



**P&P Optica**

**TECHNICAL BRIEF**

## How Different Detection Approaches Stack Up

Choosing the best foreign material detection system for your meat processing operations will ultimately depend on the problems you're trying to address. It's not just about the size of foreign materials you want to find, but also the types you're most concerned about.

**When it comes to finding even the tiniest low-density foreign materials on product surfaces, PPO's hyperspectral imaging is proven to be superior to other common inspection modalities.**

### Beware of 100% guarantee claims

Any vendor promising 100% foreign material detection is a red flag. Much like there are no medical imaging tests that can find 100% of issues, there are no guarantees in foreign material detection. There is only high confidence in the statistical probability of finding the contaminants that matter most to you.



Wood



Soft Plastic



Hard Plastic



Cardboard



PPE



Cotton



Rubber



Bone

DETECTION SYSTEM	STRENGTHS
X-rays	Find high-density foreign materials anywhere in the product
Vision Systems	Find foreign materials with strong color contrast on the product
Hyperspectral Imaging (PPO Smart Imaging Systems)	Find low-density materials down to small sizes on the surface of the product

**Explore how PPO can help find more low-density foreign materials in your operations.**  
**sales@ppo.ca | 1-800-706-3811**

## A head-to-head with other inspection modalities

A large pork processor ran an independent study comparing three detection modalities: X-ray, a typical vision system and PPO's Smart Imaging System.

- The customer ran foreign materials on coarse ground pork trims
- The contaminants were of various sizes, starting large and progressively getting smaller
- Each foreign material was run through the line between 10 and 20 times

	Metals				High Density Plastics			Low Density Plastics			Other			Bone	
F/M Category	Ferrous	Non - Ferrous	Stainless	Aluminium	Color	White	Clear	Gloves	Rubber	Cloth	Wood	Glass	Paper	Hard	Soft
Material	Mild Steel	Copper	S/S	Aluminium	Blue Acetal Belt	White Acetal Belt	Plexiglass	Blue Liner	Green Glove	Cotton Glove	Pallet	Glass	Corrugate	Bone	Cartilage
X-ray (Density)	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗
Vision + AI (Contrast)	✗	✗	✗	✗	✓	✗	✗	✓	✓	✗	✗	✗	✗	✗	✗
PPO (Hyperspectral Imaging)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓	✓



**The big takeaway from this pork producer's in-plant test is that PPO found more foreign materials at smaller sizes than the other technologies tested.**

**Meat processors across North America succeed with PPO**

### Different Proteins/Formats

- Pork: frozen chunks, ground product, RTE bacon bits
- Poultry: raw whole muscle breast, frozen breast and trims, ground product, cooked breast

### Different Plant Locations

- Inspection rooms for incoming raw materials
- Pre-packaging inspection for RTE products and cooked breast

### Different Types of Customers

- Slaughter Facilities/ Primary Processors
- Secondary Processors

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