Snack Food Color Quality Control *with* Aeros®



Improve consistency.
Reduce waste.
Deliver the perfect color every batch.

THE CHALLENGE

Color is one of the first quality attributes consumers notice in snack foods. Small changes in browning, seasoning, roasting, cooking, ingredient quality, or oil condition create color variation that impacts freshness, flavor, brand consistency, consumer acceptance, and production efficiency.

Snack Foods are also hard to measure objectively:

- Irregular shapes create measurement variability
- Curved and translucent products scatter light differently
- Surface texture varies from piece to piece
- Small measurement areas fail to represent an entire batch
- Contact measurements can contaminate instruments with oils and seasonings
- Human vision cannot consistently evaluate large volumes of product

Key insight: color problems are often discovered after packaging or by consumers, when corrections are expensive or impossible.

THE COST OF GETTING IT WRONG

- **Overcooked product:** burnt flavor and rejects
- **Undercooked product**: poor texture and quality
- **Uneven seasoning:** flavor inconsistency
- **Oil degradation:** off-color appearance
- **Batch variability:** brand inconsistency
- **Visual-only inspection:** subjective quality decisions

Poor color decisions may result in:

- Product rejection
- Increased waste
- Higher production costs
- Customer complaints
- Reduced shelf life
- Brand damage

Key insight: objective color measurement lets manufacturers identify process variation before products leave the production line.

THE SOLUTION

Aeros®



Large-area sample measurement: measures 27.5 in² (177 cm²) while collecting 35 measurements in approximately five seconds, for a highly representative average across numerous snack food pieces

Non-contact measurement: pour snack foods directly into the sample tray, with no grinding, sample preparation, or special fixtures required

Automatic rotation & height adjustment: compensates for sample pile depth and orientation while rotating the sample to improve repeatability and reduce measurement variability

Designed for large, irregular samples: measures large, heterogeneous snack food without grinding or crushing, for representative color across many pieces

On-board EasyMatch® Essentials L2:
guided workflows, pass/fail decisions, and reduced operator variability

Enterprise EasyMatch® Quality Central:
standardized methods across sites, centralized tolerances and data, and SPC trending and traceability

Result: consistent color control from lab to global production.

HOW AEROS ELEVATES YOUR QC OPERATION

- Detect frying variation earlier
- Improve baking consistency
- Monitor roasting performance
- Verify seasoning application
- Reduce scrap and rework
- Standardize color decisions
- Replace subjective visual inspection

TYPICAL COLOR CONTROL WORKFLOW FOR SNACK FOODS

1. **Incoming ingredients:** verify potatoes, grains, flours, seasonings, oils, and coatings meet color specifications before production
2. **Cooking & processing:** monitor frying, baking, roasting, extrusion, and seasoning to maintain target color
3. **Finished product verification:** confirm finished snack products meet established color specifications before packaging
4. **Packaging and release:** document objective quality data for production release, traceability, and continuous process improvement









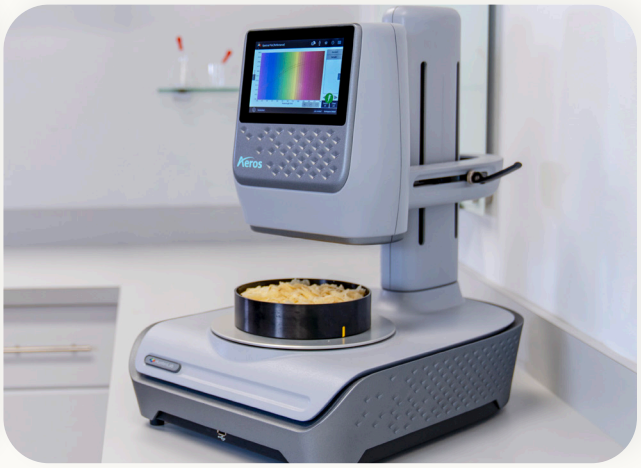
BEST PRACTICES

- Measure representative production samples
- Use large-area sample averaging whenever possible
- Avoid crushing products unless required
- Measure products consistently after cooling
- Trend color throughout production
- Establish objective pass/fail tolerances
- Standardize methods across all production facilities

IDEAL APPLICATIONS

Aeros® is widely used across snack foods, including:

- Potato chips
- Tortilla chips
- Corn chips
- Extruded snacks
- Cheese puffs
- Popcorn
- Crackers
- Cookies
- Pretzels
- Breakfast cereals
- Granola
- Snack mixes
- Roasted nuts
- Seeds
- Plant-based snacks
- Baked snack products



Aeros® - starting at $20,610

VALIDATE YOUR SNACK FOOD COLOR PROGRAM TODAY

Request a sample evaluation or application consultation, and compare your current visual inspection or benchtop color measurement system with Aeros®.

Discover how non-contact, large-area color measurement can improve consistency, reduce waste, simplify quality control, and strengthen customer confidence.

Contact HunterLab or visit www.hunterlab.com

SCAN TO LEARN MORE

https://www.hunterlab.com/en/industries/food/snack-foods/

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