Acerola Extract

Clean Label Conference
March 28-29, 2017
Modes of Failure for Meat and Poultry

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• **Microbial Challenges**
  • RTE and fresh meat is very susceptible to growth of spoilage and pathogenic bacteria
Acerola Cherry Extract

Active Ingredient: Ascorbic Acid

1. Protects color
2. Synthetic cure accelerator alternative
3. Food safety benefits
Fresh Meat Color Protection

1. Meat products are susceptible to photo-oxidation
   - Photochemical reaction between light and fat lipids
   - Refrigerated display cases are primary cause
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2. Non-meat ingredients
   • Pyruvic acid & enzyme activity in onion, garlic, chives, jalapenos, peppers, etc., can also play a role in the discoloration of meat products
Color Extension of Raw, Ground Beef

- Color loss due to
  - Oxidation of Oxymyoglobin to Metmyoglobin
  - Microbial load

- Hi-OX MAP
  - Lipid oxidation encouraged due to high oxygen content

- Lighted retail display accelerated color loss
Color Extension of Raw, Ground Beef

![Graph showing the color extension of raw, ground beef over time with different treatments.](image)

- **a* value (redness)** vs. **Time (d)**
- Graphs for Untreated, CA-FORT™ 1010, FORTIUM® RGT-WS 1200, and NaturFORT™ ARGT 103 treatments.
- Dark Storage vs. Light Storage.
Cured Meats

Meat products where sodium nitrite is added for food safety and the generation of characteristic cured, pink color.

- Ham
- Bacon
- Hot dogs
Acerola Function in Cured Meats

- Replacement of synthetic cure accelerators
  - Ascorbate
  - Erythorbate
- Commonly used with alternative nitrite sources
  - Celery Powder
- Strong reducing agent
  - Increases rate of nitric oxide conversion from a nitrite source
  - Color stability over shelf life
  - Reduced hold times before thermal processing
Acerola & Food Safety

• May increase safety against *Clostridium perfringens* outgrowth during cooling when used in conjunction with a nitrite/nitrate source.
• Relevant for large diameter products
  • Bone-in hams
  • Deli-slicing logs
Acerola Extract Solutions

• Fresh Meat Color
  • NaturFORT™ Blends (liquid & dry)

• Synthetic Cure Accelerator Alternative
  • FORTIUM® A
Questions?

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