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

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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



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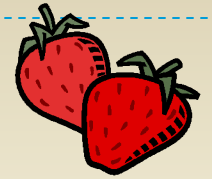
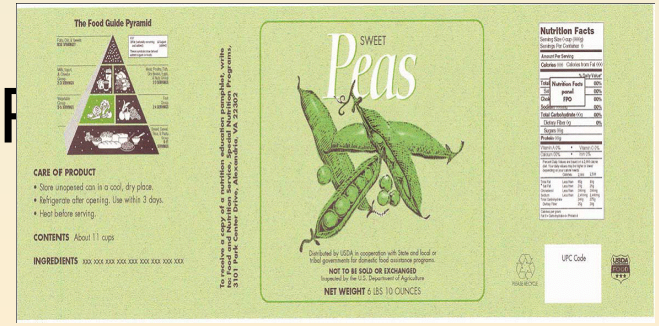
History: AMS & Grade Standards



- 1915: First AMS program – Strawberry Market News
- 1917: First U.S. Grade Standard – Potat
- 1928: First U. S. Grade Standards for Processed





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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)

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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

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U.S. Standards for Grades

PROVIDE:

- Common Language for Trading
- Basis for Classifying Product
- Guide for Determining Quality
- Key to Uniformity in Grading



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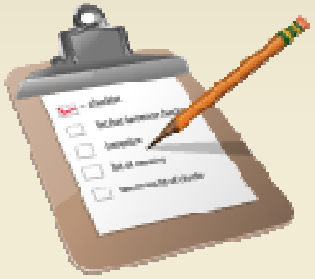
U.S. Standards for Grades

DESCRIBE QUALITY FACTORS FOR GRADING



- Color
- Uniformity of Size
- Absence of Defects
- Character/Maturity
- Finish
- Flavor and odor
- Appearance

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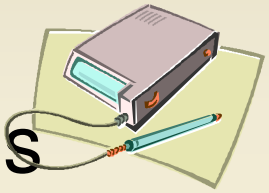
U.S. Standards for Grades

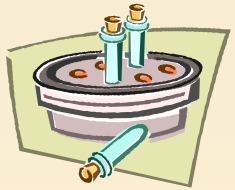
DESCRIBE CHEMICAL & PHYSICAL TESTS



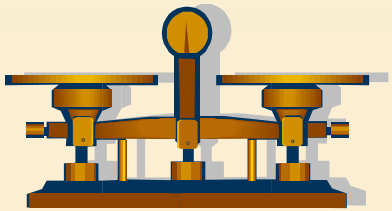


- Brix/Acid Analysis
- Specific Gravity
- Consistency
- Sizing Devices

- Color Guides
- Microscopic Analysis
- Other Tests







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U.S. Grades

- U.S. Grade A 
- U.S. Grade B 
- U.S. Grade C 
- Substandard

Exception: Olive Oil

- U.S. Extra Virgin
- U.S. Virgin
- U.S. Lampante
- U.S. Olive Oil
- U.S. Refined Oil

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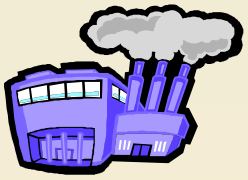
Inspection Programs

VOLUNTARY

- Lot



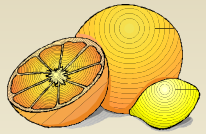
- In Plant



- Seasonal



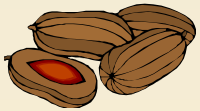
MANDATORY



- Citrus Products
- Processed Raisi



- Dried Dates



- Canned Ripe Olives



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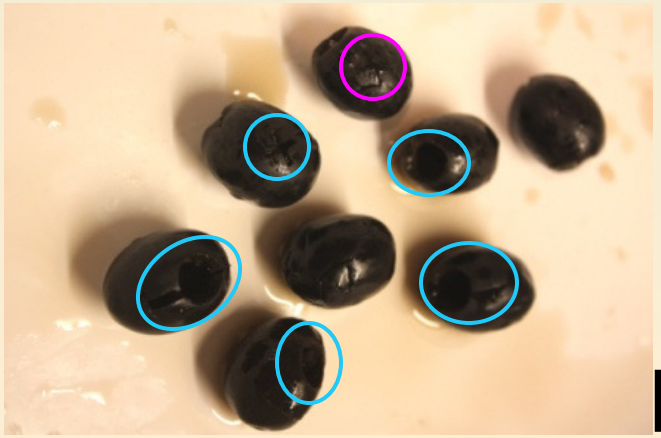
Canned Ripe Olives

✓Visible defects & Color may not affect eating quality



○ Cross pitted

○ Other



✓Both affect the grade

Defects

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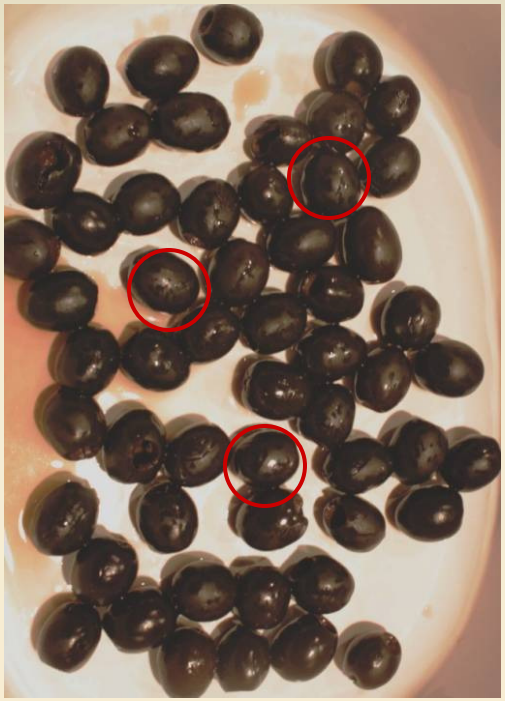
Canned Ripe Olives

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



POOR
Grade Substandard
✓Any off flavors

PROCEDURE
✓Submit marginal samples to panel
✓Taste most suspect olives

REASONABLY GOOD
Grade C
✓Characteristic
✓No off flavors

Flavor

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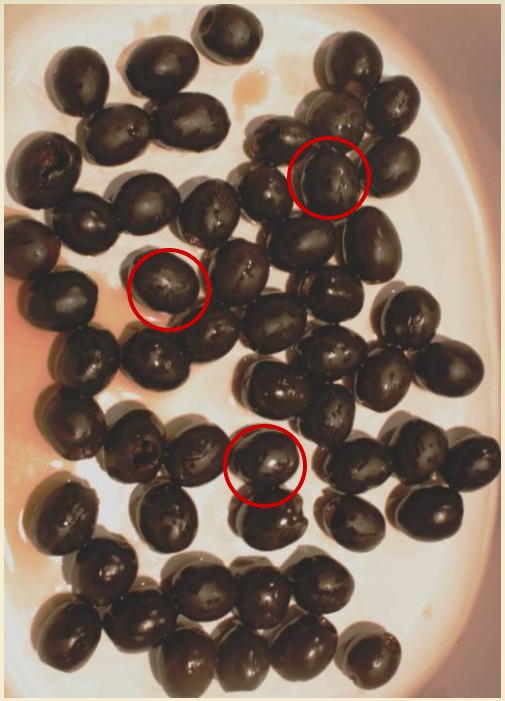
Canned Ripe Olives

DISTINCTIVE Flavors

- Nutty
- Fruity
- Grassy
- Ripe Olive
- Floral



OFF Flavors

- Metallic
- Fishy (dead fish)
- Soapy
- Chemical
- Musty
- Bitter

Flavor

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Frozen Strawberries

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



- ✓Off color affects grade

Off Color

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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

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At Your Service!

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Fruit & Vegetable Programs
Processed Products Branch



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