



Freshness Baseline Study

Sample Report

Freshness Baseline Overview and Goal

Why Baseline a Product?

- You are experiencing some level of waste and markdowns, and can not isolate the cause.
 - Often “the tip of the iceberg” as consumers will see even more waste
- You assume all product harvested on the same day, or delivered in the same load, has the same shelf life (industry assumption, re-enforced by date labels) – but that’s not correct.
- The baseline study measures the variability in delivered shelf life for a product, Identifies the primary cause(s) of the variability, and compares the measured shelf life to your freshness requirements (shelf life required to ensure a good customer experience).



Baseline Goal:

Document the variability in shelf life for a selected produce item at DC receiving and identify the actions needed to improve shelf life consistency using the Zest Fresh Solution.

Freshness Baseline Background

Baseline Background:

- Products age at a different rates (e.g. lettuce, strawberries, grapes, etc.).
- Products may have a different maximum potential shelf-life (Freshness Capacity).
 - Specific to grower variety, location, and micro-climate
- Each delivered pallet of product may have variations due to:
 - harvest conditions
 - product quality at harvest
 - post-harvest product processing and handling
- A baseline study measures the shelf life variability, identifies the root causes of the variability and provides corrective actions to improve shelf life consistency.



Zest Fresh Solution

- Each pallet is tracked with a dynamic freshness metric – the ZIPR code.
- By managing the pallet according to the ZIPR code metric, Zest Fresh provides:
 - Improved product margin by reducing shrink
 - Consistent shelf life for store and customer use



Fresh Baseline Process

The first step in the Fresh Baseline process is to identify product categories based on their waste, mark-downs and volume.

- For each product category, determine the retail and consumer required shelf life (Freshness Requirements). Once the product categories are identified, the Fresh Baseline process begins.
- Samples are taken from each received load, one sample per pallet, and held at the DC (at the product's normal storage temperature) where the samples undergo daily QC evaluations by Zest Labs' personnel. Each QC evaluation of the samples measures visual and other quality parameters that are specific to the product and are used to determine the sample's end-of-life and the amount of shelf life variability for each product.



If the baseline results show shelf life variability and the product shelf life does not meet the retail and consumer Freshness Requirements, then Zest Fresh can be used to determine the root cause of the variability and identify areas where corrective actions can be implemented to improve the consistency of the product shelf life.



Freshness Baseline Summary Results for Grapes

Summary of Results

Sample remaining shelf life varied from 3 to 19 days across all shipments.

Sample remaining shelf life varied by as much as 10 days within a shipment.

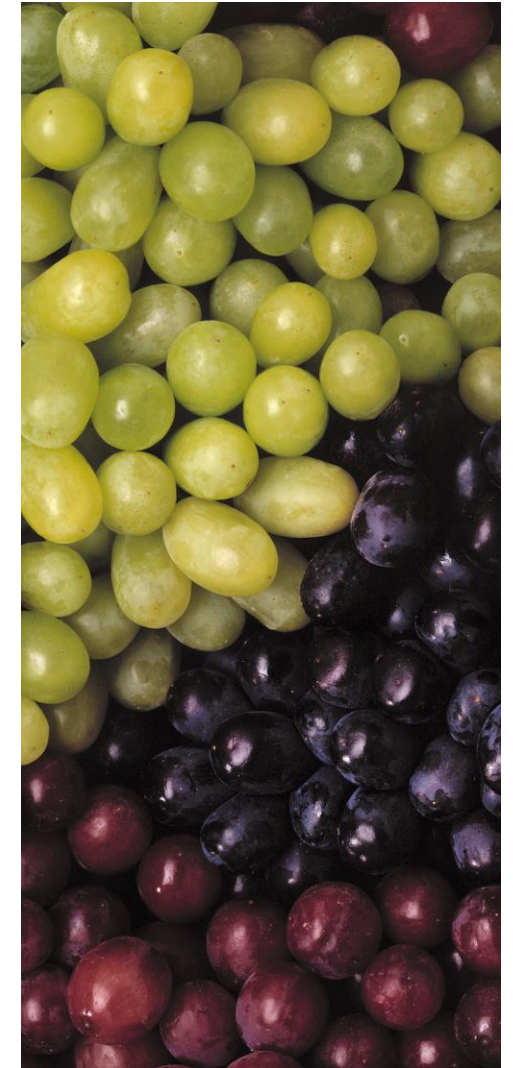
48.8% of the samples meet or exceed a Freshness Requirement of 11 days,

- **51.2% did not meet** the Freshness Requirement

Of the 51.2% that did not meet freshness requirements

- 11.0% results in waste at DC or store
- 40.3% results in early End-of-Life (less than 4 days) for the consumer

Note: Baselines can be prepared for most any perishable product. Grapes are just one example.



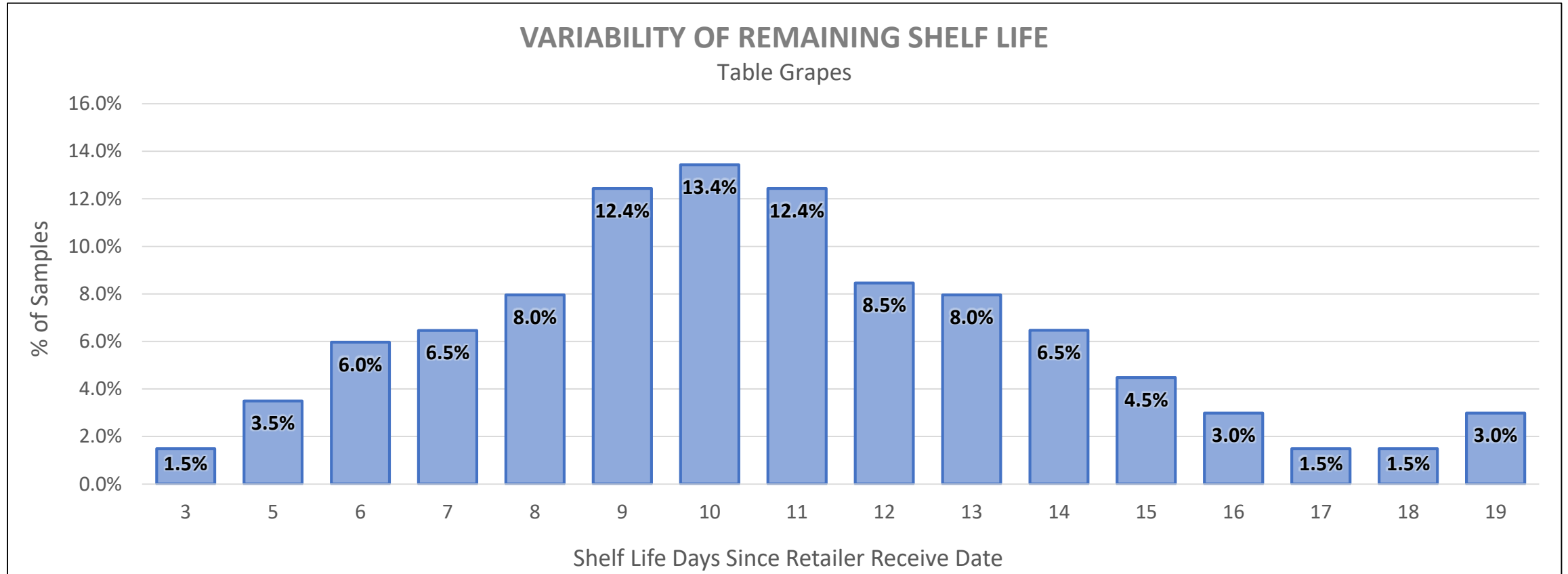
Freshness Baseline Results for Baseline Grapes

| Baseline Summary | |
|----------------------------------------------------|-------------------|
| Baseline Location | Midwest US DC |
| Sample collection period | 9/21 – 11/10/2017 |
| Total Samples Evaluated | 122 |
| Minimum Measured Remaining Shelf Life ¹ | 3.0 Days |
| Maximum Measured Remaining Shelf Life ¹ | 19.0 Days |
| Average Measured Remaining Shelf Life ¹ | 11.6 Days |

Note:

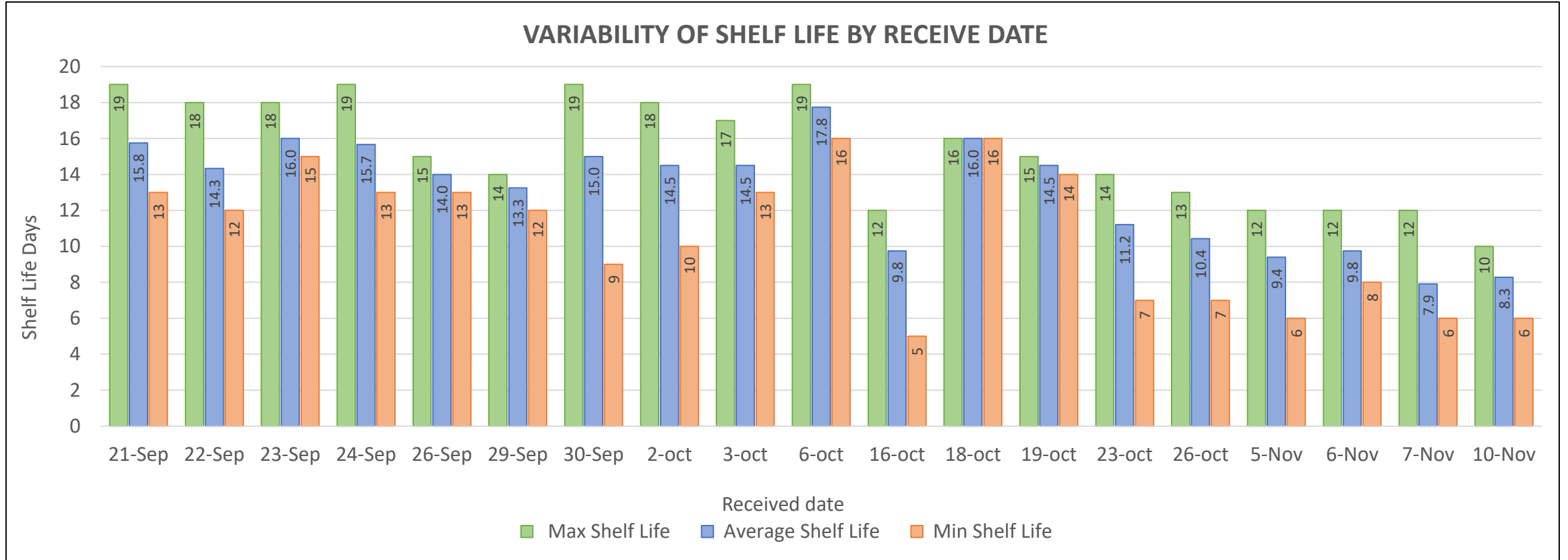
1. Sample remaining shelf life is based on an End-Of-Life (EOL) assessment where more than 30 grapes are soft or very soft, or exhibit severe shriveling or decay. Remaining shelf life is measured from sample's shipment DC receive date to sample EOL.

Baseline Grapes: Variability of Remaining Shelf Life



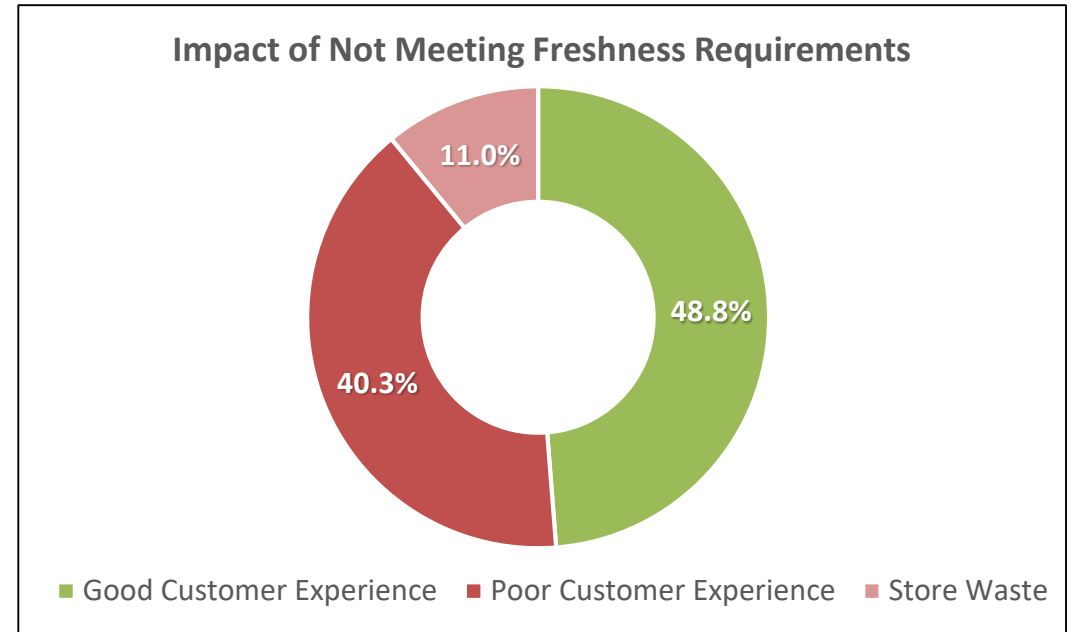
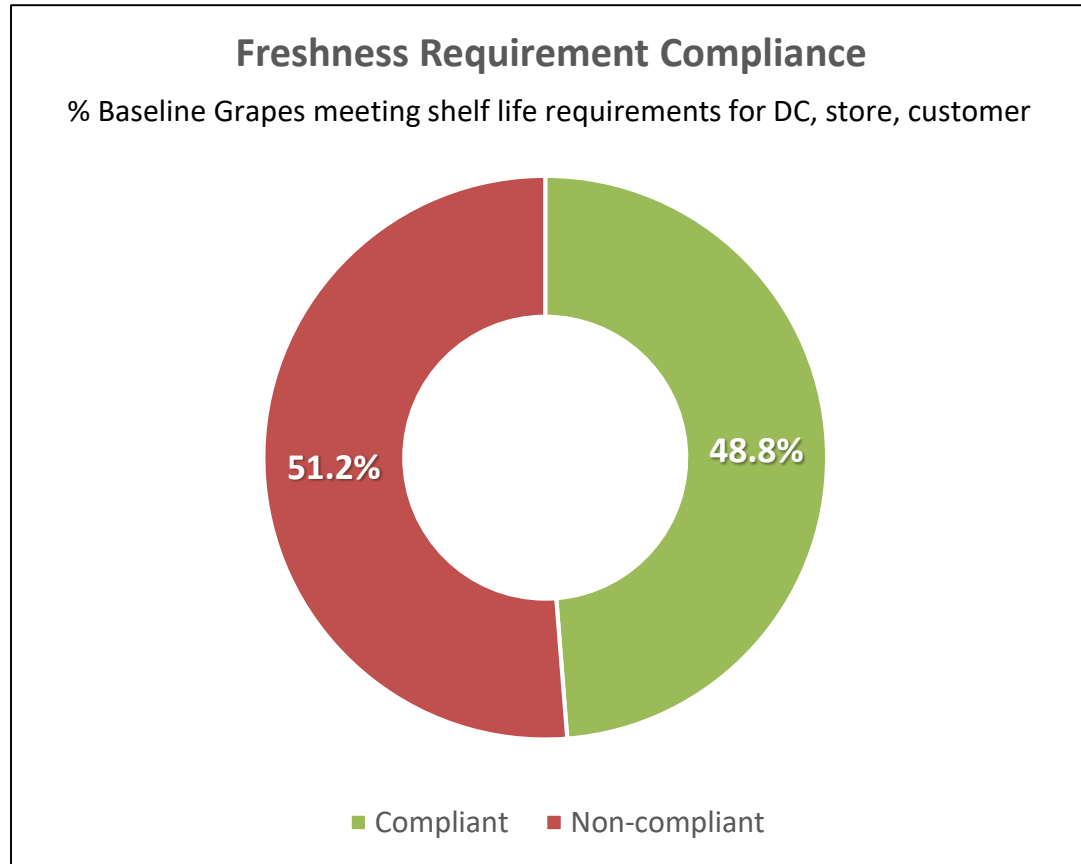
Summary: Sample remaining shelf life varied from 3 to 19 days across all shipments.

Shelf Life Variability Within a Shipment



Summary: Sample remaining shelf life varied by as much as 10 days within a shipment.

Freshness Requirement Compliance



Freshness Requirement: 11 Days

Distribution Center: 4 Days
Store Transit: 1 Day
Store: 2 Days
Customer: 4 Days

Summary:

- 48.8% of the samples meet or exceed a Freshness Requirement of 11 days, 51.2% do not meet the Freshness Requirement.
- Of the 51.2%, 11.0% result in waste at DC or store, 40.3% results in early EOL (less than 4 days) for the consumer.

Interested in a Baseline Study for Your Produce?

If you're interested in a Baseline Study, please contact us at:

- info@zestlabs.com
- 1 408 200 6527

We'll be happy to discuss how Zest Fresh can help you improve product margin, delivered freshness, and customer satisfaction.





www.zestlabs.com

info@zestlabs.com