

BC Automation

AI-Optimized Steam Peeling for Fruits & Vegetables

Tech Primer - 03/14/25

Your time, money, and product quality are under pressure.

- Process variability – Produce conditions change with seasonality, storage, and pre-processing.
- Yield loss – Over or under peeling leads to unnecessary waste and inefficiency.
- Energy waste – Steam usage is often excessive due to lack of real-time process control.
- Staying competitive requires intelligent, adaptable peeling solutions—and that's where BC Automation leads.



PROBLEM: Variability in Steam Peeling Reduces Yield & Efficient

Fruits and vegetables at different life cycle stages require different peeling conditions:

- Fresh Produce - High moisture and delicate skins make over-peeling a risk.
- Process-Grade Produce - Washed and sorted but still variable in skin toughness and moisture content.
- Store Produce - Tougher, suberized skins require higher steam pressure, but excessive peeling damages yield.
- Without real-time process intelligence, manufacturers suffer yield loss, excessive energy use, and quality inconsistencies.

SOLUTION: AI-Driven Steam Peeling Optimization

BC Automation's Steam Peeling MetaProcess integrates SWIR-enabled Advanced Spectrometry to dynamically adapt to produce conditions in real time.

- Condition-Based Steam Control – AI adjusts steam pressure, cycle times, and batch size based on detected moisture and skin toughness. Advanced
- Spectrometry for Peeling Optimization – SWIR sensors detect dirt, suberization levels, and moisture content for precise steam application.
- Process-Grade Sorting & Infeed Adjustments – Categorizes produce before peeling to reduce over-processing and maximize yield.
- Exit Inspection & Dynamic Feedback – Post-peel sensors ensure quality and continuously adjust upstream settings to refine peeling efficiency.
- Energy & Cost Efficiency – Adapts steam use dynamically, reducing waste and lowering operational costs.

OUR IMPACT: Higher Yield, Lower Costs, & Greater Efficiency

- Up to 7% Yield Improvement – Reduces over-peeling and preserves usable produce.
- Energy Savings from Optimized Steam Use – Less wasted steam means lower operational costs.
- Improved Process Stability – Maximizes cycle time, decreases process variations, and increase utilization.
- Higher Quality & Consistency – Reduces defects, ensuring fully peeled produce continues down the line.

BC Automation's AI-driven peeling solutions maximize yield, efficiency, and energy savings, giving fruit and vegetable processors a smarter way to optimize their operations.



95+

clients served

625+

unique processes automated

\$3.8B+

client dollars saved

"A huge asset to any company looking to improve their cost and reliability."

Chris Whitehair
SVP Global Operations at SunOpta

"[BC Automation's] solutions are most thorough and comprehensive."

Ned Mitenius
Founder & Sr Consultant at Periscope Consulting

Let's Transform Your Manufacturing Together.



Admin@bcautomation.io



Tucson, AZ operations
Florida headquarters