring at Early bloom
- At first cover spray, or 30-40 days after petal fall  
30 days pre-harvest

***Vitazyme can be tank mixed with all farm chemicals, including herbicides, insecticides, fungicides, and fertilizers.***

***Added benefit: when mixed with herbicide, Vitazyme will stimulate weed growth, thereby enhancing herbicide efficacy***

**Vital Earth Resources**

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**2000 Crop Results**

**Vitazyme on Walnuts (New Planting)  
A testimonial**

Farmer: Cheryl Smith, Jack's Orchard Supply

Location: Chico, California

Planting date: May 17, 2000

We planted 176 walnut trees in May of 2000. This is late by 45 to 60 days of normal planting. At planting we added 6 oz. of Vitazyme to the root dip water. All trees were dipped.

We have received many comments about the vitality, deep green color, and growth of these young walnuts. The most significant hardship with late planted walnuts is getting a good stand. Death losses can be fairly high, so we were very pleased to have lost less than 2% of the total planted trees.

We are a dealer for Vitazyme in the 530 telephone area code, and we are hearing a lot of comment on this product. Growers like how it works. So do we. Try it on strawberries: wow!!!

**Death loss for a late  
planting: < 2%**

Cheryl Smith  
Jack's Orchard Supply

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**2000 Crop Results**

**Vitazyme on Pistachios**  
**A testimonial**

Researcher: Al Simons

Location: Newberry Springs, California

Tree age: 10 years

Soil type: light blow sand with high levels of boron in subsoil

All areas of a 10-acre pistachio grove were treated with Vitazyme: (a) 13 oz/acre on the soil before bud initiation; (b) 13 oz/acre at bud breaks; (c) 13 oz/acre at early sizing; (d) 13 oz/acre at nut gel to white

Yield results: **The crop produced the largest size nuts in the Newberry Springs Pistachio Association, and also the largest crop harvest in the Newberry Springs Pistachio Association.**

Income results: Al Simons: **“I estimate that this crop returned 250 times the cost of the Vitazyme.** This is based on the data given by the grower when he reordered 4 gallons of Vitazyme for the year 2001.”

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# 2000 Crop Results

## Vitazyme on Almonds

Grower: Tom, Dan, and Chip Rogers

Location: Madera, California

Varieties: Non Pareil, Carmel, Butte, and Padre

Soil type: sandy loam

Tree age: blocks 1, 2, 3, and 4 – 20 years; blocks 5 and 6 – 8 years

Tree spacing: Blocks 1, 2, 3, and 4 – 22 ft x 22 ft; Blocks 5 and 6 – 22 ft x 18 ft

Experimental design: Six blocks of almond trees were selected for a comparative test, pitting three low yielding blocks against three higher-yielding blocks. The three low-yielding blocks were treated with Vitazyme, and the other three left untreated.

Block	Acreage	Variety	Yield potential	Treatment
1	10	Non Pareil/Carmel	higher	control
2	10	Non Pareil/Carmel	lower	Vitazyme
3	14	Non Pareil/Carmel	higher	control
4	12	Non Pareil/Carmel	lower	Vitazyme
5	11	Butte/Padre	higher	control
6	11	Butte/Padre	lower	Vitazyme

Fertility treatments: All areas of the grove were sprinkler irrigated beneath the leaf canopy with “REF water”, an electronically treated water using a programmed electronic device that imprints the water with electrons. All areas received 75 lb/acre of N as “UN 32” in April, and again in June. An organism cocktail of “Ceres”, plus “Liqui-Comp”, a mixture of liquified compost plus microbes, was applied 2 to 3 weeks before both of the UN 32 applications through the sprinkler system. Two applications of 10 lb/acre  $K_2SO_4$  were made in the spring to the leaves using an electrostatic sprayer.

Vitazyme treatments: Vitazyme at 6 oz/acre was sprayed to three blocks on the leaves in May, applied through the sprinkler system at 13 oz/acre in June, and sprayed on the leaves at 6 oz/acre in July.

Harvest date: Non Pareil–September 20; Padre–October 9; Butte–October 16; Carmel–October 30.

Harvest methods: The various blocks and varieties were not separated and weighed at harvest due to the threat of rain and the need to harvest quickly. A rain had fallen on the crop once, and the almonds had been lifted, cleaned, and dropped again for drying before another rainstorm arrived.

Yield results: **During harvest (by the farmers themselves), Blocks 2, 4, and 6 produced as many or slightly more almonds than the untreated Blocks 1, 3, and 5, as determined by load counts for each area. This proved that Vitazyme increased almond yield significantly above the normal in these less productive blocks.**

Yields for 2000:

Non Pareil and Carmel – 2,875 lb/acre (normal bloom and pollination)

Butte and Padre – 1, 805 lb/acre (two week later bloom, and poor pollination due to very rainy weather)

State average yield – 1,292 lb/acre (based on 620,000,000 lb over 480,000 acres)

Quality results: *Turnout* (percent of meats of the entire crop hauled in) for the two major varieties raised was very

high in spite of generally thicker hulls than in 1999. These turnout values were higher than for the usual turnout for 2000.

Non Pareil – 29.56 %

Carmel – 29.69 %

***Conclusions:*** In spite of poor pollination of the 2000 crop and adversities during the growing season – and very low statewide average yields (1,292 lb/acre) – the Rogers’ yields were far above this average: 121% for Non Pareils and Carmels, and 40% for Buttes and Padres. **Vitazyme played a significant role in this high yield by boosting yields significantly in the three less productive blocks of the farm. Vitazyme also played a part in maintaining high quality and treatment of the nuts.**

Some comments of Tom Rogers regarding Vitazyme effects on his almonds are as follows:

- **“I am very pleased with how Vitazyme performed on our almonds this year.”**
- **“Vitazyme caused Blocks 2, 4, and 6 to produce as well as – or a little better than – the higher producing Blocks 1, 3, and 5.”**
- **“The effects of Vitazyme caught our eye.”**
- **“We plan to use Vitazyme on all of our acres next year.”**

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# 1997 Crop Results

## Vitazyme on Almonds

Researcher: Chip Rogers

Location: Madera, California

Variety: Non Pareil and Carmel

Tree age: mature

Soil type: sandy loam

Tree spacing: 22 ft x 22 ft

Experimental design: Ten acres of a 45-acre mature almond grove were treated with Vitazyme, with all areas of the grove otherwise being treated the same. This ten acres constituted 15 rows of trees.

### 1. Control

### 2. Vitazyme, applied twice

Two varieties of almonds were present in both treated and untreated areas, and were harvested separately.

Fertility treatments: All areas of the grove were sprinkler irrigated with "REF water". This water is directly from a deep well and run through a pipe fitting to which is attached a programmed electronic device that imprints the water with electrons. All areas received 50 lb of N/acre as "un 32" in April, and 50 lb of N/acre as "can 17" in early October. The same applications had been made the previous year. "Rhizone", an organism cocktail, was applied foliar to all trees, as well as 10 lb/acre of  $K_2SO_4$  using an electrostatic sprayer.

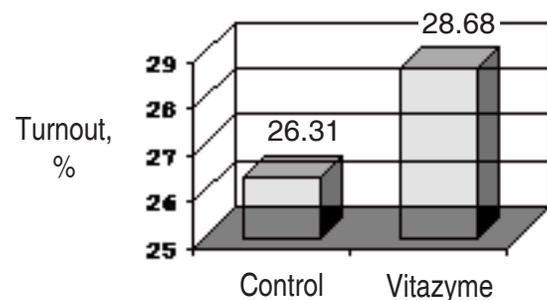
Vitazyme treatments: Vitazyme at 13 oz/acre was applied by injector through the sprinkler irrigation system for the treated area in mid-April, and again at 13 oz/acre in mid-July. Bloom was from late January through early March, an unusually long period.

Harvest date and method: August 20, 1997. For the treated and control areas a harvester loaded a full trailer, and the area for this harvest was calculated. Weights of these nuts were obtained, and quality evaluations of "turnout" (the percent of nut meat of the entire weight) and "rejects" (the percent of nuts damaged by worms) were determined for both trailer loads.

Yield and quality results: Non Pareil almonds:

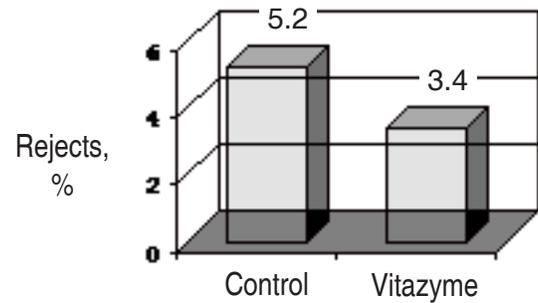
	<u>Control</u>	<u>Vitazyme</u>	<u>Change</u>
Area harvested for one trailer load	2.64 acre	1.98 acre	
Total nut production, less hulls	2,777.2 lb/acre	3,207.1 lb/acre	429.9 lb/acre (+15.5%)
Turnout (nut meat percentage of nuts and hulls)	26.31%	28.68%	+2.37%

**Increase in turnout: 2.37  
percentage points**



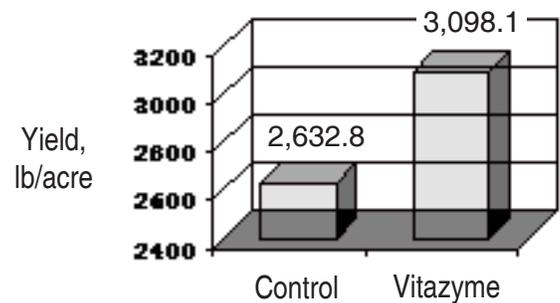
	<u>Control</u>	<u>Vitazyme</u>	<u>Change</u>
Rejects (worm damage)	5.2%	3.4%	- 1.8 percentage points

**Reduction in rejects: 1.8  
percentage points**



	<u>Control</u>	<u>Vitazyme</u>	<u>Change</u>
Net nut production (total less rejects)	2,632.8 lb/acre	3,098.1 lb/acre	465.3 lb/acre (+17.7%)

**Yield increase:  
17.7 %**



Income results: The estimated price for the almonds is \$1.50/lb.

	<u>Control</u>	<u>Vitazyme</u>	<u>Increase</u>
Total income	\$3,949.20/acre	\$4,647.15/acre	\$697.95/acre

**Income increase:  
\$697.95/acre**

- Comments:
- (1) The percent turnout was improved for Vitazyme due to fuller nut meats.
  - (2) The percent rejects was reduced for Vitazyme due to less insect (worm) damage, even though a neighboring almond grove was not well tended and in past seasons would increase worm damage on this side of the grove. Thus, Vitazyme provided some insect protection.
  - (3) In spite of a nitrogen application of only 100 lb of N/acre, versus the usual recommended 200 to 300 lb/acre, yields were maintained at high levels.
  - (4) The Carmel variety, though not analyzed in this study, provided about the same yield increase as the Non Pareil variety.