

Madera Broccoli Abstract

A Coriphol™ Broccoli Trial was performed by Lange Research and Consulting, Inc., a third-party agricultural research organization located in Fresno CA. The trial was located in Madera CA on Madera Loam soils with 1.05% organic matter. The broccoli variety used in the trial was Heritage, which is a typical variety used in the Central San Joaquin Valley.

10 treatments were replicated 6 times and arranged in a randomized complete block configuration for a total of 60 plots, each plot consisting of two rows of plants by 20 ft. Half of the treatments received 50% fertilizer and half of the treatments received 100% of the recommended fertilizer rates. Control treatments received 50% or 100% fertilizer rates with no Coriphol. Treatment plots received 50% or 100% of the recommended fertilizer rate each with increasing rates of Coriphol ranging from 0.04% to 0.17% solution concentration. Fertilizer and Coriphol were applied via subsurface drip irrigation. Approximately half-way through the trial each treatment plot was split into two 10 ft long subplots, with one subplot having received foliar applications of Coriphol at the same concentration as the drip diluted in water at 100 GPA. The other subplot continued with only drip applications. In total 4 drip applications and 3 foliar applications were made during the growing season.

Vigor assessments were performed twice during the growing season. GreenSeeker NDVI data was collected at the end of the season prior to harvest. Yield data was collected at the end of the season by harvesting each plot independently and sorting the heads by size. Heads in each size were counted and weighed. Broccoli vigor and NDVI data was inconclusive, however, yield data showed very positive results. When comparing the treatments that received Coriphol and 50% recommended fertilizer rates to control treatments with 100% fertilizer rates, the drip plus foliar applied plots showed a 20-23% increase in marketable head count. Based on data compiled from this trial it was shown that under normal conditions a grower who applies Coriphol via drip irrigation during planting then augments with foliar applications during the growing season may achieve significant increases in marketable head count compared to the 100% fertilizer rate control, even while using 50% less fertilizer.

A table showing the amount of Coriphol used per application when irrigating 0.25 acre inches is given below:

PLA Rate in Water	Gallons PLA Used When Irrigating 0.25 Acre Inches	
0.17%	11.31	Gallons PLA/acre/application
0.08%	5.66	Gallons PLA/acre/application
0.04%	2.26	Gallons PLA/acre/application