



# Soil Nutrition

Adjust pH

Balance Ca, Mg, K and Na Ratios

Sufficient levels of available nutrients

Mark LaPierre



# Soil Monitoring

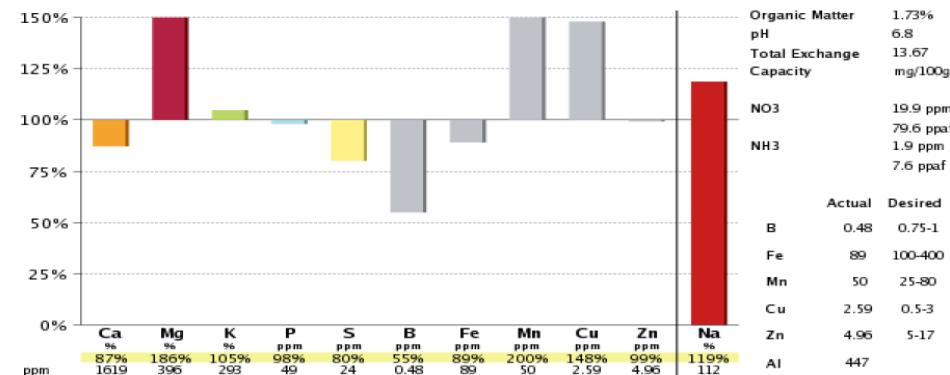
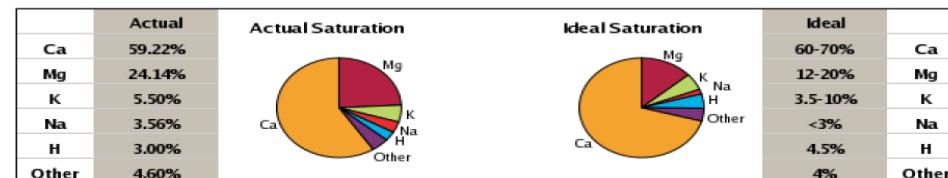
Two Types of Soil Samples

Complete Soil Analysis

Saturated Soil Analysis



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**COMPLETE SOIL****BASE SATURATION: KEY ELEMENTS****COMMENTS**

These numbers are to correct soil deficiencies only. Nutrient losses such as leaching or plant uptake should be considered when formulating maintenance programs.

Lbs per acre of Calcium deficient  
Lbs per acre of Magnesium deficient  
Lbs per acre of Potassium deficient  
Lbs per acre of Phosphorus deficient

960  
0  
0  
0

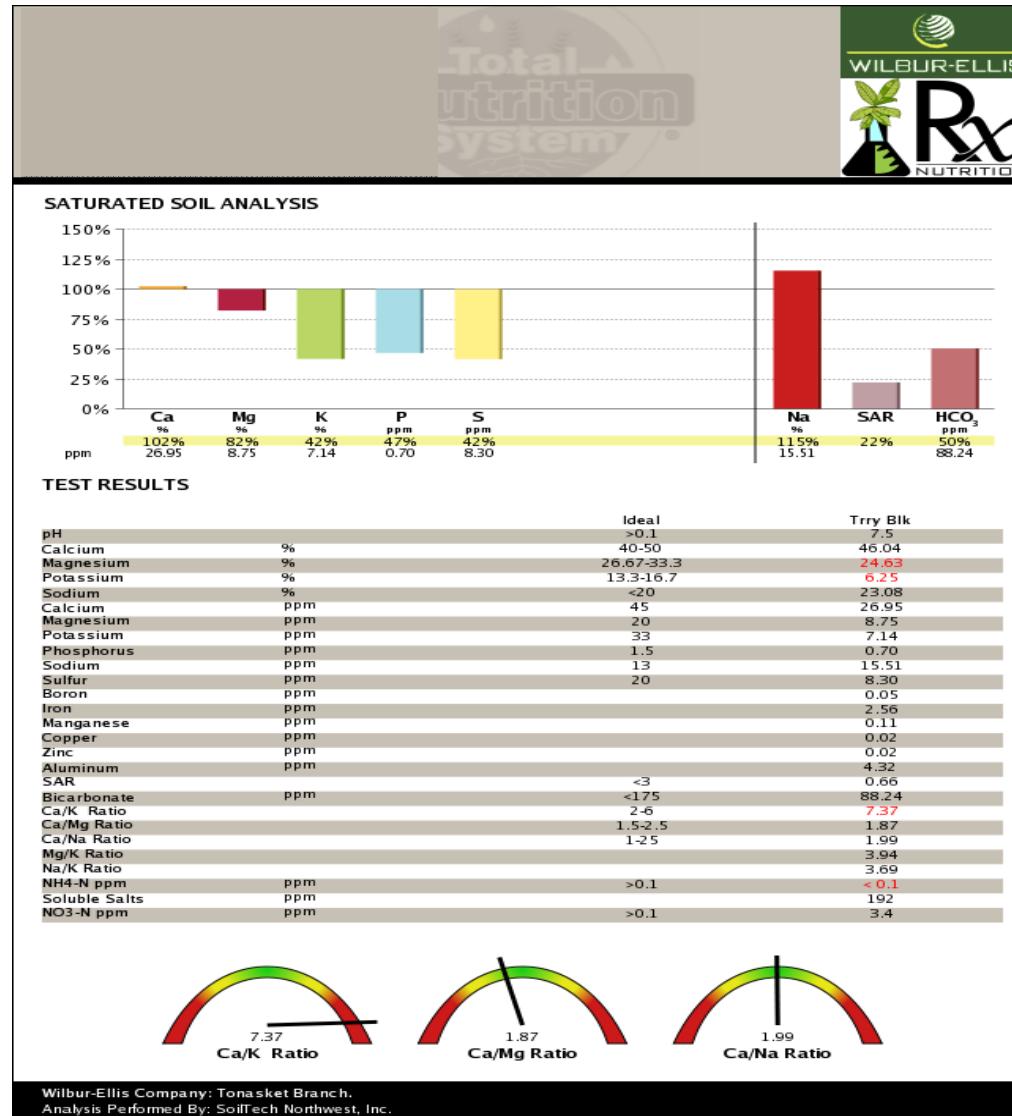
Wilbur-Ellis Company: Pasco Branch.  
Analysis Performed By: SoilTech Northwest, Inc.



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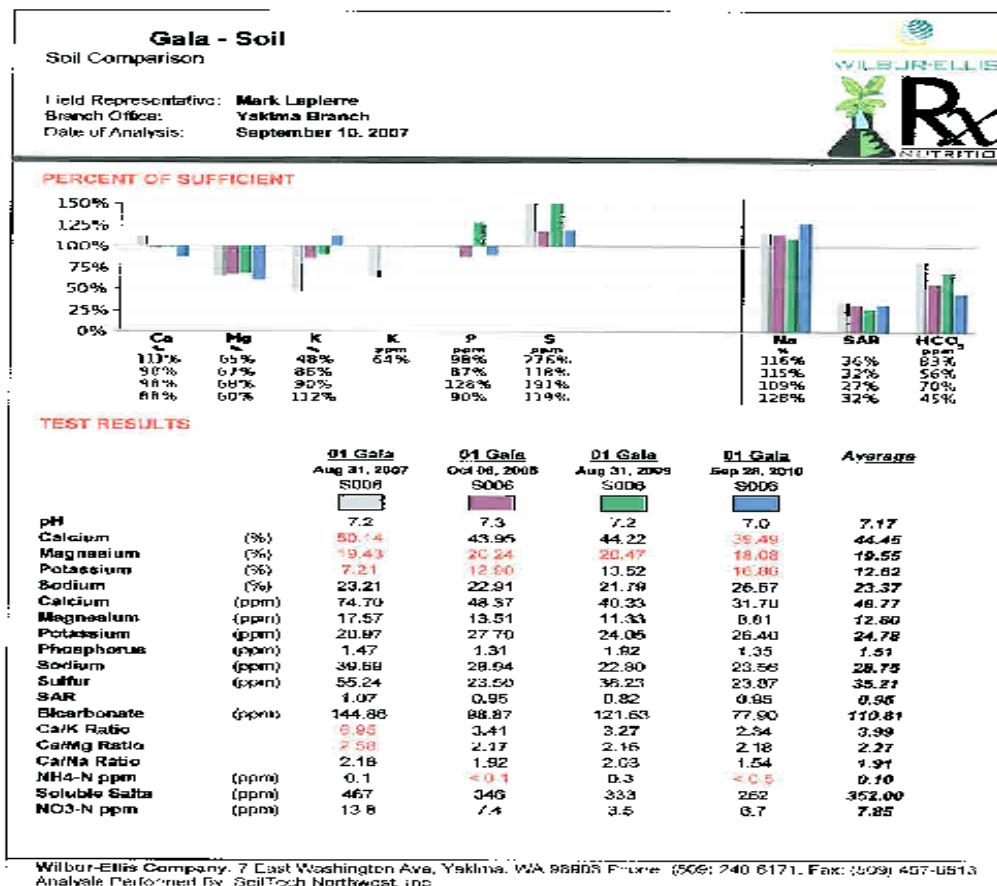
Consistent soil monitoring can be an important tool in understanding your soil



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## Analysis Comparison

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<http://www.wcco-tns.com/reports/comparison/24443-41918-54333-73406>

2/28/2011



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# Fruit Analysis

Links soil nutrition to fruit quality

Early fruit analysis

Fruit at harvest analysis



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**FRUIT ANALYSIS**

The chart displays the percentage of various nutrients compared to their ideal levels. The y-axis ranges from 0% to 150%. The x-axis lists nutrients: Ca, Mg, K, P, N, and B. The bars are color-coded: orange for Calcium (67%), dark red for Magnesium (77%), light green for Potassium (108%), light blue for Phosphorus (97%), dark green for Nitrogen (71%), and grey for Boron (190%).

Nutrient	Unit	Ideal	A&J Glnd
Calcium	mg/100g	4.2-6	3.429
Magnesium	mg/100g	4.5-6	4.059
Potassium	mg/100g	95-105	107.600
Phosphorus	mg/100g	10-12	10.650
Nitrogen	mg/100g	30-45	26.682
Boron	mg/100g	0.3	0.570
Iron	mg/100g		0.113
Manganese	mg/100g		0.100
Copper	mg/100g		0.095
Zinc	mg/100g		0.050
Molybdenum	mg/100g		0.020
N/Ca		<4	7.78
K/Ca			31.38
(Mg+K)/Ca		<28	32.56
Average Weight	grams		303.21
Moisture	%		85.24
Storage Index		24-32	40.34
Fruit Size	Per Box		64

**TEST RESULTS**

The first gauge chart shows the N/Ca ratio at 7.78, with a scale from 0 to 4. The second gauge chart shows the (Mg+K)/Ca ratio at 32.56, with a scale from 0 to 28.

The analytical information and "Storage Index" found on this report may be utilized as one of many tools in the Fruit Storage decision making process. Fruit storage decision makers should NOT RELY SOLELY on the "Storage Index" contained herein as a definitive guide as to how long fruit will store before encountering problems with quality. SolTech Northwest, Inc. and/or The Wilbur Ellis Company make no guarantee or claim as to the effectiveness of the "Storage Index" and its use, nor are they responsible for the results of storage decisions made based on the information contained herein or storage decisions made based on the way in which the information contained herein is presented.

Wilbur-Ellis Company: Yakima Branch.

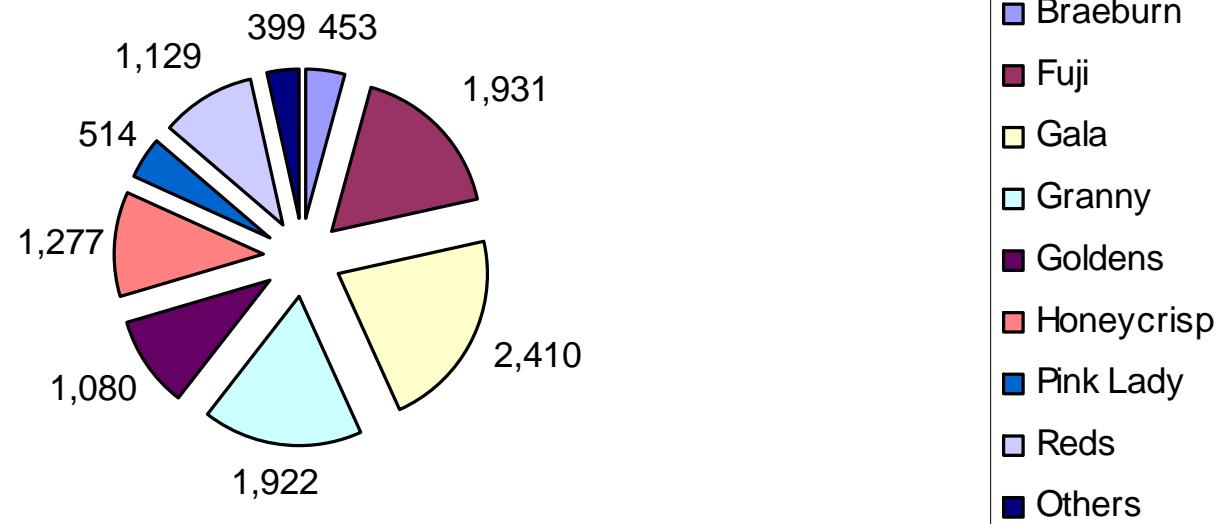
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## FRUIT DATABASE

Total of ALL Samples - Fruit Mineral Analysis Database - thru 2010



**11,115 Samples (Total)**



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Branch Office: **Yakima Branch**  
Date of Analysis: August 27, 2009

**FRUIT ANALYSIS**

The chart displays the following data:

Nutrient	Value	Percentage
Ca mg/100g	94%	94%
Mg mg/100g	75%	75%
K mg/100g	64%	64%
P mg/100g	67%	67%
N mg/100g	42%	42%
B mg/100g	72%	72%

**TEST RESULTS**

	Ideal	Gbnns A3 15-16
Calcium mg/100g	3.2-5.5	4.341
Magnesium mg/100g	4.5-6	3.958
Potassium mg/100g	95-105	64.460
Phosphorus mg/100g	10-12	7.392
Nitrogen mg/100g	30-45	15.779
Boron mg/100g	0.3	0.216
Iron mg/100g		0.100
Manganese mg/100g		0.100
Copper mg/100g		0.050
Zinc mg/100g		0.050
Molybdenum mg/100g		0.020
N/Ca	<5.5	3.63
K/Ca		14.85
(Mg+K)/Ca	<28	15.76
Average Weight grams		159.91
Moisture %		85.64
<b>Storage Index</b>	24-32	19.40
Fruit Size Per Box		113

**Storage Index** (highlighted with a pink oval and arrow)

The charts show the following values:

- N/Ca: 3.63
- (Mg+K)/Ca: 15.76

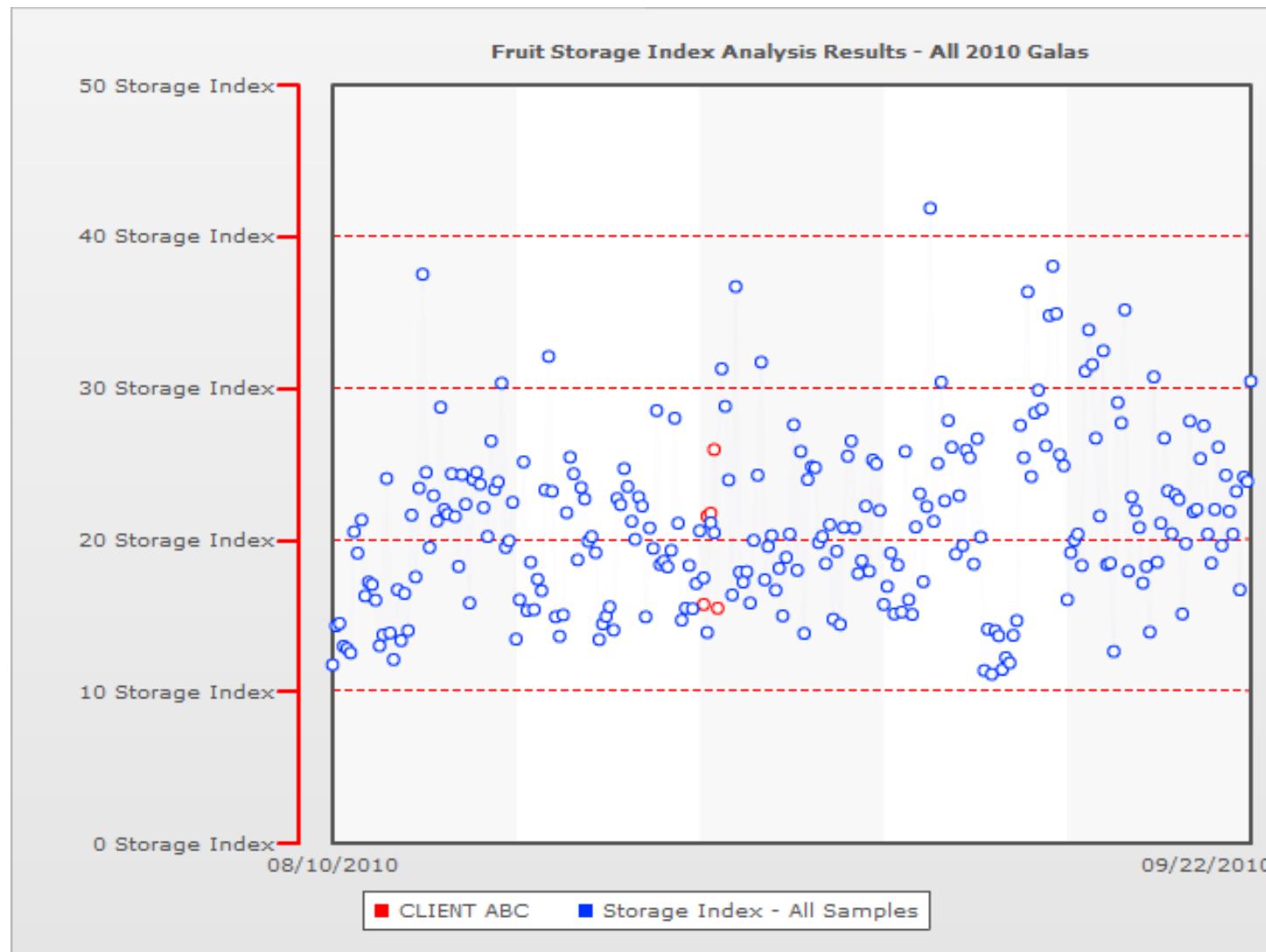
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**Wilbur-Ellis Company: Yakima Branch.  
Analysis Performed By: SolTech Northwest, Inc.**

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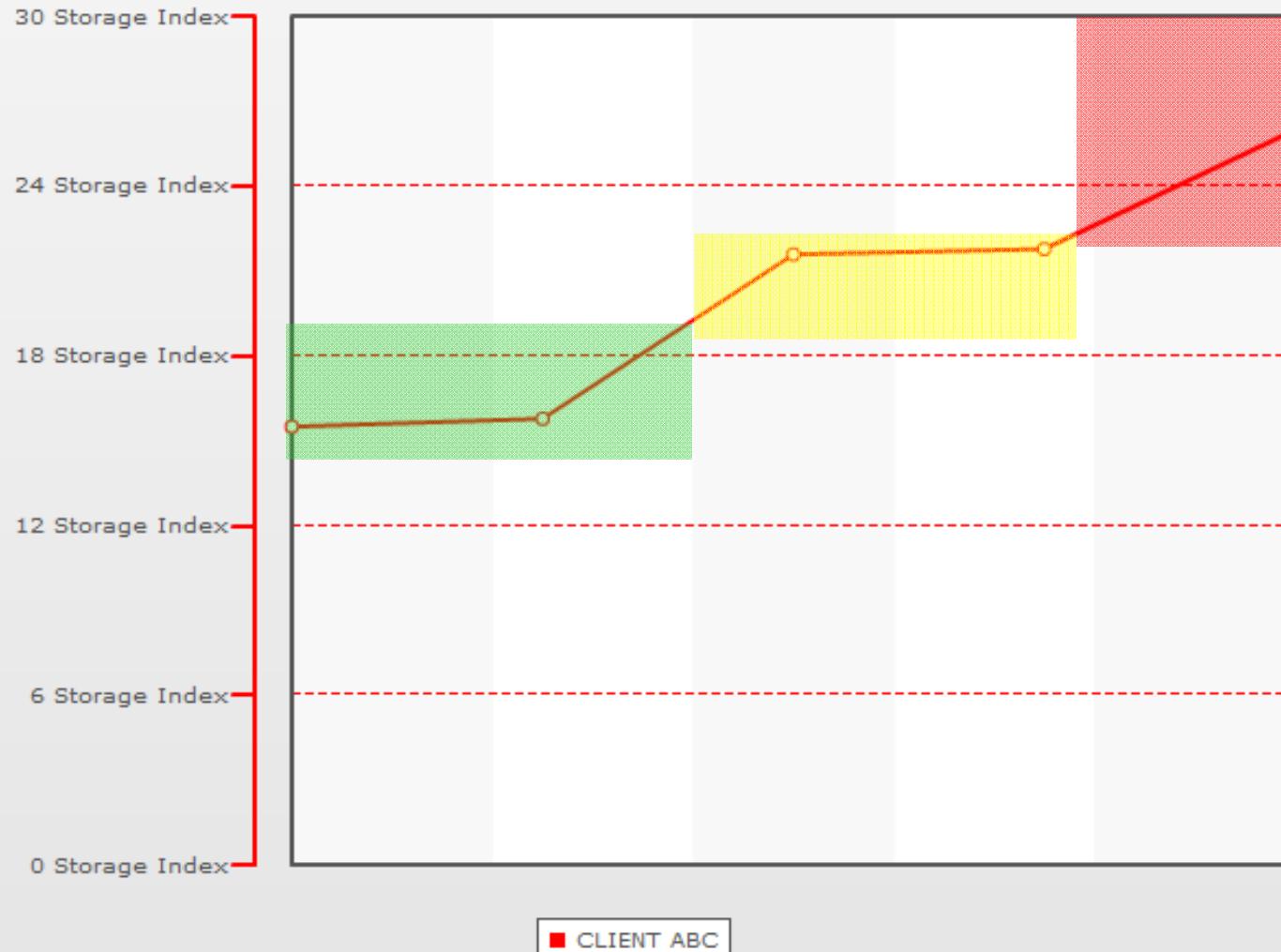
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#### Fruit Storage Index Analysis Results - 2010 Galas Client ABC

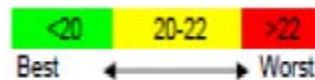




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CLIENT ABC @ Harvest- "Storage Index" Information

SI Rank	Client	Description	Variety	Avg. Weight	Mg/100g					SI
					Ca	K	Mg	N	P	
1	Client ABC	Block A	Gala	212.27	8.87	104.10	6.10	27.15	9.19	15.49
2	Client ABC	Block B	Gala	205.27	8.82	103.10	6.82	25.99	8.87	15.76
3	Client ABC	Block C	Gala	207.53	6.90	109.10	6.65	33.27	7.86	21.58
4	Client ABC	Block D	Gala	181.26	7.73	126.00	6.73	35.56	11.03	21.77
5	Client ABC	Block F	Gala	208.43	6.52	129.10	6.87	33.36	8.95	25.97



# Soil Biology

Difficult to measure and understand

We continue to learn in Organic Production

Area of increased interest in conventional systems