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Ways to Increase Efficiency in the Cherry Production and Sales Process

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Abstract. Uzbekistan has emerged as a significant player in global sweet cherry production and exports, leveraging favorable agroecological conditions. In 2023–2024, the country produced approximately 219,000–300,000 metric tons of cherries annually and exported 32,200 tons in 2024, generating $70.3 million in revenue. This article analyzes current production and sales dynamics, identifies key inefficiencies in the value chain, and proposes evidence-based strategies to enhance efficiency. Drawing on the latest statistics (2024–2025/26 data), it includes two tables and one chart. Recommendations focus on varietal improvement, post-harvest technologies, cold chain optimization, market diversification, and sustainable practices. These measures could substantially boost yields, reduce losses, and increase export revenues, supporting Uzbekistan's agricultural export goals. Keywords: sweet cherry production, Uzbekistan agriculture, post-harvest efficiency, export value chain, sustainable farming.

Keywords: Fruit exports, Uzbekistan agriculture, export prospects, dried fruits, market diversification, agricultural infrastructure, value-added processing, global trade.

Introduction. Cherry production, particularly sweet cherries (Prunus avium), plays a vital role in Uzbekistan's horticultural sector. The country's continental climate, abundant sunshine, and diverse microclimates (especially in the Fergana Valley and other regions) provide ideal conditions for high-quality cherry cultivation. Uzbekistan ranks among the world's top 10 cherry exporters and is a leading producer in Central Asia.

Global cherry demand continues to grow, with the market valued at around USD 67 billion in 2024 and projected to reach over USD 100 billion by 2030 (CAGR ~7.3%). However, Uzbekistan's cherry sector faces challenges including variable yields, post-harvest losses, limited large-caliber fruit, short export seasons, and logistical constraints. In 2025, strong global demand (due to lower production in Europe and Turkey) drove high prices, but the export season was shorter than in 2024.

Increasing efficiency across the production-to-sales continuum—from orchard management to international marketing—is essential for competitiveness. This article examines the current state, bottlenecks, and practical pathways forward using recent data and international best practices.

Current State of Cherry Production and Sales in Uzbekistan

Uzbekistan's cherry output has grown significantly. Production reached about 218,867 metric tons in 2023, up 24.45% over five years, with estimates for earlier peaks around 240,000–300,000 tons in favorable years. In 2024, exports totaled 32,200 metric tons worth $70.3 million, positioning Uzbekistan as a top-10 global exporter (e.g., 8th with ~1.3% share).

Key export destinations include Russia, China (via new border crossings), and regional markets. In 2025, early harvests and high demand compressed the season to 1–1.5 months, with shipments ending by mid-June. Production in 2025/26 showed variability, with some reports noting 20–40% lower volumes in 2026 but improved quality (larger calibers and higher Brix in premium varieties).

Table 1: Uzbekistan Cherry Production Trends (Approximate, Metric Tons)

№	Year	Production (MT)	Export Volume (MT)	Export Value (USD Million)	Notes
1	2021	~193,000	-	-	Baseline growth
2	2023	218,867	-	-	+24% over 5 yrs
3	2025	~220,000–250,000	32,200	70.3	Strong exports

Sources: Compiled from FAO, national statistics, EastFruit, and USDA-related reports.

Main varieties include local and introduced ones like Giant Red, Nimba, Skeena, Kordia, Regina, and Sweet Heart, which offer better firmness and export suitability.

Table 2: Key Efficiency Indicators in Cherry Value Chain (2024–2025 Estimates)

№	Stage	Current Efficiency Level	Major Losses/Issues	Potential Improvement (%)
1	Production (Yield)	10–20 t/ha (varies)	Weather, variety, irrigation	20–50 (intensive orchards)
2	Post-Harvest	High losses without cold chain	Cracking, spoilage (up to 20–30%)	15–40 with hydrocooling
3	Export/Sales	Short season, limited diversification	Logistics, standards	30–60 revenue via value-add
4	Overall Value Chain	Moderate	Fragmented supply chain	50+ with integration

Based on industry analyses and FAO OCOP initiatives.

Challenges in the Production and Sales Process

1. Production Inefficiencies: Traditional orchards yield lower large-caliber fruit. Climate variability (frost, cracking) and outdated irrigation/fertilization practices limit productivity.
2. Post-Harvest Losses: Lack of widespread hydrocooling, controlled atmosphere storage, and proper packaging leads to quality degradation during transport.
3. Sales and Market Access: Dependence on a few markets, short harvest windows, and challenges meeting international phytosanitary and quality standards (e.g., size, firmness).
4. Infrastructure and Skills: Limited modern packing houses, cold storage, and farmer training on intensive methods.

Ways to Increase Efficiency

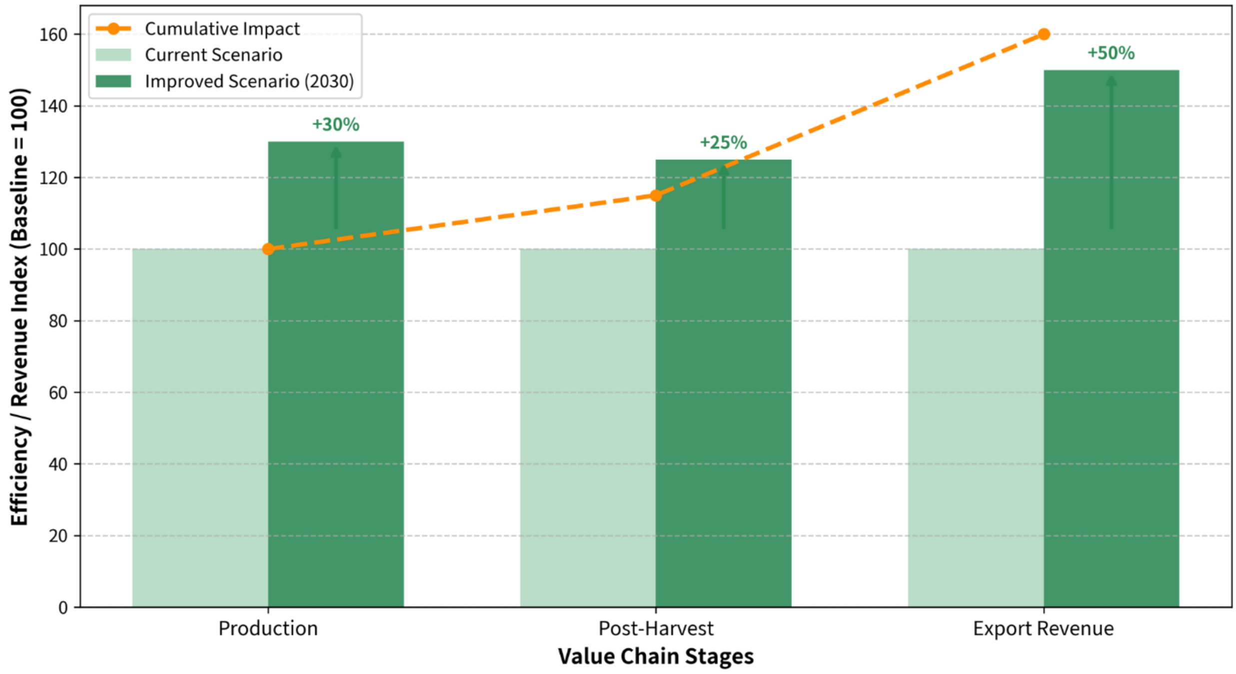
#1. Orchard Modernization and Varietal Improvement

Adopt high-density planting, dwarf rootstocks, and high-yielding, crack-resistant varieties (e.g., Regina, Sweet Heart). Intensive systems with high tunnels or protective covers can advance harvest by 5–10 days and increase yields by 15–20%. Precision agriculture—drip irrigation, soil sensors, and foliar nutrition (calcium/potassium)—reduces cracking and improves firmness and shelf life.

#2. Post-Harvest Technologies

Implement hydrocooling immediately after harvest to remove field heat, followed by modified atmosphere packaging (MAP) and optical sorting. These practices, already used by leading Uzbek exporters, extend shelf life and enable longer-distance exports. Investments in cold chain infrastructure are critical; FAO's OCOP initiative with China supports knowledge transfer for sustainable preservation.

Figure 1. Projected Efficiency Gains



Bars show potential uplift: Production +30%, Post-Harvest losses -25%, Revenue +50% by 2030. A line trend illustrates cumulative impact under modernization.

3. Supply Chain Integration and Logistics

Develop cooperatives or clusters for shared packing/processing facilities. Digital traceability (e.g., geographical indication systems) enhances market access to premium destinations like the EU, China, and the Middle East. Diversify beyond fresh exports into processed products (dried, frozen, juices) for year-round revenue.

#4. Sustainable Practices and Capacity Building. Promote organic and climate-resilient methods to meet global demand. Training programs via government and international partners (FAO, UNDP) on pruning, integrated pest management, and marketing. Government incentives for cold storage and export-oriented infrastructure.

Recommendations and Policy Implications

- Scale intensive orchards and varietal renewal programs.
- Subsidize post-harvest tech adoption (hydrocooling, sorting lines).
- Strengthen public-private partnerships for R&D and export promotion.
- Target a 50% reduction in post-harvest losses and double export value within 5 years through quality focus.

Conclusion. Uzbekistan's cherry sector holds immense potential, evidenced by 2024's $70.3 million export milestone and strong demand in 2025. By addressing inefficiencies through technology, best practices, and value chain integration, the industry can achieve higher productivity, reduced losses, and greater competitiveness. These strategies align with national export goals and contribute to rural development and food security. Sustained investment and collaboration will position Uzbekistan as a premium cherry supplier on the global stage.

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