

QUALITY INSPECTION GUIDELINES

PROTOCOL V2.0

Global Fruit & Vegetable Trade Standards // 2026 Operational Framework

1. Physical Assessment Standards

1.1 Climate-Resilient Grading (Class I-B)

Inspectors must differentiate between **Progressive Defects** (e.g., active decay, mold) and **Stable Defects** (e.g., heat-induced skin russeting, minor scarring). Stable defects are permitted in Class I-B provided they affect < 10% of the surface area and do not compromise internal structure.

1.2 Maturity & Firmness Testing

Standardized pressure testing using calibrated penetrometers is mandatory. Brix levels must meet the minimum threshold specified in the *Commodity Annex* for "Ready-to-Eat" certification.

2. Digital Verification & Cold Chain

Critical Threshold: Any shipment where $\Delta T > 2^{\circ}\text{C}$ for a continuous period of $t > 30 \text{ min}$ requires a mandatory 100% carton inspection for shelf-life degradation.

Verification must be synchronized with the **Secure B2B Ledger**. Data from on-board IoT sensors must be cross-referenced with the physical condition of the produce at the point of discharge.

3. Acceptance / Rejection Matrix

Defect Category	Critical (%)	Minor (%)	Action Protocol
Decay / Mold	< 1.0%	< 3.0%	Immediate Lot Rejection
Mechanical Damage	< 3.0%	< 7.0%	Automated Credit Note
Sizing Variance	< 5.0%	< 10.0%	Inventory Re-classification
Climate Blemishes	N/A	< 15.0%	Class I-B Acceptance

4. Evidence Requirements for Disputes

For any claim to be processed via the **Produce Portal**, the following digital evidence is required:

- **GS1 Scan:** High-res photo of the QR pallet label.
- **Thermal Log:** Exported data from the IoT gateway.
- **Visual Proof:** Minimum of 5 geo-tagged photos highlighting the variance.