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## EFFECTS OF CORONA MASTER AND MAXIFRUIT ON GRAPE YIELD AND QUALITY

**RESEARCHER:**

Alexander Duffy  
Timac Agro USA

**SITE LOCATION:**

Finger Lakes Region, NY  
Aurora Grape Vineyard

**PURPOSE AND HYPOTHESIS:**

The purpose of this experiment was to test the application of Corona Master (8-27-0), Maxifruit, and the combination against an untreated section. Our hypothesis is the PRX Complex in Corona will help to increase nutrient absorption and lead to higher yields. The Maxifruit will lead to larger berry size and bunch elongation. The combination of the two products will have synergy and lead to larger yields than the products by themselves.

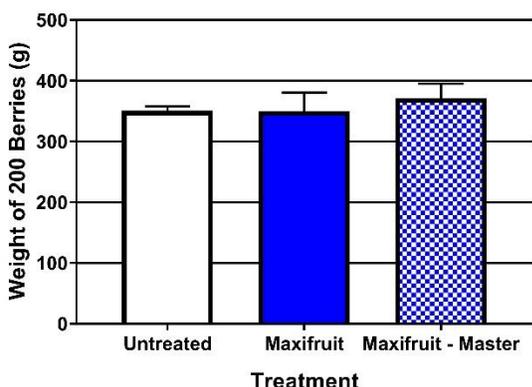
**APPLICATION:**

PRODUCT	ANALYSIS	RATE
Untreated	0-0-0	0 lb/ac
Maxifruit	3-7-7	2 qt/ac
Corona Master	8-27-0	4 lbs/ac (split)
Maxifruit and Master	Combination	2 qt/ac and 4 lbs/ac

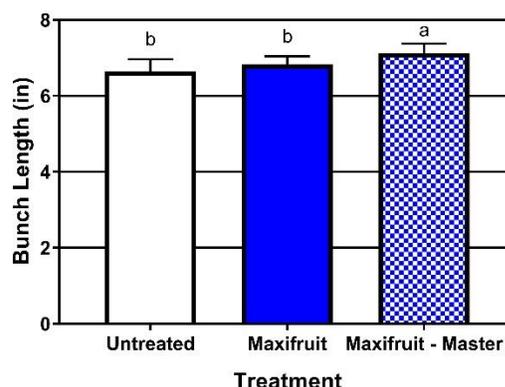
**HAND HARVEST RESULTS:**

Note: Unfortunately, the section of vineyard treated with Corona Master alone was previously harvested before our team could arrive and hand sample.

**Treatment Effect on Grape Berry Size at Harvest**



**Treatment Effect on Bunch Length at Harvest**



Graph 1 & 2: Graph 2 shows the average weight of 200 berries (20 from 10 bunches). The Maxifruit application had no effect on berry size. The Maxifruit + Master application did increase the berry size; however it was not significant. Graph 2

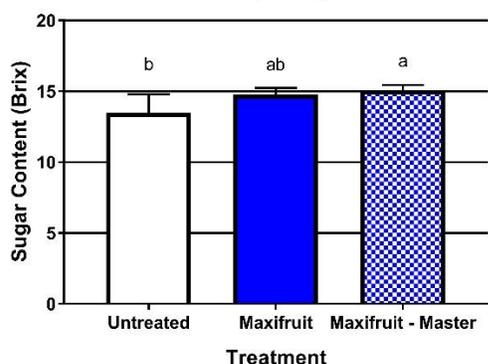


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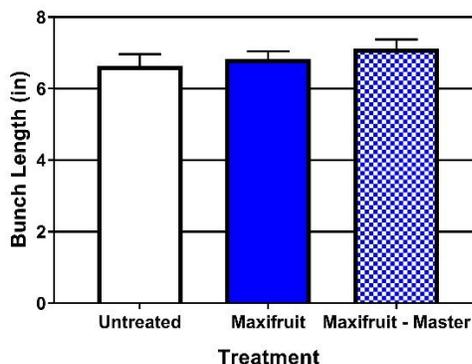


demonstrates the average length of the ten bunches in the 4 replications. Maxifruit slightly increased bunch length, and Maxifruit + Master demonstrated the largest increase. Maxifruit + Master did significantly ( $p$ -value  $<0.1$ ) increase bunch length compared to the other treatments.

**Treatment Effect on Grape Sugar Content at Harvest**



**Treatment Effect on Bunch Length at Harvest**



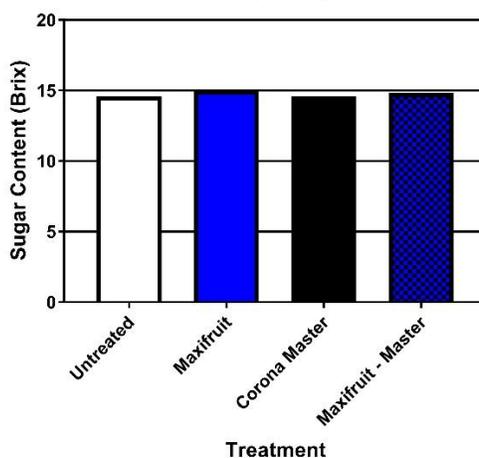
**Graph 3 & 4:** Graph 4 shows the brix measurement taken from the 200 berries. Maxifruit slightly increased the brix, and the combination significantly ( $p$ -value  $<0.1$ ) increased brix. Graph 5 shows the overall bunch weight at harvest. Maxifruit and the combination increased the bunch weight, it was not statistically significant.

**KEY FINDINGS FROM THE HAND HARVEST:**

A slight increase in berry size and a significant increase in bunch length was observed when the two products were used together. There were only slight increases in bunch length and a significant increase in overall brix. The two products worked best when combined.

**MACHINE HARVEST RESULTS**

**Treatment Effect on Grape Sugar Content at Harvest**



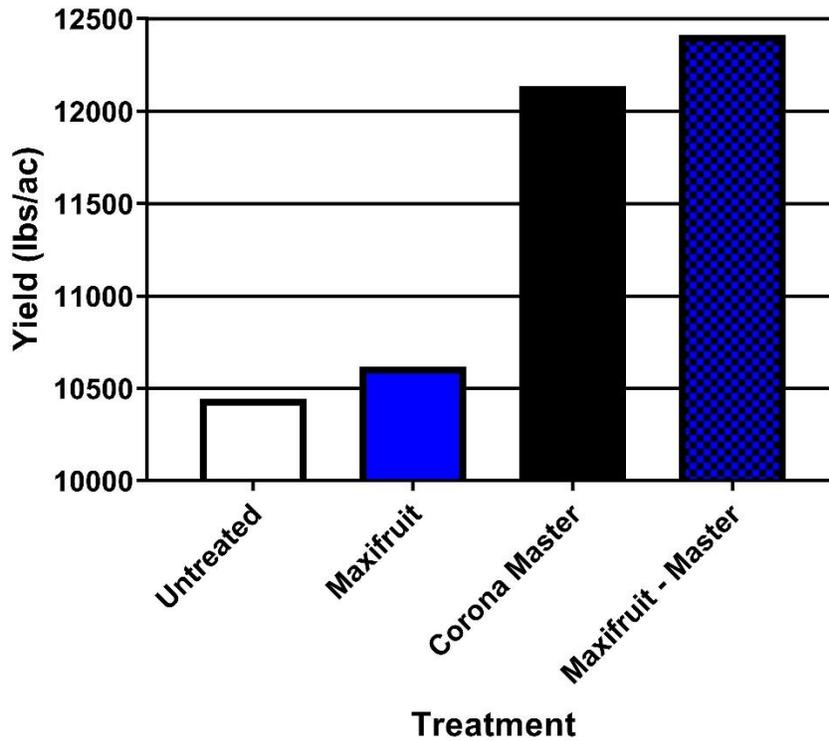
**Graph 5:** Treatment effects on sugar content at harvest. This was collected by taking a 2 L sample of grapes in the bin and extracting the juice. Brix were measured with a refractometer. Treatment had no effect on sugar content.



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**Treatment Effect on Grape Yield**



Graph 6: Final yield results in pounds per acre.

**KEY FINDINGS MACHINE HARVEST**

- The combination of the products did lead to synergy and increase yield more than the products individually.
- The products increased yields and did not influence harvest sugar content in harvest. In the hand sampled data, a significant increase in sugar content was overserved in the combination treatment.

**RETURN ON INVESTMENT TABLE:**

PRODUCT	APPLICATION	INCREASE (LBS)	RETURN (\$)
Untreated		0	0
Maxifruit	4 qt/ac	174	-47
Corona Master	4 lbs/ac	1,687	343
Maxifruit and Master	Combination	1,965	318

Assumptions: Grape price at time of trial = \$0.21/lb, Corona Master program costs 15 \$/acre, Maxifruit Program costs 84 \$/acre