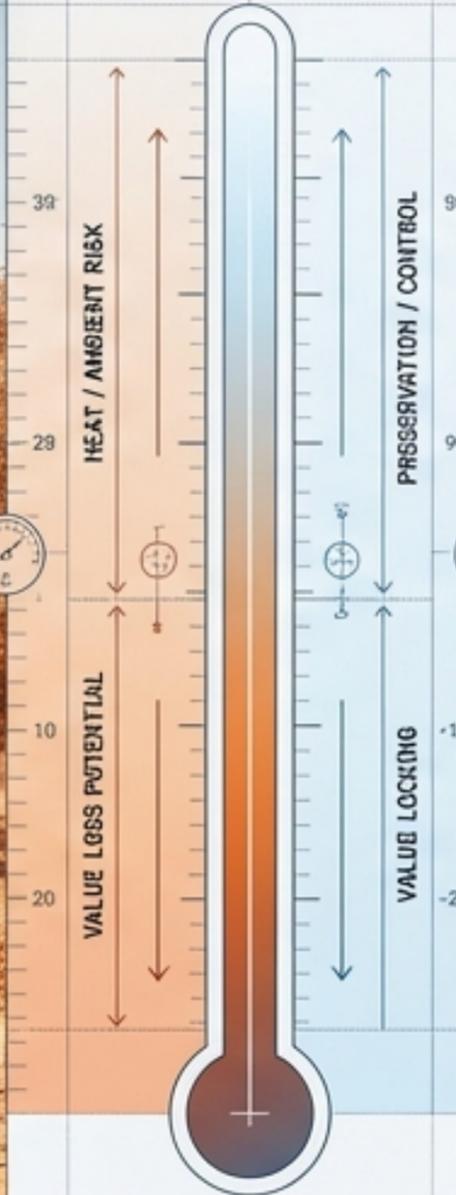


The Strategic Asset: How Cold Storage Transforms California Agriculture

Moving from operational cost to guaranteed value recovery, market timing, and compliance.



AMBIENT TEMP: 38°C (100.4°F)
RELATIVE HUMIDITY: 15%
QUALITY RISK: ELEVATED



STORAGE TEMP: 8°C (23°F)
RELATIVE HUMIDITY: 90%
SHELF LIFE EXTENSION: +6 MONTHS
VALUE LOCK: SECURE

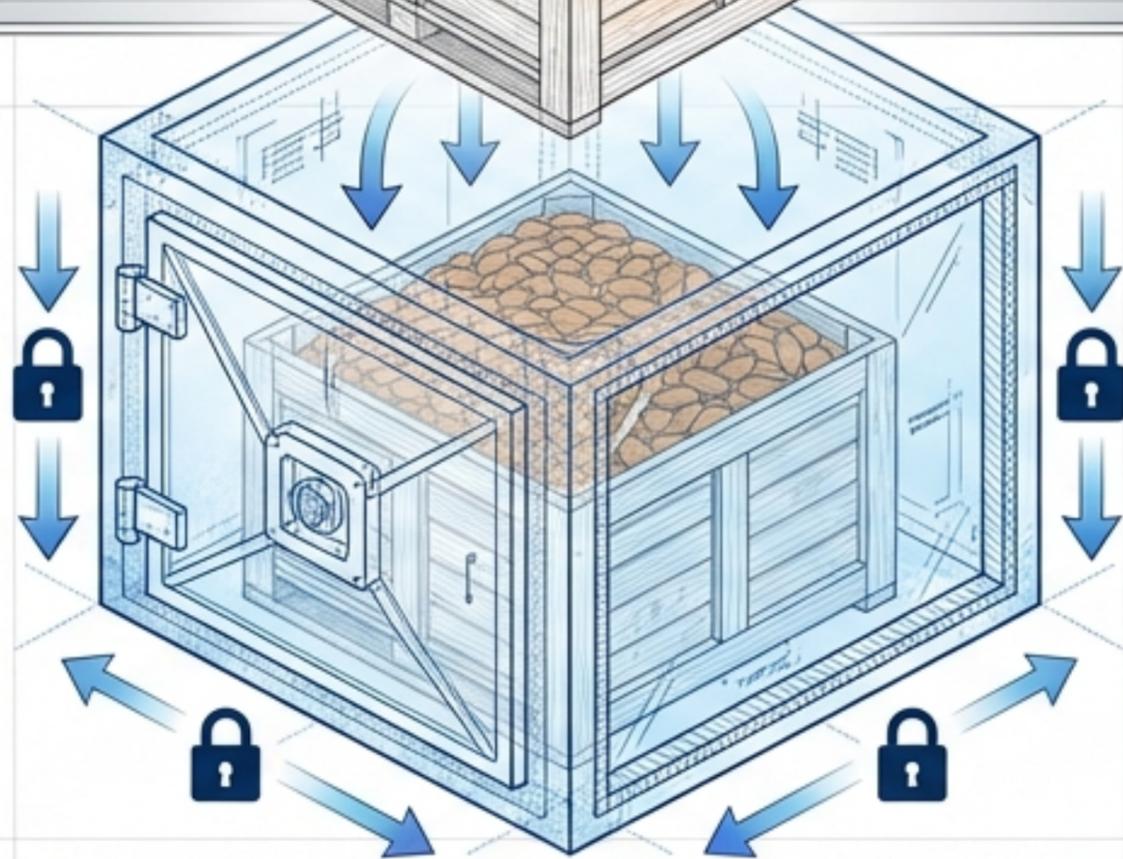
Cold storage does not cost money. It recovers it.



AMBIENT STORAGE LOSS
-\$300,000
Value evaporated from a 500-ton lot within 60 days due to 30% post-harvest loss.

VALUE LEAKAGE

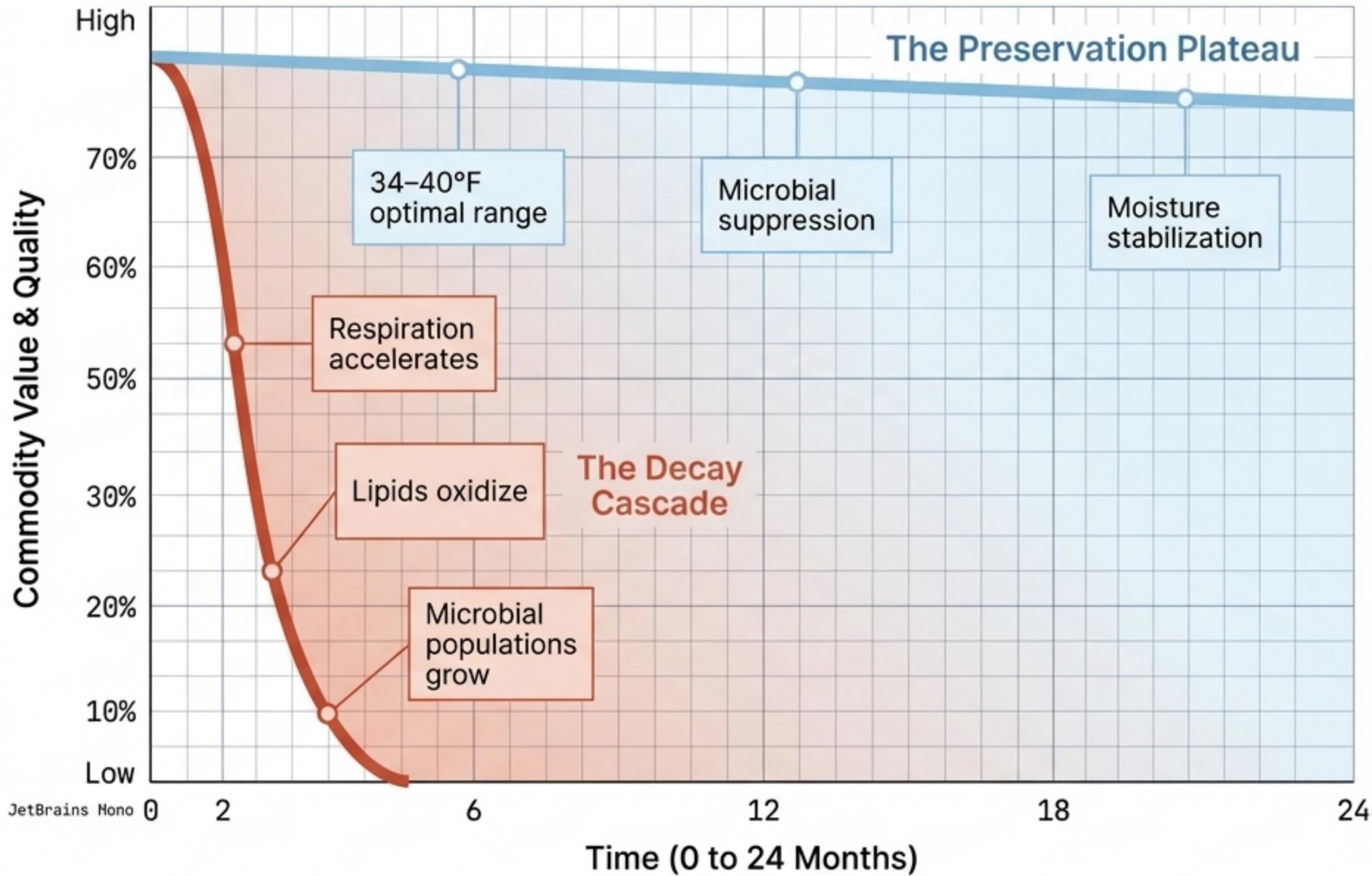
VALUE RECOVERY



COLD STORAGE RECOVERY
+\$300,000
Value locked in. Post-harvest loss reduced from 30% to under 5%.

Inter
Commodity Value Baseline: \$2.00-\$3.50 per lb.
Inter

The Physiology of Loss



- Fresh produce losses reach 40–50% in 60 days.
- Tree nuts lose 15–30% without intervention.

Shelf life extended by
200–400%

The Value Recovery Framework

Economic Optimization



Loss Reduction: Cuts baseline commodity loss rates by up to 90%.

Market Timing Flexibility: Transforms growers from price takers to price setters.

Global Access



Export-Grade Quality: Maintains export specifications for 18–24 months.

Traceability: Generates FSMA 204 Key Data Elements (KDEs) and Critical Tracking Events (CTEs).

Resilience

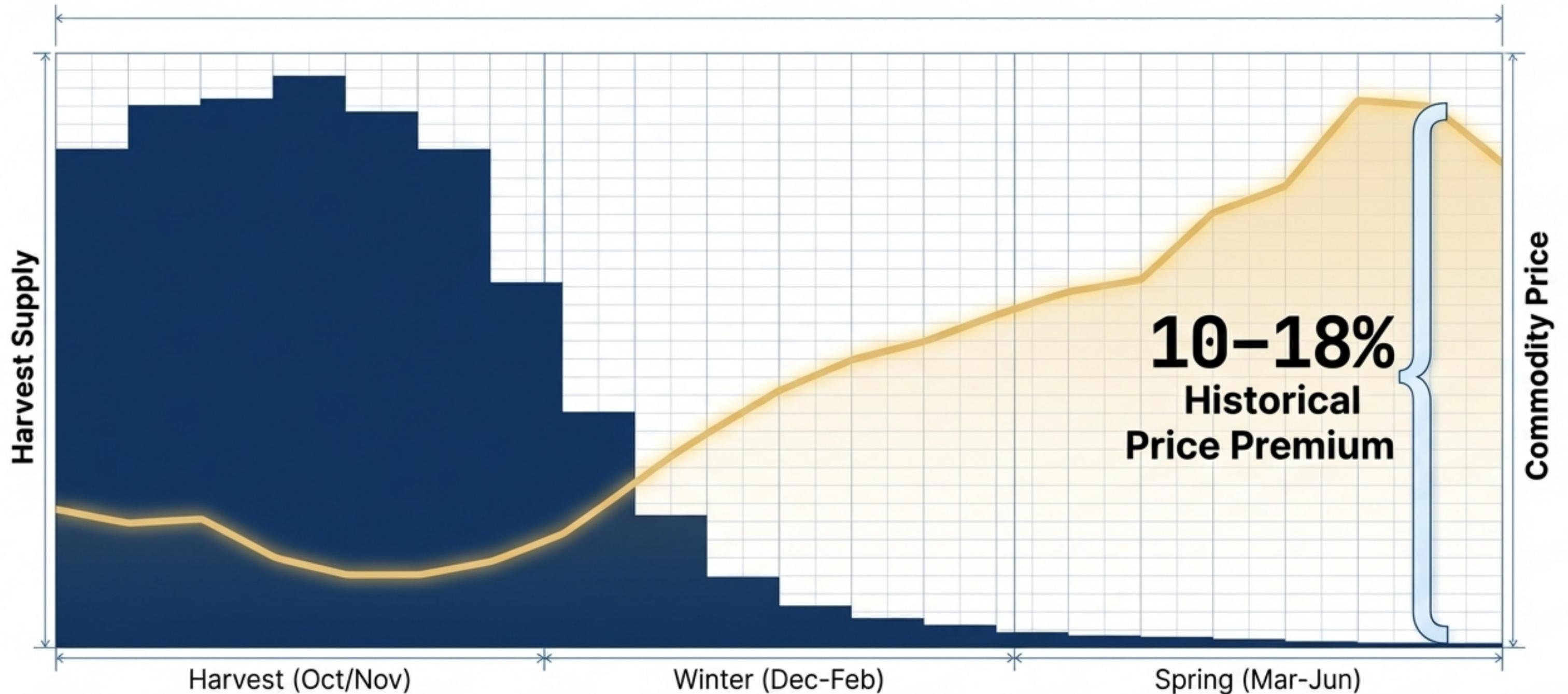


Organic Integrity: Achieves fumigation-free pest suppression.

Grid Independence: Off-grid solar-plus-storage provides PSPS immunity.

8 proven benefits synthesized into a single, unified financial asset.

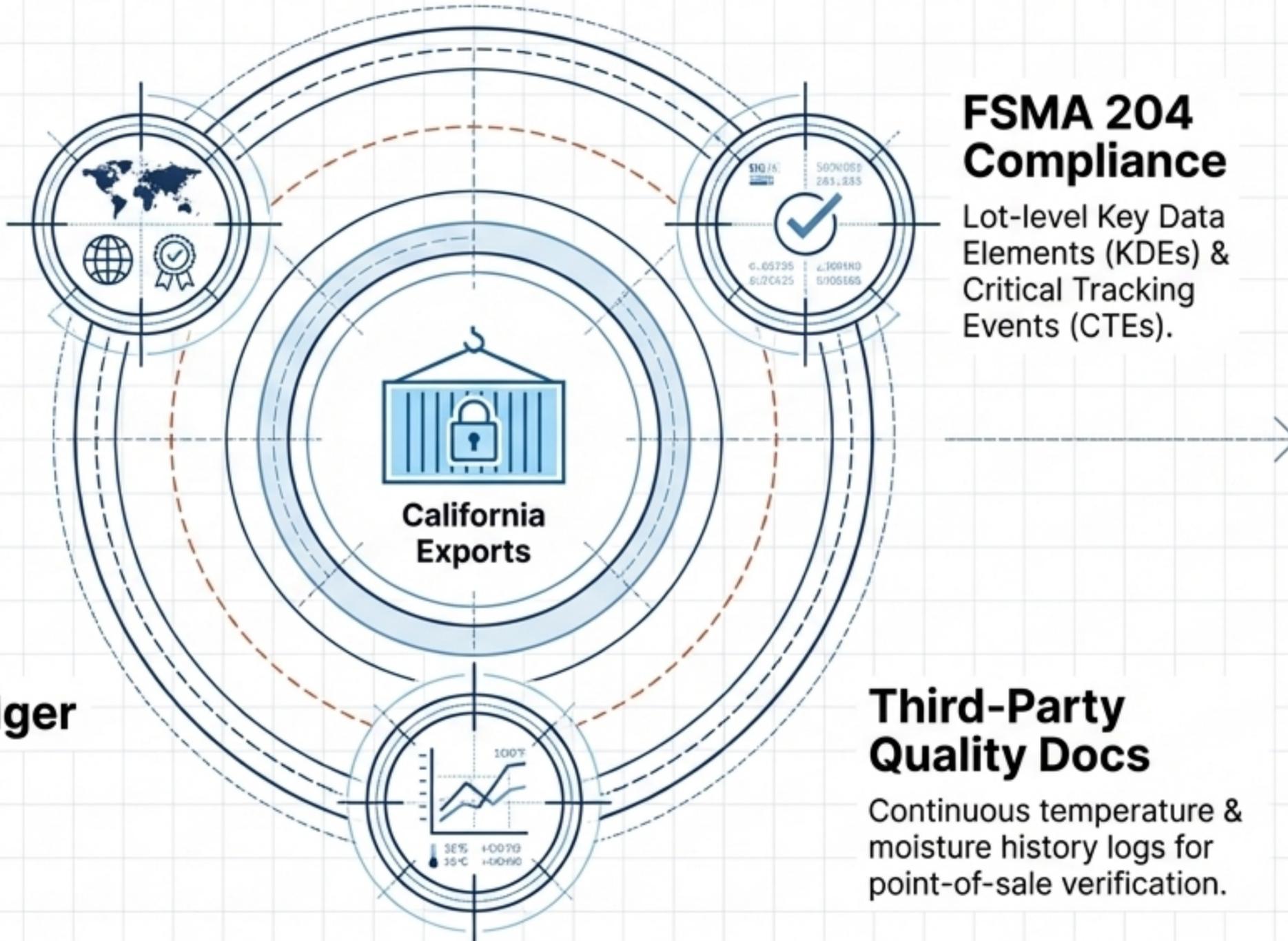
The Price Setter Advantage



Growers without cold storage are price takers forced to sell at peak supply. Refrigerated inventory transforms almonds from a perishable crop into a strategic financial asset.

Market Access: Export & Compliance Readiness

EU & Asia Standards
Documented cold chain integrity meeting international import specifications.



FSMA 204 Compliance
Lot-level Key Data Elements (KDEs) & Critical Tracking Events (CTEs).

Digital Ledger

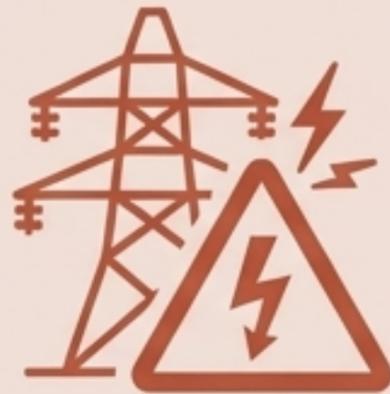
Third-Party Quality Docs
Continuous temperature & moisture history logs for point-of-sale verification.

70%+

of California almond volume is destined for international buyers (EU, India, China, Middle East).

Without these three verification nodes, premium export channels remain locked.

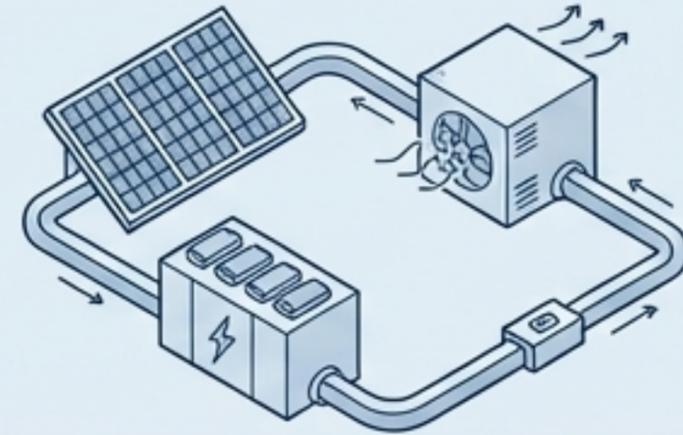
The Off-Grid Imperative: Eliminating PG&E Risk



Energy is 35–50% of operating OPEX.
JetBrains Mono.

Commercial grid rates:
\$0.18–\$0.28/kWh.

RISK: Total inventory vulnerability during peak wildfire and harvest season (PG&E PSPS shutoffs).



Levelized Cost of Energy drops 60–75%.
JetBrains Mono.

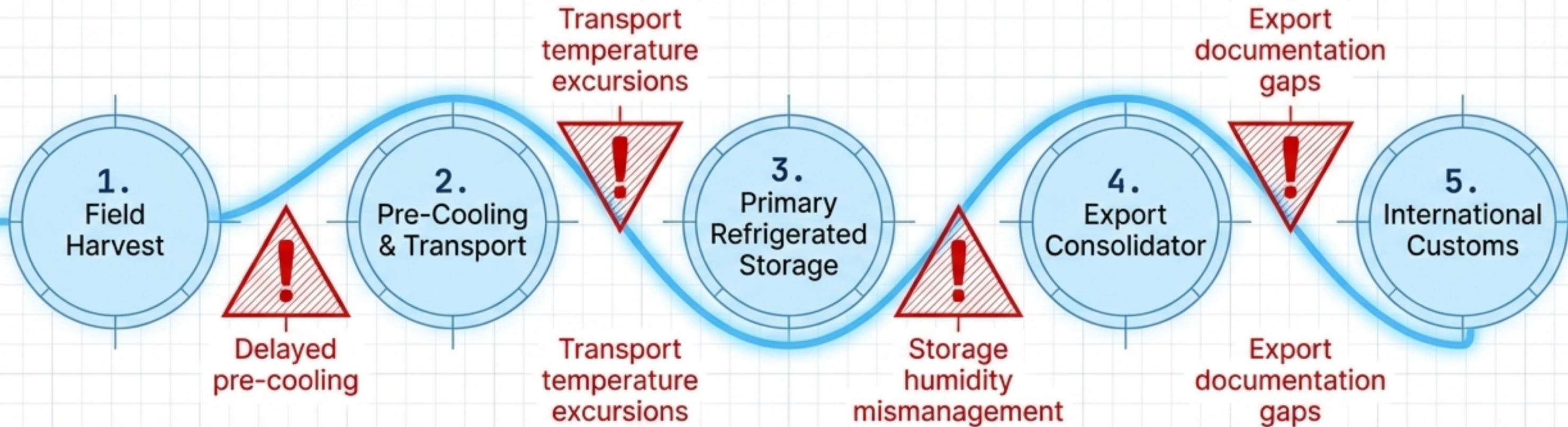
Off-grid solar rates:
\$0.04–\$0.07/kWh.

ADVANTAGE: 100% uninterrupted uptime for \$1M+ inventories. Complete grid-independent risk management.

The Commodity Preservation Matrix

| | Optimal Parameters | Ambient vs. Cold Shelf Life | Primary Degradation Risk |
|----------------------|-------------------------------|------------------------------|---|
| Almonds | 32–40°F, 60–65% RH | Weeks → 18–24 months | Aflatoxin >50°F, lipid oxidation >60°F |
| Pistachios | 35–38°F, <70% RH | 3–4 months → 12–18 months | Aflatoxin mold >65°F (EU limit 4 ppb) |
| Walnuts | 32–36°F | 60–90 days → 12+ months | Rancidity of 65–70% unsaturated fat |
| Fresh Produce | 32–38°F (pre-cool 4–6 hrs) | Days → Weeks | Respiration and microbial growth |

The Unbroken Cold Chain



A failure at any single point negates all upstream investment.
FSMA 204 liability applies to the entire continuous chain.

Organic Integrity & The End of Fumigation

Option A - The Past

Chemical Fumigation (Methyl Bromide)



- Leaves toxic chemical residue.



- Subject to tightening EPA and EU regulations.



- Causes immediate loss of Organic Status.

Option B - The Future

Thermal Suppression (34°F Storage)



- Achieves equivalent or superior pest suppression.



- Fully approved for stringent EU market access.



- 100% CCOF and USDA NOP Organic Compliant.

For organic growers, cold storage is not optional—it is the only viable compliance path.

The ROI Engine: Calculating Value Recovery



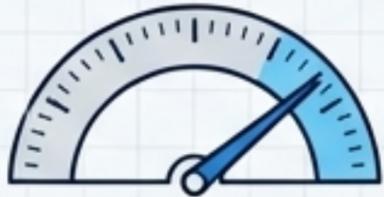
Six months of cold storage routinely returns more than the storage cost in price premium alone, independent of massive quality savings.

The Partner Evaluation Matrix



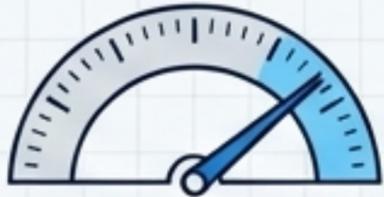
Temperature Precision

Requires proven uniformity throughout the entire physical space, not just a single static monitor.



Commodity Expertise

Requires exact thermodynamic calibration for unique nut physiology versus fresh produce respiration.



Power Infrastructure

Requires off-grid solar plus battery. Diesel backup is merely partial mitigation, not a solution.



Compliance Rigor

Requires 24-hour rapid generation of FSMA 204 lot-level traceability reports.



Proximity to Field

Requires transit under **4 hours** for fresh produce and under **24 hours** for tree nuts.

The Central Valley Cold Storage Advantage

**\$100M+ Total Inventory
Protection Capacity**

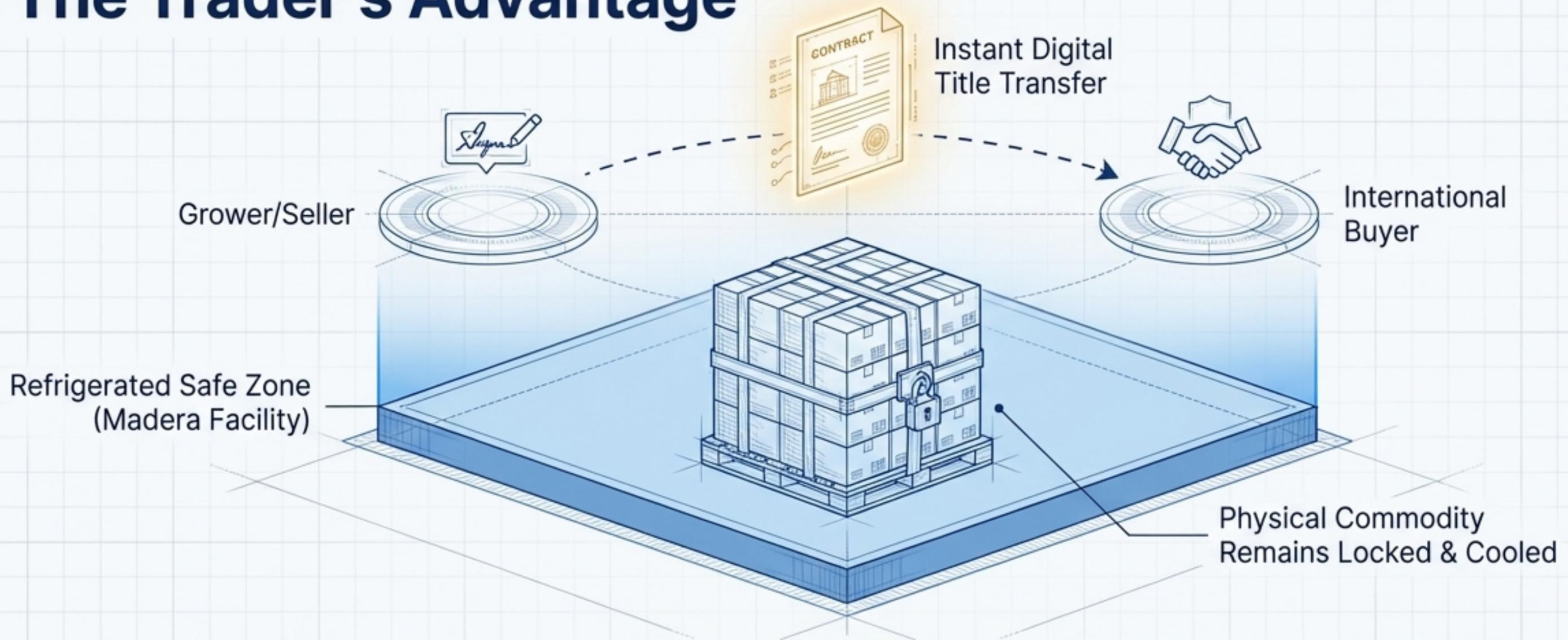
**Dedicated Off-Grid Solar Array
(Immune to PG&E PSPS)**

**Multi-Temp Calibrated Zones
& Organic Lot Segregation**

**Strategic Hub: Hwy 99 &
Hwy 145 Intersection
(30-min to major corridors)**

Purpose-built for the San Joaquin Valley. Proximity is a quality-preservation variable, not just a convenience.

In-Situ Title Transfer: The Trader's Advantage

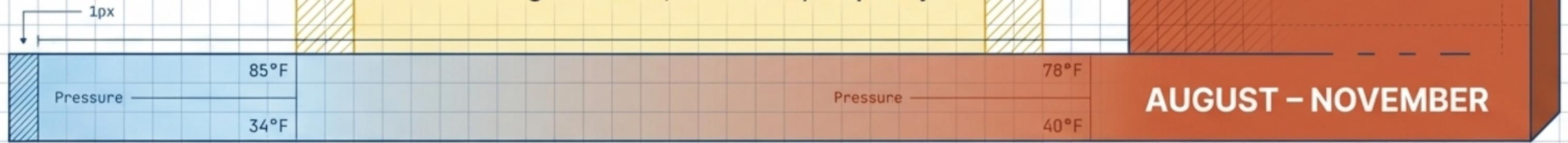


Legal ownership changes hands while the commodity remains under uninterrupted refrigeration. Eliminates all transit exposure during price negotiation and financing.

Secure Your Strategic Asset

60–120 Days Prior

The mandatory booking window required to secure large-volume, multi-temp capacity.



Harvest Peak
(Storage capacity completely constrained/unavailable)

“Protect the quality your inventory was grown to deliver.”

Central Valley Cold Storage | Madera Airport Industrial Park | centralvalleycoldstorage.com