

***EVALUATION OF ETHEPHON ON YIELD AND QUALITY OF
MECHANICALLY HARVESTED PROCESSING RED PEPPERS
2017-18***

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INTRODUCTION/OBJECTIVES:

To evaluate the beneficial effects of applying ethephon at two rates and comparing them with an untreated control in mechanically harvested processing red peppers.

TREATMENTS:

1. Untreated Control
2. 2.0 quarts ethephon per acre
3. 4.0 quarts ethephon per acre

Site Location: Rossow Farms – Merced, California

Host Crop Variety: Processing red peppers

Plot Description and Size: 4.75 feet by 200 feet, replicated 2 times

Experimental Design: Completely randomized design

Application Conditions:

Date: August 4, 2017

Time: 7:30 a.m.

Wind: Calm

Sky: Clear

Temperature: 76 F

ASSESSMENTS:

Yields and visual quality assessments

METHODS AND MATERIALS:

On August 4, 2017 areas were selected from a field of established red peppers for ethephon evaluations. Plots 6.75 feet by 200 feet were measured and staked. Ethephon was applied in three treatments replicated two times. They were: none, 2.0 quarts per acre and 4.0 quarts per acre. A fourth treatment was planned consisting of a water run application in the drip irrigation system. After much discussion regarding rates and observing the effects of the 4.0 quarts per acre foliar applied ethephon, it was decided to omit the treatment.

On August 31, 2017 the plots were mechanically harvested by the grower and resulting peppers weighed using the University of California Extension bin scales.

RESULTS:

There were very little numerical differences among the three treatments. The untreated control was slightly lowest at 16.9 tons per acre, with the 2.0 quarts per acre and the 4.0 quarts per acre yielding 18.3 tons per acre and 17.7 tons per acre, respectively. (table 1).

Lack of differences may be in part due to the time span between application and harvest. Although ethephon causes earliness, there was time for even maturation among the treatments.

There were noticeably more green fruits in the untreated control bins than the ethephon treated bins. The visual differences were noticed in the field also.

The 4.0 quarts per acre ethephon treatment caused the fruits to be softer and perhaps over ripe. They possibly reached maturity too soon prior to harvest.

CONCLUSION:

Although trends for increasing yields were similar to earlier tests this year and prior years, actual differences were very small. Based on this year's evaluations, there does not appear to be any measurable benefit to using ethephon on this variety of processing red peppers under these cultural practices.

Table 1 – Bin Weights of Three Treatments of Red Peppers in Tons per Acre.

Treatment	-----Replication-----		Tons/Acre
	<u># 1</u>	<u># 2</u>	
Untreated Control	17.0	16.6	16.8
2.0 quarts/acre	18.9	17.7	18.3
4.0 quarts/acre	17.7		17.7



August 31, 2017 – Harvesting research plots



Aug 31, 2017 – Bins waiting to be weighed



Arranging bins to be loaded on trucks



August 31, 2017 – Loading trucks with bins of peppers