Ocean Organics®

Guarantee® Hi K

Seaweed Extract

Increases Yield in Chip Potatoes in Two-Year Field Trial

Guarantee® Hi K Increased Total Yield by:

- **16% in Year 1**
- **20% in Year 2**

STUDY OBJECTIVE

To evaluate the effect of Ocean Organics **Guarantee® Hi K** on chip potato yield compared to a grower standard.

LOCATION/SCIENTISTS

Location: North Carolina

Investigator: Robert Schafer, Mid-Michigan Agronomy

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

CROP

Crop Name: Potato

Crop Scientific Name: *Solanum tuberos*

2023 Crop Variety: FL1867 (chip potato)

2024 Crop Variety: Snowden (chip potato)

RESULTS

Results in this summary are based on the report by Robert Schafer of Mid-Michigan Agronomy. Total yield numbers are the sum of the yields of small and large potatoes.

2023 RESULTS

Yield

Guarantee® Hi K numerically increased total potato yield by 16% (Figure 1, Table 1) in 2023. Yield of large potatoes was numerically increased by 5%, while yield of small potatoes was statistically increased by 44%.

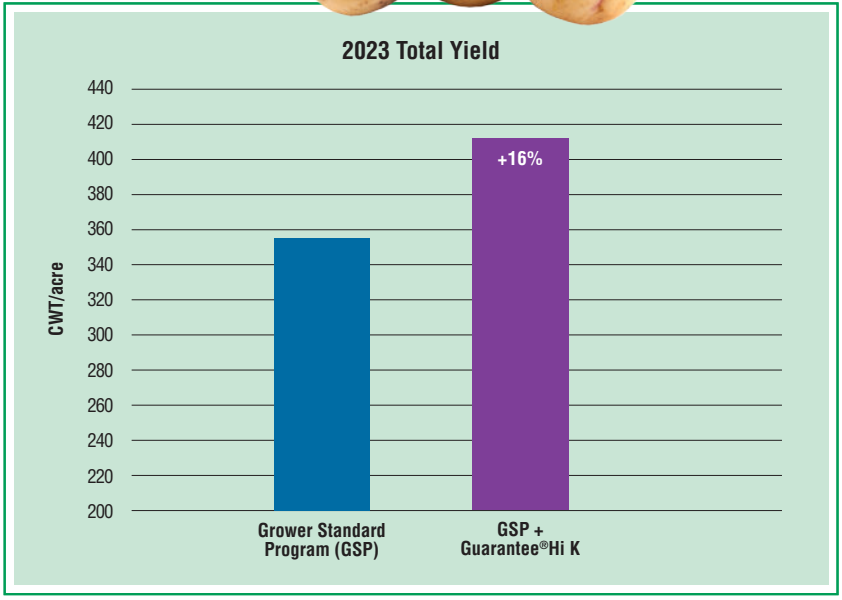

Figure 1: Guarantee® Hi K increased total potato yield by 16% in 2023.

Table 1: In 2023, **Guarantee® Hi K** increased yield of large potatoes by 5%, yield of small potatoes statistically by 44%, and total yield by 16%.

Yield

	Yield of Large Potatoes (CWT/acre)	*Yield of Small Potatoes (CWT/acre)*	*Total Yield (CWT/acre)*
Grower Standard Program (GSP)	257	98.3 b	355.4
GSP + Guarantee®Hi K	270.6	141.1 a	411.8

2024 RESULTS

Yield

Guarantee® Hi K statistically increased total yield by 20% (Figure 2, Table 2) in 2024. Yield of large potatoes was statistically increased by 36%.

METHODS

These field trials took place in North Carolina and were initiated in March of 2023 and 2024. The Grower Standard Program consisted of the products in Table 3. **Guarantee® Hi K** was applied on top of the Grower Standard Program three times via foliar applications: first at hooking followed by two additional applications 14 days apart. Product was applied at the same time as a fungicide spray. Yield was measured at the end of June for both trial years.

The researcher considered large potatoes 1.5 inches or larger, small potatoes as below 1.5 inches. Potatoes smaller than 0.75 inches were not harvestable.

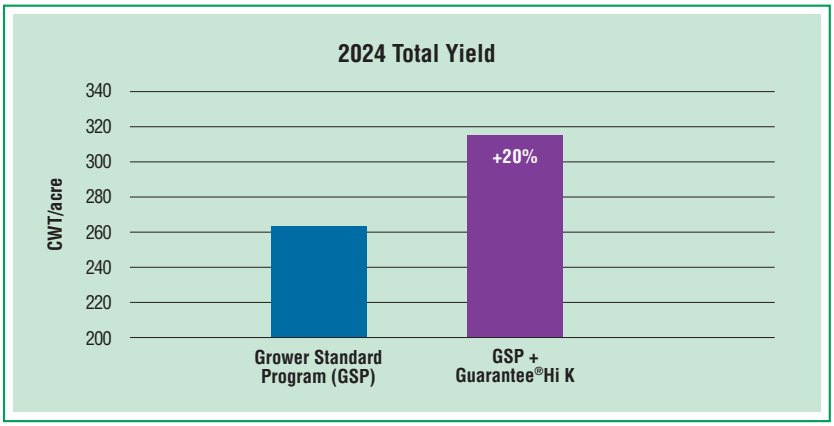

Figure 2: Guarantee® Hi K statistically increased total potato yield by 20% in 2024.

Table 2: In 2024, **Guarantee® Hi K** statistically increased yield of large potatoes by 36% and total yield by 20%.

Yield			
	Yield of Large Potatoes (CWT/acre)	*Yield of Small Potatoes (CWT/acre)*	*Total Yield (CWT/acre)*
Grower Standard Program (GSP)	173.1 b	87.0	262.3 b
GSP + Guarantee®Hi K	235 a	79.3	315.8 a

CONCLUSION

This two-year field trial showed that **Guarantee® Hi K** consistently increased yield in chip potatoes with a 16% total yield increase in the first year and 20% total yield increase in the second year.

In 2023, **Guarantee® Hi K** increased yield of large potatoes by 5%, yield of small potatoes by 44% (statistically), and total yield by 16%. In 2024, **Guarantee® Hi K** statistically increased yield of large potatoes by 36% and total yield by 20%. In 2024, the growing conditions were challenging and included both drought conditions and intense heat stress. Improved yield under these conditions was especially noteworthy.

Table 3: The Grower Standard Program + **Guarantee® Hi K** consisted of the following products, rates and timings (Grower Standard Program alone is in purple).

Treatment	Rate	Rate Unit	Application Code	Application Description
DAP	135	lb/a	A	A = preplant
Urea	350.5	lb/a	A	A = preplant
Sulphate of Potash (Kg/K)	300	lb/a	A	A = preplant
Ammonium Polyphosphate	117	lb/a	B	B = at planting
Muriate of Potash 0-0-60	265	lb/a	C	C = sidedress 4 weeks after planting
Guarantee®Hi K	2	qt/a	D	D = at hooking, two additional foliar applications

Ocean Organics has been processing seaweed and formulating fertilizers for over 45 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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