



P&P Optica

INDUSTRY BRIEF



Grading Bacon with Precision: A New Era of Consistency and Control

For years, bacon manufacturers have faced a persistent challenge — the subjectivity and inconsistency of manual grading. Human inspection introduces variability across shifts and plants, leading to disputes, inefficiencies, and unnecessary product waste. P&P Optica's Smart Imaging Solution for Bacon Grading changes that.

Using PPO's industry-leading detection capabilities, combined with AI, PPO provides an automated, data-driven system that grades bacon by precise chemical and physical characteristics — not human opinion — delivering consistent, objective quality at line speed.



Delivering Tangible ROI for Bacon Processors

Manual grading introduces both variability and waste. For example, studies from leading processors have shown up to 5% variation in cooked strip rejection rates between shifts — meaning large amounts of perfectly good product are being discarded.

With PPO's automated solution, manufacturers see immediate financial and operational benefits:

- **Increased Yield:** Reducing over-rejection of good strips directly increases usable product and overall yield.
- **Labor Savings:** Automated grading minimizes the dependency on manual graders, reducing labour costs and variability.
- **Enhanced Quality and Safety:** Every slice is evaluated against objective standards, ensuring consistent compliance with brand and customer specs.
- **Data-Driven Process Optimization:** PPO's AI-driven software, PPO Insights, provides continuous feedback on product quality, supplier variability and process performance — helping manufacturers make smarter, faster decisions.

Technology That Sees More — and Knows More

At the heart of PPO's Bacon Grading Solution is its advanced AI-driven detection technology, which evaluates each slice in real time. The system analyzes multiple product features — including composition, structure, and surface characteristics — and applies machine-learning models to deliver consistent, highly accurate grading for every piece of bacon.

Using PPO's advanced AI models, the system can automatically grade product based on measurable, objective criteria:

- **Colour, Cook, and Moisture Levels** — Ensures consistent appearance, taste and texture.
- **Size, Shape, and Piece Integrity** — Confirms uniform slice dimensions and detects physical defects.
- **Foreign Material** — Identifies and removes contaminants for enhanced food safety.
- **Water Activity Measurement** — Monitors water activity to prevent microbial growth (e.g., *Staphylococcus aureus*) and improve yield.

Prioritize consistency, yield, and customer satisfaction

PPO's Smart Imaging System gives bacon processors full visibility into product composition and quality. By analyzing lean point and moisture content and matching size to specifications, the system delivers in-line grading that ensures every batch meets your brand's standards.

Built for the rigors of the plant floor, PPO's zero-touch reject system automatically removes off-spec product, is fully washdown-ready, and delivers best-in-class reliability with over 98% uptime.



Deliver the bacon — better.

With PPO's Smart Imaging System, you can achieve consistent grading, optimize your yield and elevate customer satisfaction — all powered by the science of real food chemistry.

