United States Department of Agriculture
Agriculture Marketing Service
Fruit and Vegetable Programs
Processed Products Branch

U.S. Standards for Grades & Sensory Analysis

Society of Sensory Professionals
October 29, 2010

Presented by Tanya Dillon
Introduction

- History & Today’s Grade Standards
- Development of U.S. Standards for Grades
- What Standards Provide
- U.S. Grades
- Voluntary & Mandatory Programs
- Application of Standards
History: AMS & Grade Standards

- 1915: First AMS program – Strawberry Market News
- 1917: First U.S. Grade Standard – Potatoes
- 1928: First U.S. Grade Standards for Processed Products
Today: AMS & Grade standards

FRUITS & VEGETABLES

- 278 U.S. Standards for Grades
- 122 Fresh
- 156 Processed
  - 73 Canned
  - 58 Frozen
  - Sugar products – Honey, Maple Syrup
  - Dried or dehydrated products
  - Miscellaneous - Peanut Butter, Olive Oil (10/25/10)
Development of U.S. Standard

1) Request from industry
2) Notice of Proposed Rulemaking published
3) Final Rule published in Federal Register
4) U. S. Grade Standard becomes law

- U.S. Standards for Processed Fruits & Vegetables available on AMS website
U.S. Standards for Grades

**PROVIDE:**

- Common Language for Trading
- Basis for Classifying Product
- Guide for Determining Quality
- Key to Uniformity in Grading
U.S. Standards for Grades

DESCRIBE QUALITY FACTORS FOR GRADING

- Color
- Uniformity of Size
- Absence of Defects
- Character/Maturity
- Finish
- Flavor and odor
- Appearance
U.S. Standards for Grades

DESCRIBE CHEMICAL & PHYSICAL TESTS

- Brix/Acid Analysis
- Specific Gravity
- Consistency
- Sizing Devices
- Color Guides
- Microscopic Analysis
- Other Tests
U.S. Grades

- U.S. Grade A
- U.S. Grade B
- U.S. Grade C
- Substandard
- U.S. Extra Virgin
- U.S. Virgin
- U.S. Lampante
- U.S. Olive Oil
- U.S. Refined Oil

Exception: Olive Oil
Inspection Programs

VOLUNTARY
- Lot
- In Plant
- Seasonal

MANDATORY
- Citrus Products
- Processed Raisins
- Dried Dates
- Canned Ripe Olives
Visible defects & Color may not affect eating quality

✓ Both affect the grade

Defects

- Cross pitted
- Other
# Canned Ripe Olives

## Flavor

### GOOD
- Grade A or B
- Distinctive
- Characteristic
- No off flavors
- 10% RG

### REASONABLY GOOD
- Grade C
- Characteristic
- No off flavors

### POOR
- Grade Substandard
- Any off flavors

### PROCEDURE
- Submit marginal samples to panel
- Taste most suspect olives
Canned Ripe Olives

DISTINCTIVE Flavors
• Nutty
• Fruity
• Grassly
• Ripe Olive
• Floral

OFF Flavors
• Metallic
• Fishy (dead fish)
• Soapy
• Chemical
• Musty
• Bitter

Flavor
Frozen Strawberries

✓ Off color indicates poor or uneven ripeness
✓ Poor/uneven ripeness affects eating quality

✓ Off color affects grade

Off Color
Canned Freestone Peaches

- Size variation does not affect eating quality
- Color variation does not affect eating quality
- Light color may be unripe, affecting flavor
- Both affect the grade

Size & Color Variation

USDA Agricultural Marketing Service
At Your Service!

USDA
AMS
Fruit & Vegetable Programs
Processed Products Branch

Tanya Dillon, Assistant Regional Director
2202 Monterey Street, Suite 102C, Fresno, CA 93721

tanya.dillon@ams.usda.gov
559.487.5891