

# Guarantee® Hi K

## Seaweed Extract

### Improves Yield and Cluster Dimensions in Table Grapes

#### Guarantee® Hi K Seaweed Extract Produces Increases in Table Grape:

- Yield
- Fruit size and bunch number
- Shoulder length
- Rachis length

#### CROP

Krissy, a relatively new table grape (Seehan Genetics), is a red seedless variety with mid-season maturity.

#### STUDY OBJECTIVES

- To evaluate Ocean Organics **Guarantee® Hi K** on grape yield compared to a grower standard.
- To measure impact on maturity and cluster dimensions.

#### RESULTS

Results are based on the report provided by Megan Townsend of Crop Matters. Note: ProGIBB® (applied at 5 fl oz/ac on May 30) and the fertility program were applied to all plots as a background grower standard. So the benefits achieved by treating with **Guarantee® Hi K** were completely additive to what was achieved by the grower standard program that included ProGibb.

Clusters were larger, longer and heavier than the grower standard; shoulder length increased by 47% and rachis length by 8%.

**Guarantee® Hi K increased yield by 24% and gross return by \$2,875 per acre.**

#### Yield and Gross Return Per Acre

According to the report, “yield was clearly higher for **Guarantee® Hi K**, a 24% improvement over untreated” (see Figure 1). Clusters from vines treated with **Guarantee® Hi K** were numerically heavier than the grower standard and bunch number was also higher (see Table 1).

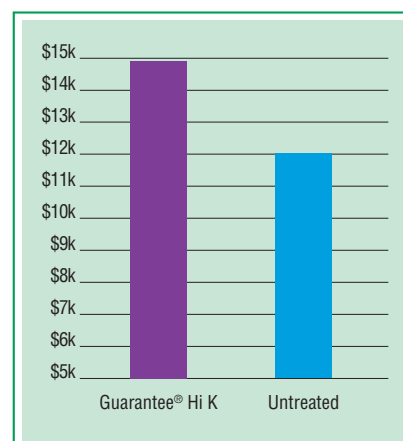


**Figure 1: Yield**  
Guarantee® Hi K increased table grape yield by 24% over the grower standard.

Higher yield resulted in a higher gross return per acre. Based on an average price of \$978 per ton for table grapes, gross return was very high (Figure 2). Plots treated with **Guarantee® Hi K** led to an increase of \$2,875 per acre. Subtracting an approximate product cost (4 applications) of \$56 per acre, the net return would be \$2819 per acre.

#### Cluster Dimensions

**Guarantee® Hi K** was successful in increasing cluster dimensions compared to the grower standard. Clusters treated with **Guarantee® Hi K** were larger and longer than the grower standard. Bunches treated with **Guarantee® Hi K** had statistically longer cluster shoulder length and numerically longer rachises than untreated (Table 2).



**Figure 2: Gross Return per Acre**  
Plots treated with **Guarantee® Hi K** led to an increase in gross return of \$2,875 per acre.

| Treatment       | Individual Bunch Weight (oz) | Bunches Per 2 Vines | Yield (ton/ac) |
|-----------------|------------------------------|---------------------|----------------|
| Guarantee® Hi K | 13.6 a                       | 179.8 a             | 15.2 a         |
| Untreated       | 12.0 a                       | 158.8 a             | 12.3 a         |

**Table 1:** Guarantee® Hi K increased bunch weight, bunch number, and yield.

## Color

At harvest, berries were well colored on most clusters (Table 2). On average, both **Guarantee® Hi K** and untreated clusters rated at 91% well-colored berries (Figure 4), with treated clusters only slightly more well-colored.

## Vigor

Visual differences in vine growth between the seaweed treatment and the grower standard were not obvious or consistent. Using a 1-5 scale to rate plant vigor at veraison, all treatment plots received 3.0, the same as the untreated standard.

## LOCATION/SCIENTISTS

Selma, CA

**Investigator:** Megan Townsend, Crop Matters

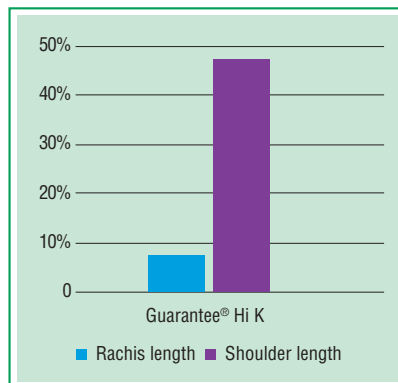
**Study Director:** Sarah Williams, Ph.D., Ocean Organics

## STUDY DESIGN

This trial measured the impact of **Guarantee® Hi K** on yield, maturity and cluster dimensions. Treatments were replicated four times and arranged in a randomized complete block design. The study was overlaid on the grower standard. Four total applications of **Guarantee® Hi K** were made. One soil application was made at 3" shoot growth at a rate of 1 qt/acre (applied to soil directly underneath each emitter with high water volume to simulate drip application). Three foliar applications followed at a rate of 2 qt/acre on April 27 (21" shoot growth), May 27 (berry sizing), and June 13 (berry sizing). Foliar applications were made with a backpack mist blower. Spray volume was 50 gal/acre for the first application, and 150 gal/acre for the remaining applications.

| Treatment       | Shoulder length (in) | Rachis length (in) | % Well-Colored Berries |
|-----------------|----------------------|--------------------|------------------------|
| Guarantee® Hi K | 1.9 ab               | 5.4 a              | 90.8 b                 |
| Untreated       | 1.3 b                | 5.0 a              | 90.5 b                 |

**Table 2:** Guarantee® Hi K increased shoulder and rachis length.



**Figure 3: Cluster Dimension Increase Relative to Untreated** Bunches treated with Guarantee Hi K led to 8% increase in rachis length and 47% increase in shoulder length compared to untreated.



**Figure 4:** Clusters were larger, longer, and heavier in the treated vines. Photo: Megan Townsend, Crop Matters, 8/14/19.

**Guarantee® Hi K  
is Approved  
for Organic Use.**

The center two vines per plot were hand harvested August 14-15, 2019 and the total yield was weighed. Ten bunches per plot were randomly selected, individually weighed, and the bunch length and rachis length were measured on each. Each bunch was assigned a color rating – percent of berries with marketable color.

All pest management and fertility additions were made by the collaborating grower in accordance with standard practices. ProGIBB (applied at 5 fl oz/acre on May 30) and the fertility program were applied to all plots as a background grower standard.

## CONCLUSION

A program that included four applications of **Guarantee® Hi K** improved yield, gross return, bunch weight, bunch number,

shoulder length and rachis length in table grapes. Note that ProGIBB (applied at 5 fl oz/acre on May 30) and the fertility program were applied to all plots as a background grower standard. So the benefits achieved by treating with **Guarantee® Hi K** were completely additive to what was achieved by the grower standard program.

From the report provided by Megan Townsend of Crop Matters: "**Guarantee® Hi K** increased cluster shoulder length (statistically) and rachis length (numerically) relative to untreated. Bunches in the **Guarantee® Hi K** treatment were also numerically heavier, and there were more bunches per vine. Overall, these factors combined to result in [Guarantee Hi K] improving yield over untreated by 24%."

Ocean Organics has been processing seaweed and formulating fertilizers for over 40 years. Our innovative processing technology yields products richer than others yet with fewer solids and lower viscosity. This means our extracts can be used with a broader range of materials with better blending, mixing and stability characteristics. Our seaweed-based fertilizers, plant health materials and soil conditioners lead the industry in quality, effectiveness, cost efficiency and environmental sustainability.



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