

Improves Red Fruit Color and BRIX in Gala and Jonagold Apples

CROP

Gala (Tenroy) and Jonagold apples

STUDY OBJECTIVES

- To evaluate pre-harvest Ocean Organics seaweed programs on apples
- To measure impact on fruit color, firmness, BRIX and fruit drop
- To compare a low solids Ocean Organics seaweed to a higher solids Ocean Organics seaweed

LOCATION/SCIENTISTS

Ontario, NY

Investigator: Jeff Alicandro,

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

DATA COLLECTED

Measured the impact of Ocean Organics Guarantee® Seaweed Extract on fruit color, firmness, BRIX and fruit drop of two apple varieties. Ocean Organics seaweed treatments were compared to an untreated control (UTC).

OCEAN ORGANICS TREATMENTS AND RESULTS

Ocean Organics seaweed treatments were applied at 3 pints/acre. Two pre-harvest foliar applications were made. A low and a higher solids (HS) version of Guarantee® were tested. For Gala apples, seaweed was applied on 8/15/15 and 9/2/15. For Jonagold apples, seaweed was applied on 9/7/15 and 9/20/15. ReTain® PGR was also applied to both the treatments and untreated controls at 0.37 lbs ReTain/acre, on 9/02/15 (for Gala) and 9/20/15 (for Jonagold).

Gala Results

- “Red fruit color development was improved in both treatments vs. the UTC.”
- “Soluble solids levels were improved by both Ocean Organics treatments.”
- Applications of both low and higher solids seaweed extracts improved red fruit color and soluble solids. Little difference was measured between the two Ocean Organics treatments. This indicates that solids do not play a role in the mode of action of the seaweed extracts.

2015 *agr.assistance* Evaluations on Gala Apples

variety: Gala (Tenroy); **harvest date:** 9/26/15; **location:** Ontario, NY; **age:** 15+ years;

rootstock: M26; **trees/acre:** 250; **2015 crop load:** moderate-800 bu/acre; **2015 fruit size:** good

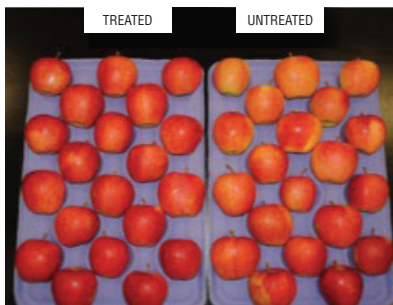
2015 pre-harvest treatments Evaluation date: Sept. 26	Fruit color evaluation at harvest % of fruit (by fruit number) with:				Fruit soluble solid levels
	less than 50% red color	between 50-75% red color	greater than 75% red color	total greater than 50% red color	BRIX level
1 UTC (Untreated Control)	39.00	38.75	22.25	61.00	12.10
2 Ocean Organics Guarantee®	21.25	45.75	33.00	78.75	12.68
3 Ocean Organics Guarantee® (HS)	23.75	42.00	34.25	76.25	12.53



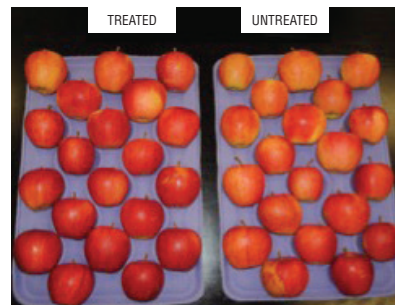
Guarantee® vs. UTC (1) - green side of fruit



Guarantee® (HS) vs. UTC (1) - green side of fruit



Guarantee® vs. UTC (1) - red side of fruit



Guarantee® (HS) vs. UTC (1) - red side of fruit

Continued

Over for Jonagold results

Jonagold Results

- “Jonagold red fruit color development was greatly improved in both treatments vs. the UTC.”
- “Soluble solids levels were improved by both Ocean Organic treatments.”
- Applications of both low and higher solids seaweed extracts improved red fruit color and soluble solids. Little difference was measured between the two Ocean Organics treatments. This indicates that solids do not play a role in the mode of action of the seaweed extracts.

2015 agr.assistance Evaluations on Jonagold Apples

variety: Jonagold; **harvest date:** 10/15/15; **location:** Ontario, NY; **age:** 15+ years;
rootstock: M26; **trees/acre:** 250; **2015 crop load:** high-1,200 bu/acre; **2015 fruit size:** VERY good

2015 pre-harvest treatments Evaluation date: Sept. 26	Fruit color evaluation at harvest % of fruit (by fruit number) with:				Fruit soluble solid levels at harvest
	less than 50% red color	between 50-75% red color	greater than 75% red color	total greater than 50% red color	BRIX level
1 UTC (Untreated Control)	22.00	49.25	28.75	78.00	12.30
2 Ocean Organics Guarantee®	12.75	22.00	65.25	87.25	12.65
3 Ocean Organics Guarantee® (HS)	13.75	25.50	60.75	86.25	12.68

ADDITIONAL RESULTS FOR BOTH GALA AND JONAGOLD

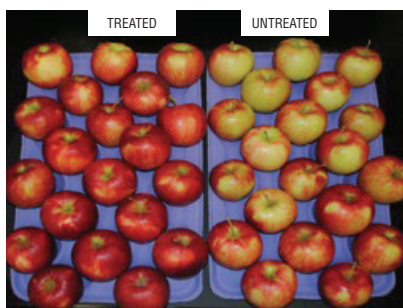
- Fruit size was good. No differences in fruit size between treatments.
- No phytotoxicity symptoms were observed.
- Fruit finish was very good and no differences were measured between the treatments.
- Pre-harvest fruit drop was not an issue in any treatments or the UTC.
- No bitterpit in Gala apples was observed at harvest. Very little bitterpit was observed in Jonagold apples.
- No differences in fruit firmness levels were observed at harvest.

Red fruit color development was improved in both treatments vs. the Untreated Control (UTC).

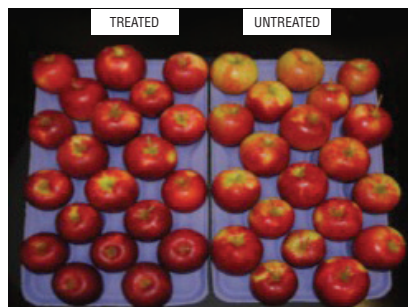
Soluble solids levels were improved by both Ocean Organics treatments.



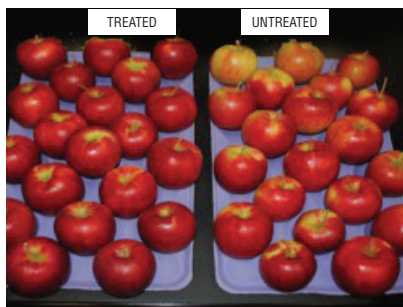
Guarantee® vs. UTC (1) - green side of fruit



Guarantee® (HS) vs. UTC (1) - green side of fruit



Guarantee® vs. UTC (1) - red side of fruit



Guarantee® (HS) vs. UTC (1) - red side of fruit

Ocean Organics is a manufacturer of high performance, scientifically proven seaplant-extract based biostimulants, plant growth materials and granular fertilizers. Our state-of-the-art products contain unique and proprietary constituents. Founded in 1977, we are the developers and manufacturers of the Emerald Isle foliar fertilizers and biostimulants, now owned and distributed to professional turf and ornamental markets by Lebanon Turf Products. Our materials have been tested in over 25 universities and independent laboratories.



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