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**TO PURCHASE OFFICIAL VISUAL AIDS PLEASE CONTACT
THE SPECIALTY CROPS INSPECTION DIVISION'S
EQUIPMENT AND FORMS DEPOT**

**USDA, AMS, SCP, SCI
831 MITTEN ROAD, ROOM 200
BURLINGAME, CA 94010
PHONE: 650-552-9073
FAX: 650-552-9147**

[EQUIPMENT CATALOG](#)

CALIFORNIA/ARIZONA, TEXAS AND FLORIDA CITRUS

SOOTY MOLD: This disorder is caused by a fungus that adheres to excretions of the White Fly in Florida or Black Scale in California. It may occur as light deposits scattered over the surface of the fruit or as heavily concentrated areas at the stem end. Normal washing procedures usually do not remove all fungus deposits. However, they can be easily removed if scraped with a finger or knife. Sooty Mold is a permanent grade defect (not discoloration) and scored on an appearance basis. As a guide, allow an aggregate area 1" in diameter on a 27 size grapefruit, 3/4" on a 36 size and 1/2" area on a 48 size for the U.S. No. 1 grade. Allow an aggregate area 1-5/8" in diameter on 27 size grapefruit, 1-3/8" on 36 size and 1-1/8" on 48 size fruit for the U.S. No. 2 grade. (Correspondingly greater or lesser areas allowed on larger or smaller size fruit.)



PHOTO I

PHOTO II

PHOTO III

PHOTOS NO. I & II – U.S. NO. 1, LOWER LIMIT

These photos illustrate areas approximately 3/4" in diameter on 36 size grapefruit.

PHOTO NO. III – U.S. NO. 2, LOWER LIMIT

This photo illustrates an area aggregating approximately 1-1/2" in diameter on a 32 size grapefruit.

CIT(CA&AZ,FLA&TX)-CP-1

Sooty Mold

September 1989

(Previously Sooty Mold & Smudged
Discoloration, August 1977)

CALIFORNIA/ARIZONA, TEXAS AND FLORIDA CITRUS

SMUDGED: This term is commonly applied to fruit more or less covered with a smoky deposit which cannot be rubbed off with the hand. This disorder is caused largely by smoke from orchard heaters during the season when frost has threatened.

(Florida and Texas Citrus only.)

Smudged Fruit shall be scored on the same basis as “Discoloration” and reported on the certificate as “excessive discoloration” describing the shade of discoloration and showing percentage of surface affected.



Maximum extent appearance can be affected
and still grade U.S. No. 1.

CIT(CA&AZ,FLA&TX)-CP-1-A
Smudged Discoloration
September 1989
(Previously Sooty Mold & Smudged
Discoloration, August 1977)

CALIFORNIA/ARIZONA, TEXAS AND FLORIDA CITRUS

These photographs illustrate various stages of oil spotting on Florida and Texas citrus.

Oil spotting does not ordinarily change materially under normal transit and storage conditions. Therefore, this defect is considered a quality factor. At times, however, the area of rind immediately surrounding or within the oil spots will start to pit and turn into skin breakdown. For illustrations of this type injury see visual aid CIT-(FLA&TX)-3-IDENT-B.

Photo No. 1

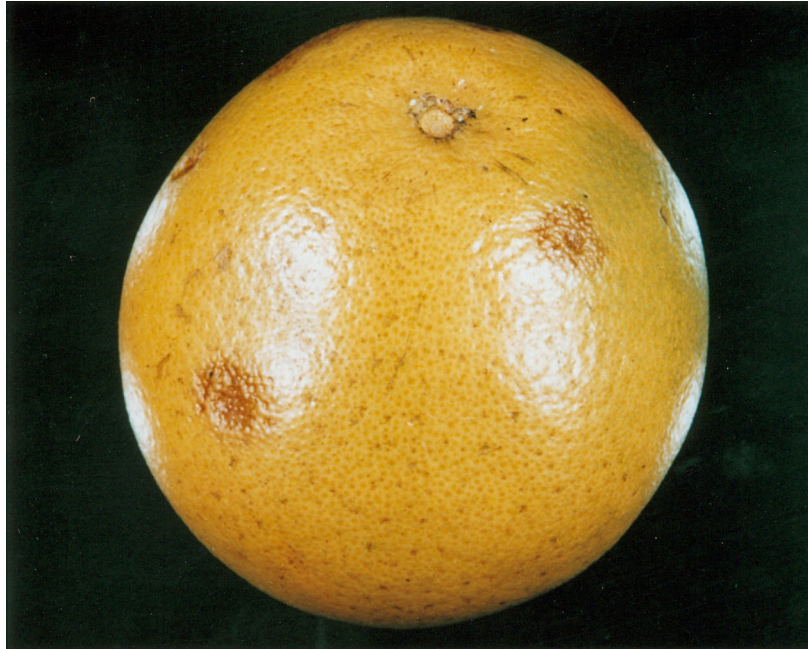
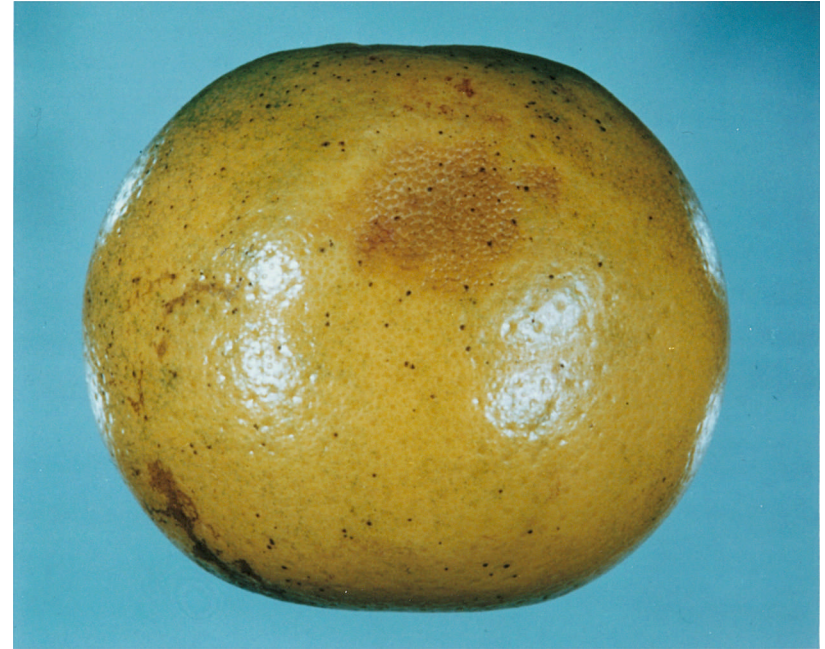


Photo No. 2



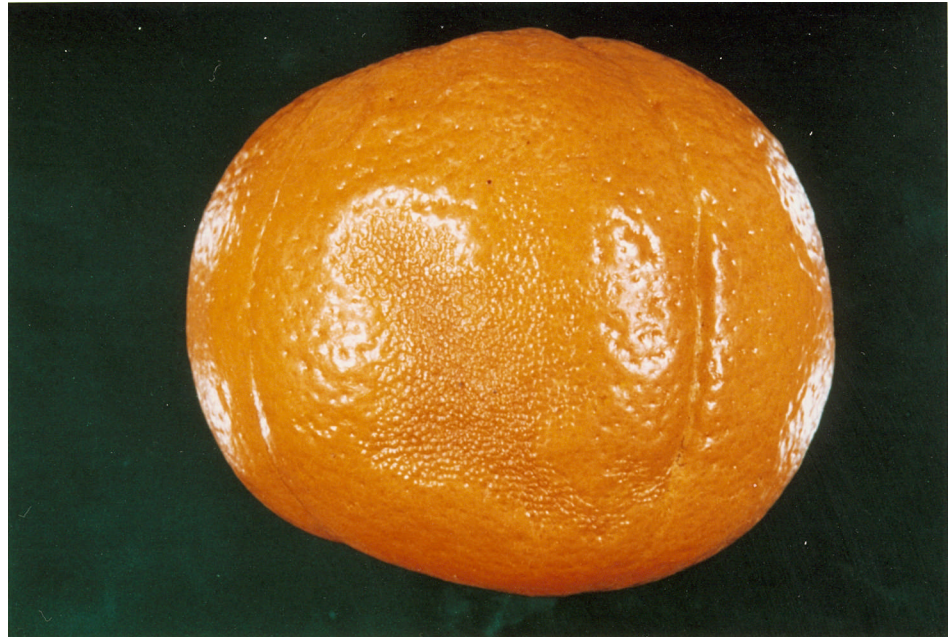
OIL SPOTTING

In the above two photos note that the spots have little depth with no pitting. The pebbly or granular texture of the ruptured oil cells is one of the best ways to distinguish oil spotting from skin breakdown.

FOR IDENTIFICATION ONLY

CIT(FLA&TX)-1-IDENT-A
Oil Spotting
March 1990
(Previously CIT-(FLA&TX)-1-IDENT
August 1976, Side I)

Photo No. 3



**Extensive oil spotting on a Tangelo.
(Note the granular appearance of the oil cells and the absence of pitting).**

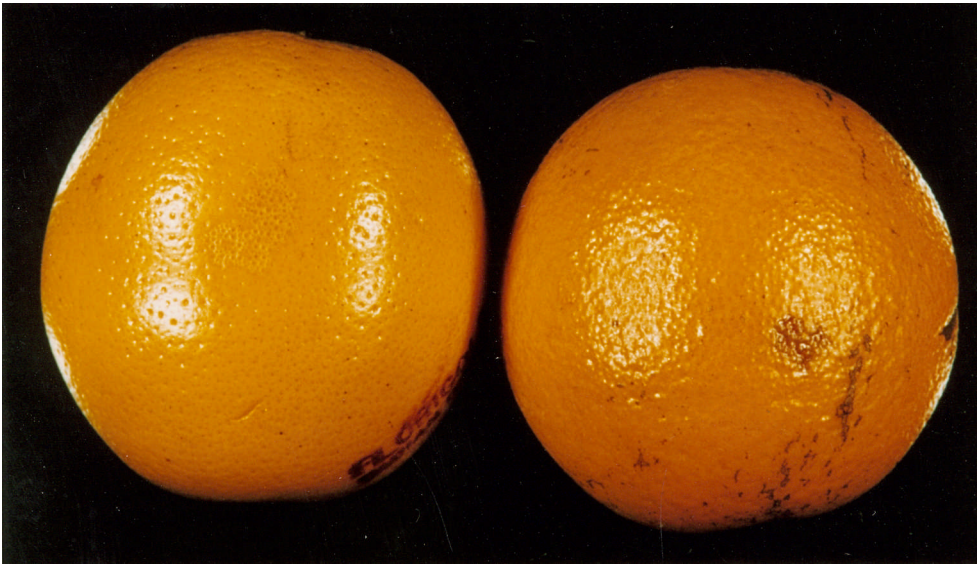


Photo No. 4

**Illustration of two types of oil spotting.
Right: the oil spot is slightly sunken and the oil from the ruptured cells has discolored the rind.
Left: the oil cells have little depth and are not discolored.**

FOR IDENTIFICATION ONLY

**CIT-(FLA&TX)-1-IDENT-B
Oil Spotting
March 1990
(Previously CIT-(FLA&TX)-1-IDENT
August 1976, Side II)**

These photographs illustrate various types of skin breakdown on Florida and Texas citrus.

Since skin breakdown is progressive it is a condition defect. Skin breakdown is a more serious defect than oil spotting as the lesions become larger, deeper, more discolored with age, and are frequently followed by decay.

Photo No. 1

Early stage.

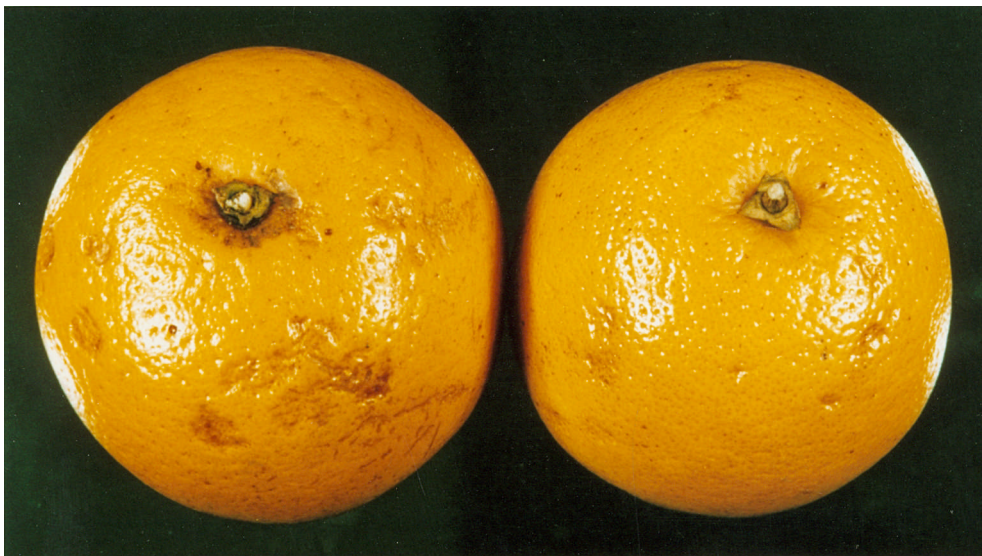
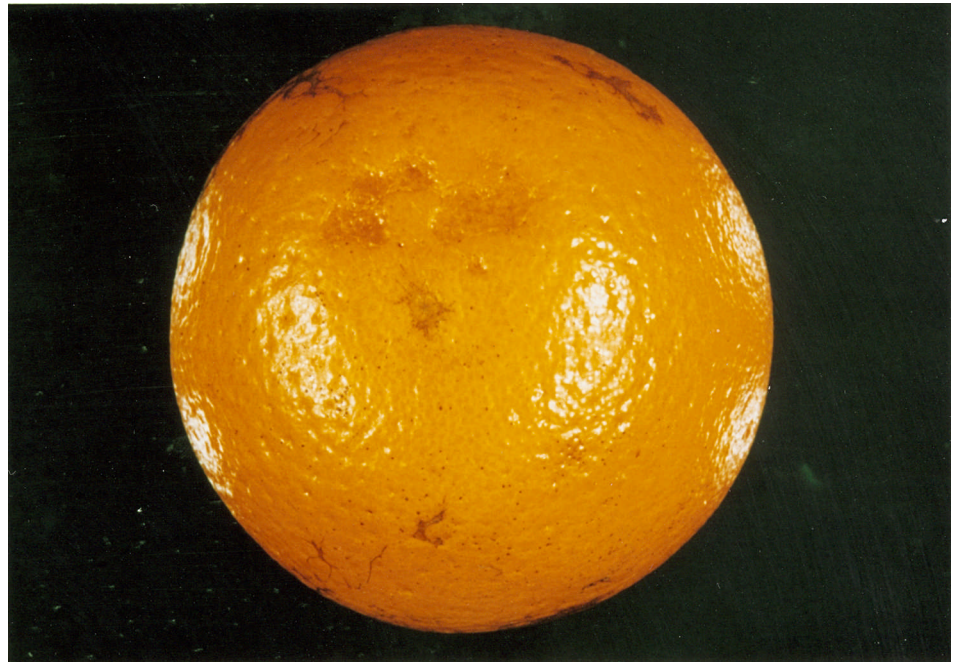


Photo No. 2

Advanced stage.

This type of skin breakdown is known as pitting. Note the depth and angular outline of the spots.

FOR IDENTIFICATION ONLY

**CIT-(FLA&TX)-2-IDENT-A
Skin Breakdown
March 1990
(Previously CIT-(FLA&TX)-2-IDENT
August 1976, Side I)**



Photo No. 3

Illustration of advanced stages of skin breakdown on a Tangelo (aging).

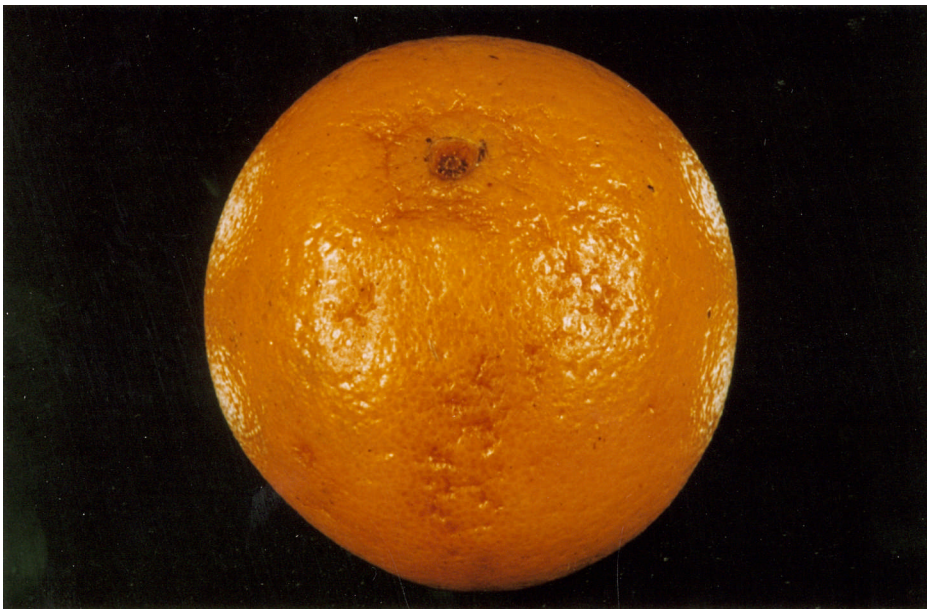


Photo No. 4

Skin breakdown occurring on the side and around the stem end of the fruit.

NOTE: Skin breakdown normally occurs as pitted or markedly sunken discolored areas.

FOR IDENTIFICATION ONLY

**CIT-(FLA&TX)-2-IDENT-B
Skin Breakdown
March 1990
(Previously CIT-(FLA&TX)-2-IDENT
August 1976, Side II)**

These photographs illustrate the difference between oil spotting and skin breakdown on Florida and Texas citrus.

In Terminal markets individual fruit affected by both oil spotting and skin breakdown shall be scored against grade as follows:

1. If the oil spotting alone exceeds the limit permitted by the grade, handle as a quality defect and report as oil spotting.
2. If the oil spotting alone does not exceed the limit permitted in the grade but the area of skin breakdown is greater than the grade allows, handle as a condition defect and report as skin breakdown.
3. If neither defect by itself is sufficient to affect grade but together they materially affect the appearance, handle as a condition defect and report as skin breakdown.

Photo No. 1

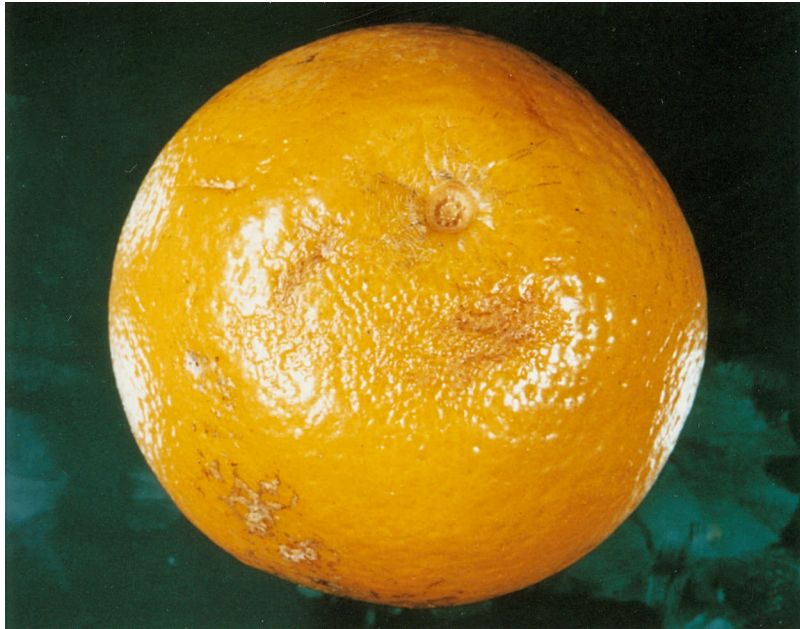
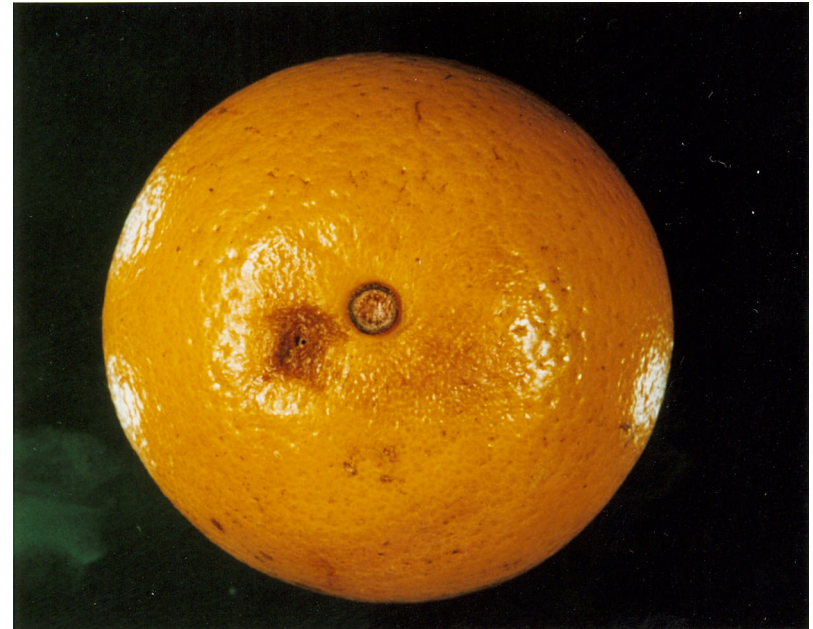


Photo No. 2



The original injury to this orange is oil spotting. However, the sunken and discolored areas at the far right and left of the affected area are skin breakdown. Skin Breakdown at left, Oil spotting at right.

FOR IDENTIFICATION ONLY

CIT(FLA&TX)-3-IDENT-A
Oil Spotting/Skin Breakdown
March 1990
(Previously CIT-(FLA&TX)-3-IDENT
August 1976, Side I)

Photo No. 3



Left – This is an abrasion, possibly caused from being in contact with the container or the machinery used in harvesting and packing processes. The abrasion has ruptured the oil cells in a manner similar to oil spotting. However, the area surrounding the abrasion has become sunken and discolored making the injury look worse.

Right – Same fruit as in photo No. 1.

NOTE: In the terminal markets, all the fruit in the above photos would be scored as skin breakdown and reported as a condition defect.

FOR IDENTIFICATION ONLY

Photo No. 4



Skin breakdown following oil spotting.

The original injury to this fruit was oil spotting. Subsequently, skin breakdown has started over the oil spotting.

CIT(FLA&TX)-3-IDENT-B
Oil Spotting/Skin Breakdown
March 1990
(Previously CIT-(FLA&TX)-3-
IDENT August 1976, Side II)

FLORIDA ORANGES

SLIDE 174 -- FREEZING



FLORIDA ORANGES

SLIDE 175 -- FREEZING



FLORIDA ORANGES

SLIDE 176 -- FREEZING



FLORIDA ORANGES

SLIDE 177 -- FREEZING



FLORIDA ORANGES

SLIDE 178 -- SCARRING



ORANGES AND TANGELOS

SLIDE 1 – FAIRLY WELL COLORED



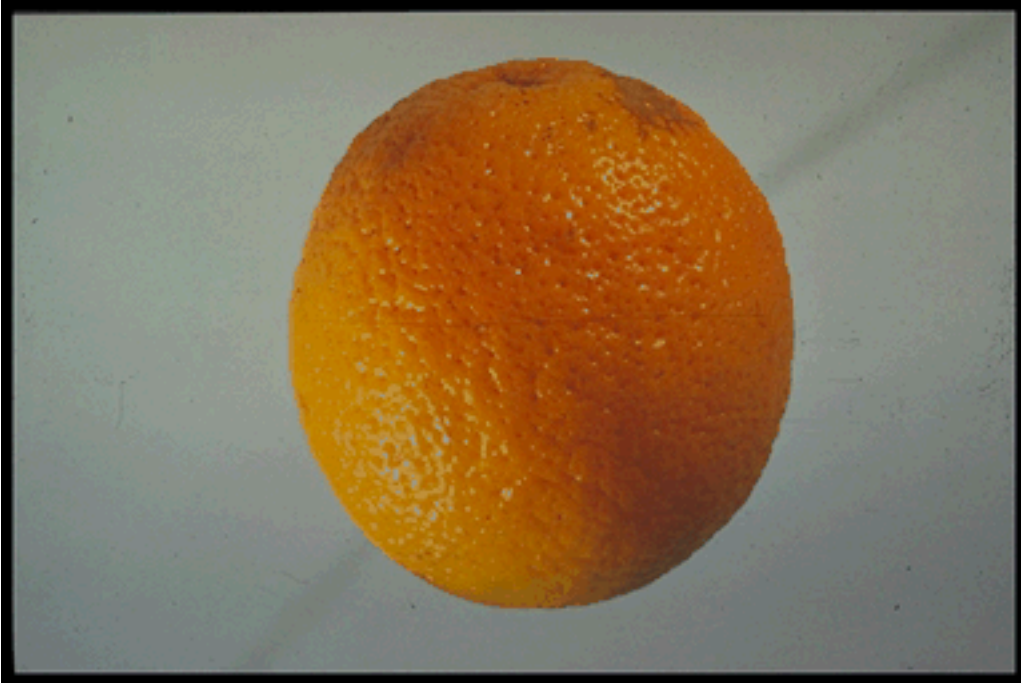
ORANGES AND TANGELOS

SLIDE 2 – REASONABLY WELL COLORED



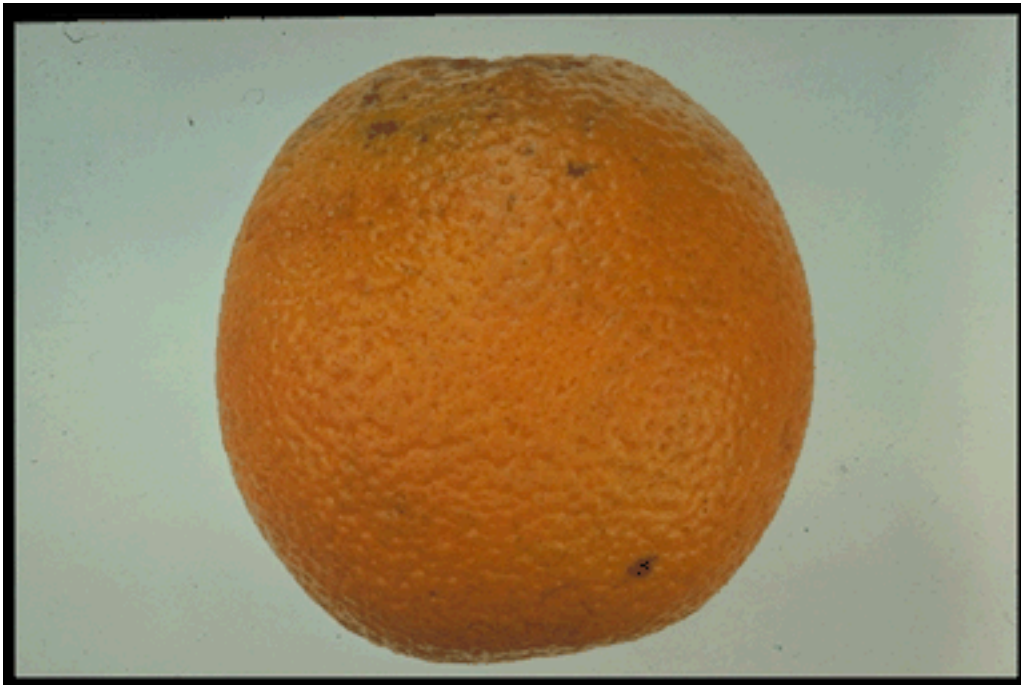
ORANGES AND TANGELOS

SLIDE 3 – FAIRLY SMOOTH



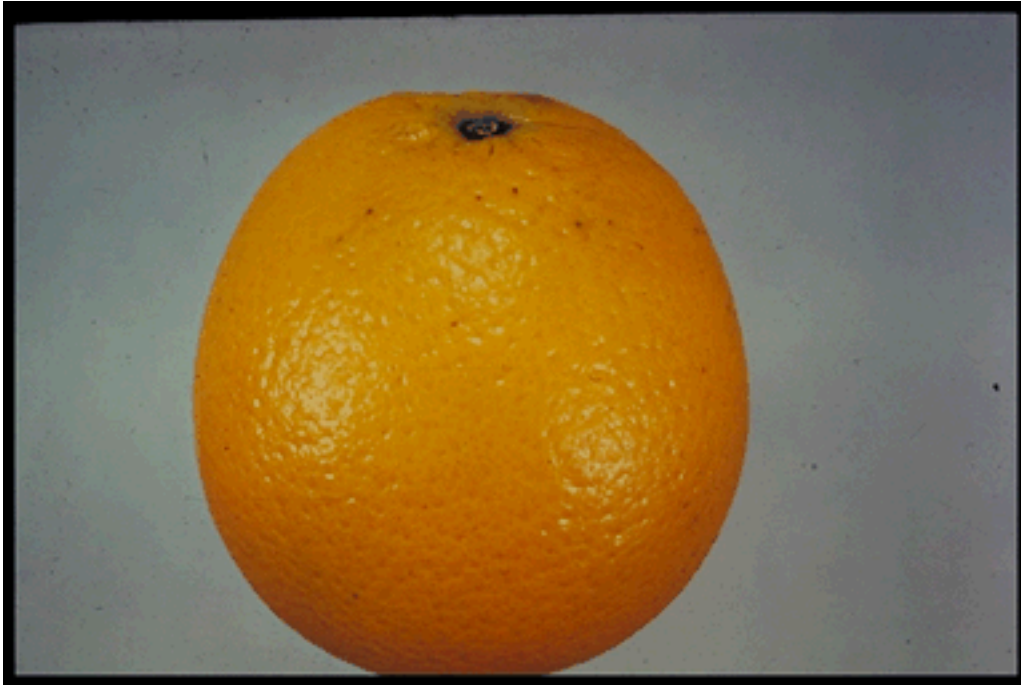
ORANGES AND TANGELOS

SLIDE 4 – SLIGHTLY ROUGH



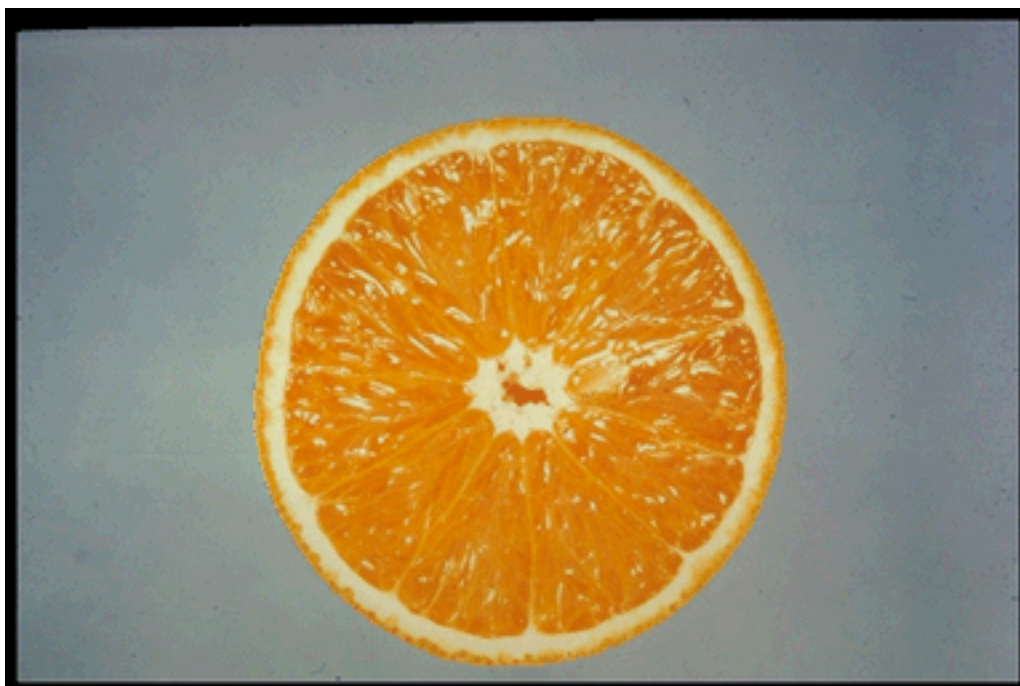
ORANGES AND TANGELOS

SLIDE 5 -- VALENCIA



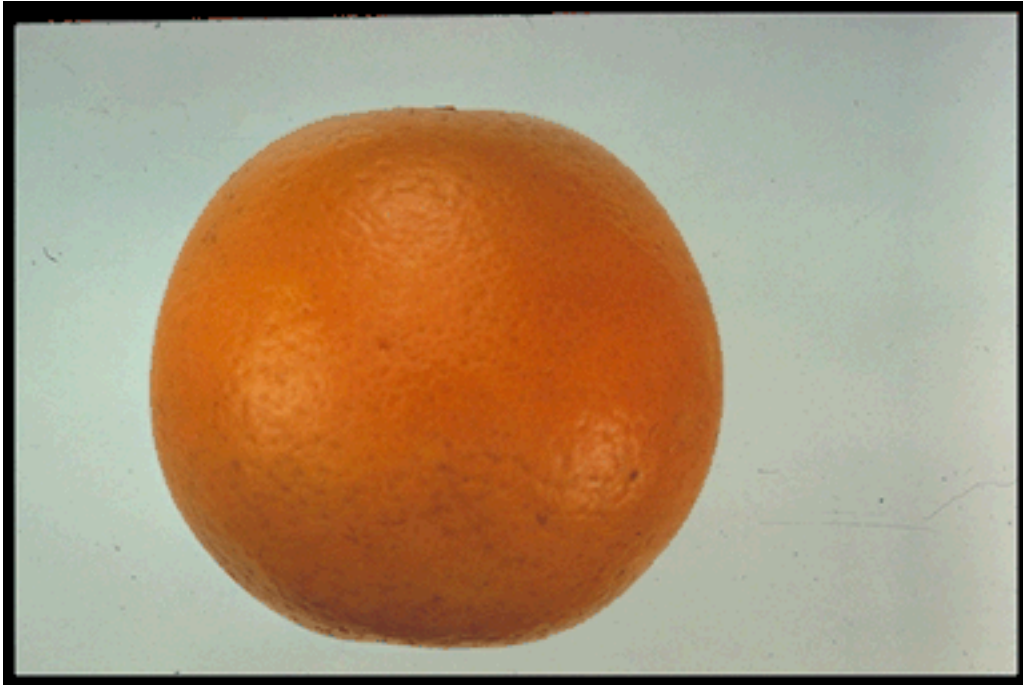
ORANGES AND TANGELOS

SLIDE 6 – VALENCIA CUT



ORANGES AND TANGELOS

SLIDE 7 -- PINEAPPLE



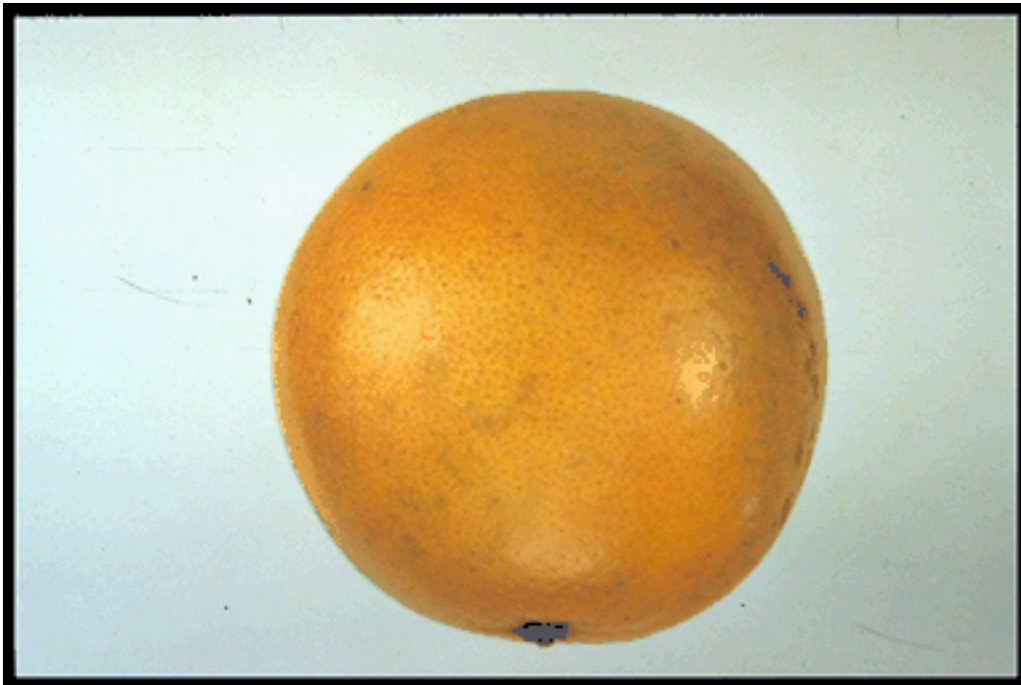
ORANGES AND TANGELOS

SLIDE 8 – PINEAPPLE CUT



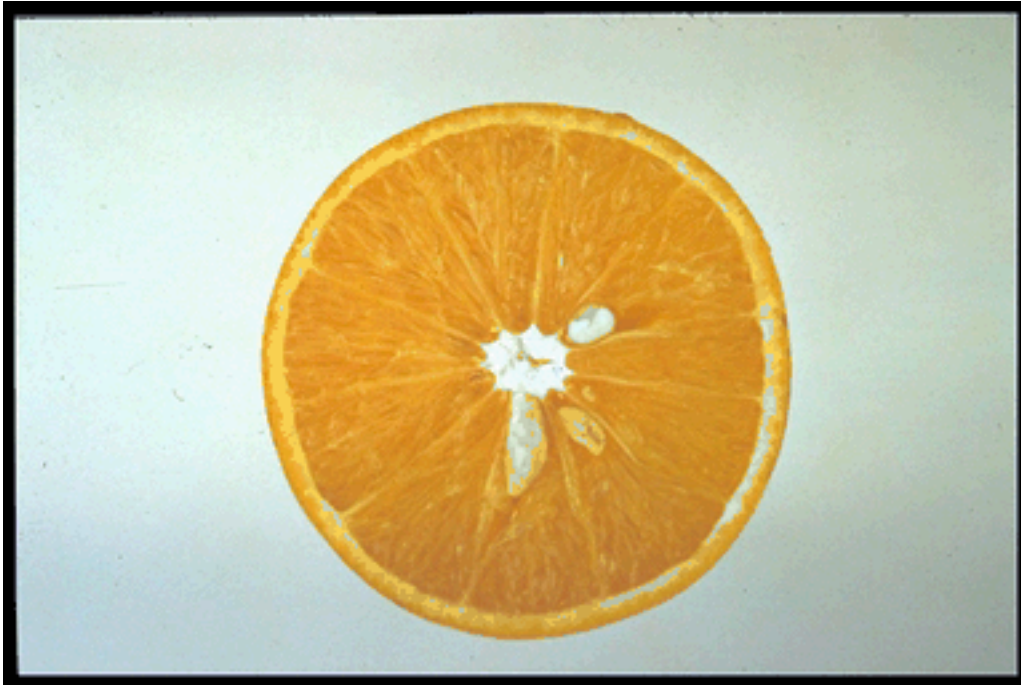
ORANGES AND TANGELOS

SLIDE 9 -- HAMLIN



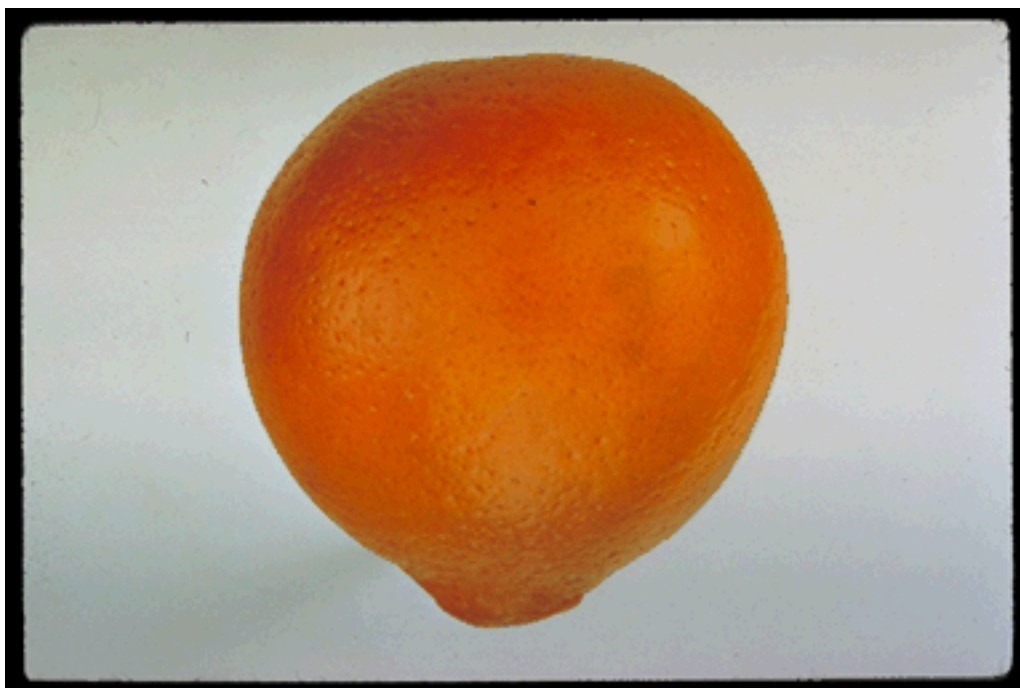
ORANGES AND TANGELOS

SLIDE 10 – HAMLIN CUT



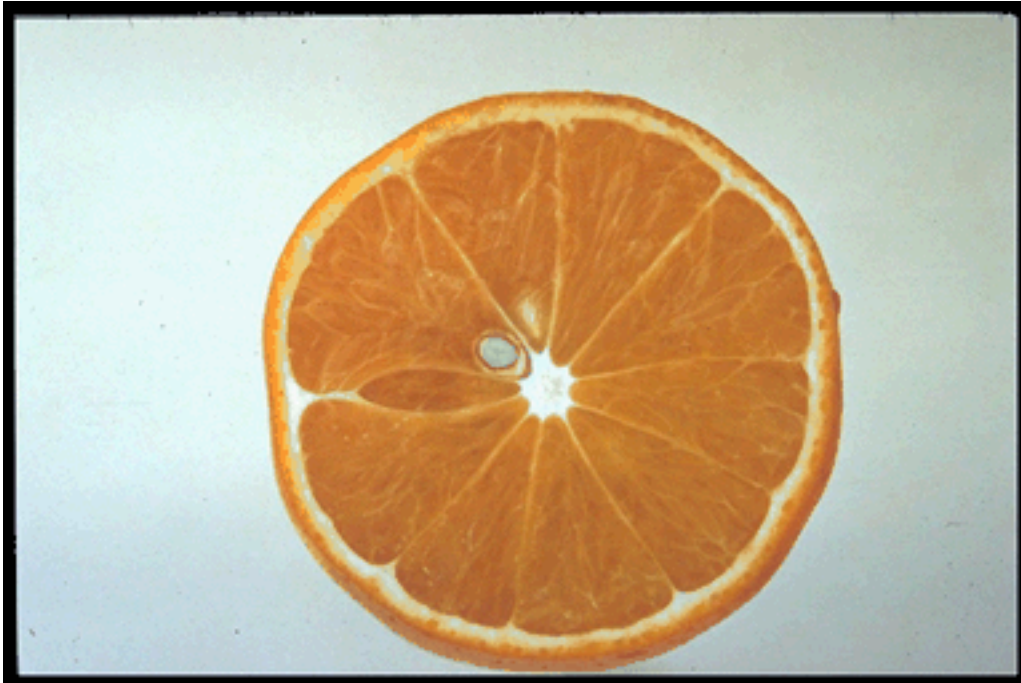
ORANGES AND TANGELOS

SLIDE 11 – MINNEOLA TANGELO



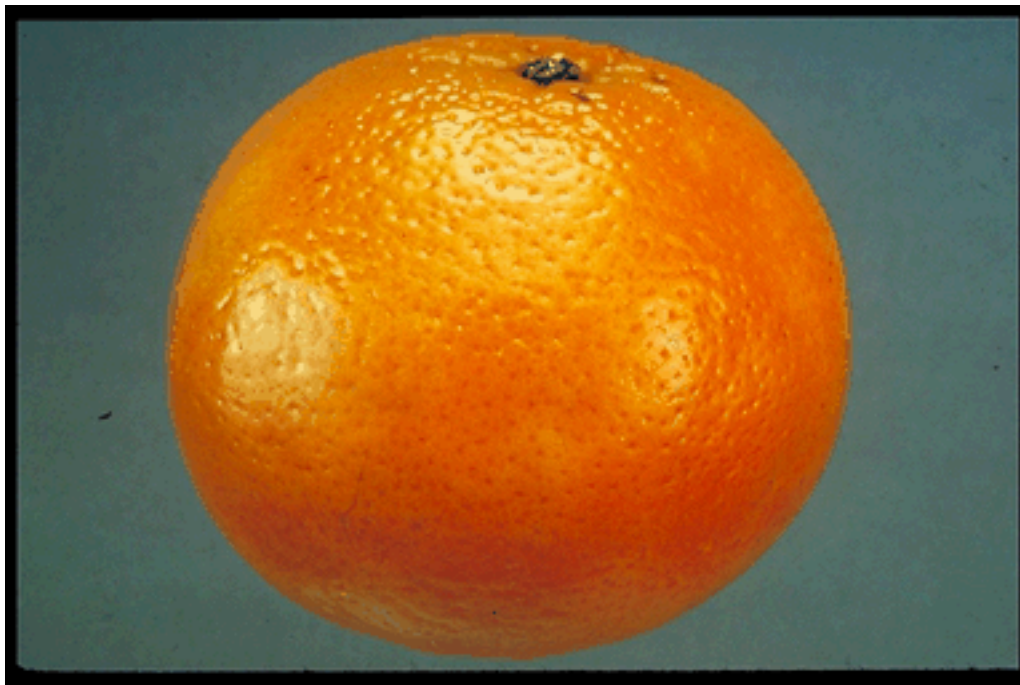
ORANGES AND TANGELOS

SLIDE 12 – MINNEOLA CUT



ORANGES AND TANGELOS

SLIDE 13 – ORLANDO TANGELO



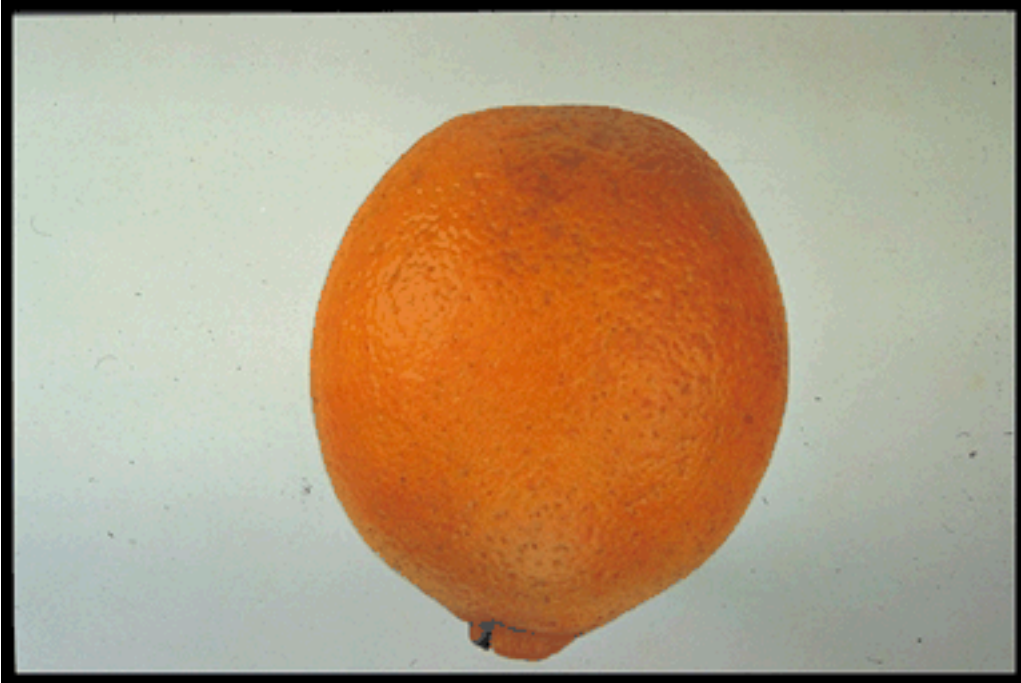
ORANGES AND TANGELOS

SLIDE 14 – ORLANDO CUT



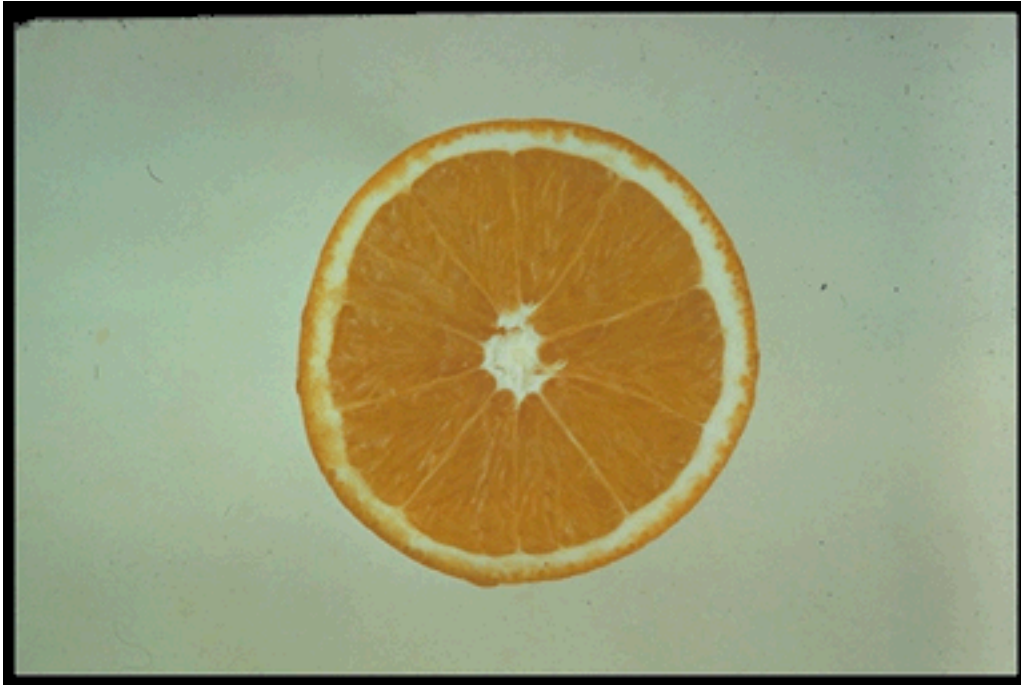
ORANGES AND TANGELOS

SLIDE 15 -- NAVEL



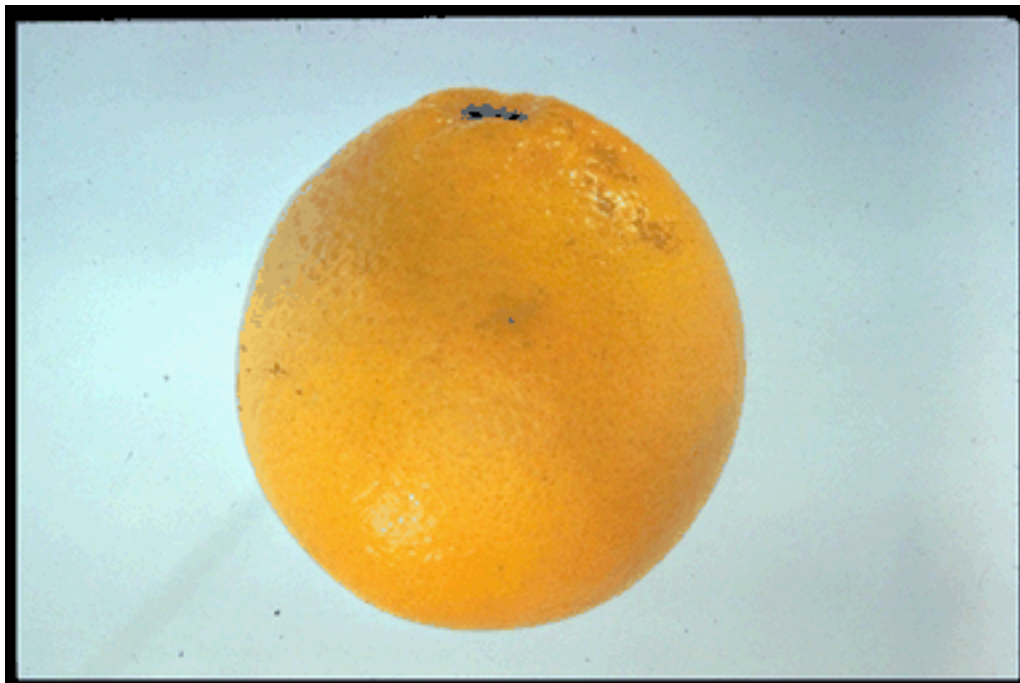
ORANGES AND TANGELOS

SLIDE 16 – NAVEL CUT



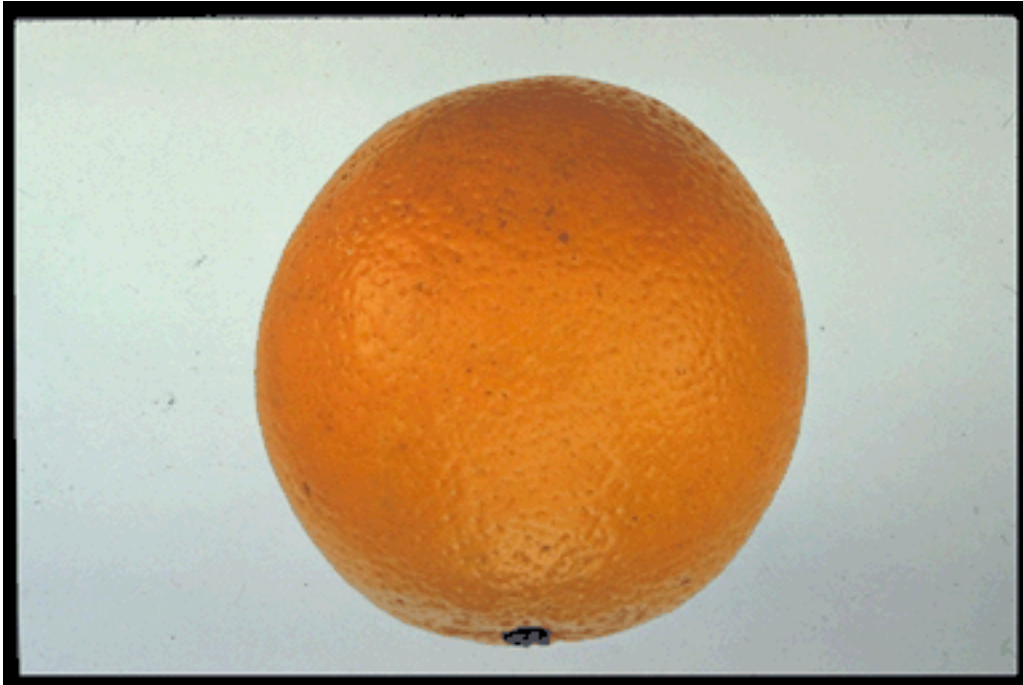
ORANGES AND TANGELOS

SLIDE 17 – WELL FORMED



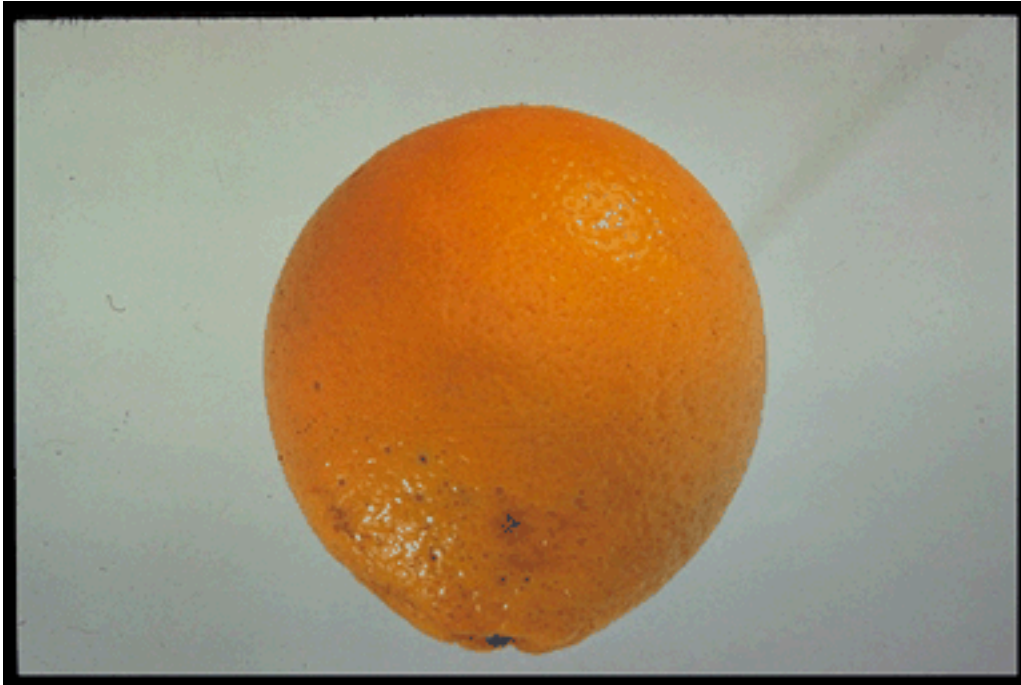
ORANGES AND TANGELOS

SLIDE 18 – WELL FORMED



ORANGES AND TANGELOS

SLIDE 19 – SLIGHTLY MISSHAPEN



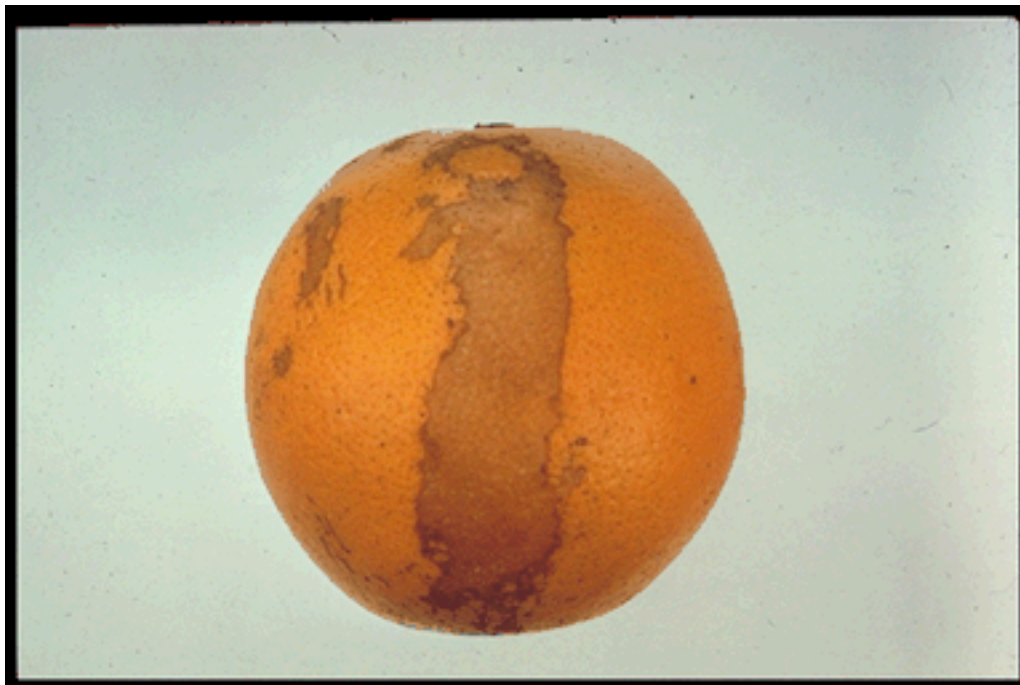
ORANGES AND TANGELOS

SLIDE 20 – MISSHAPEN



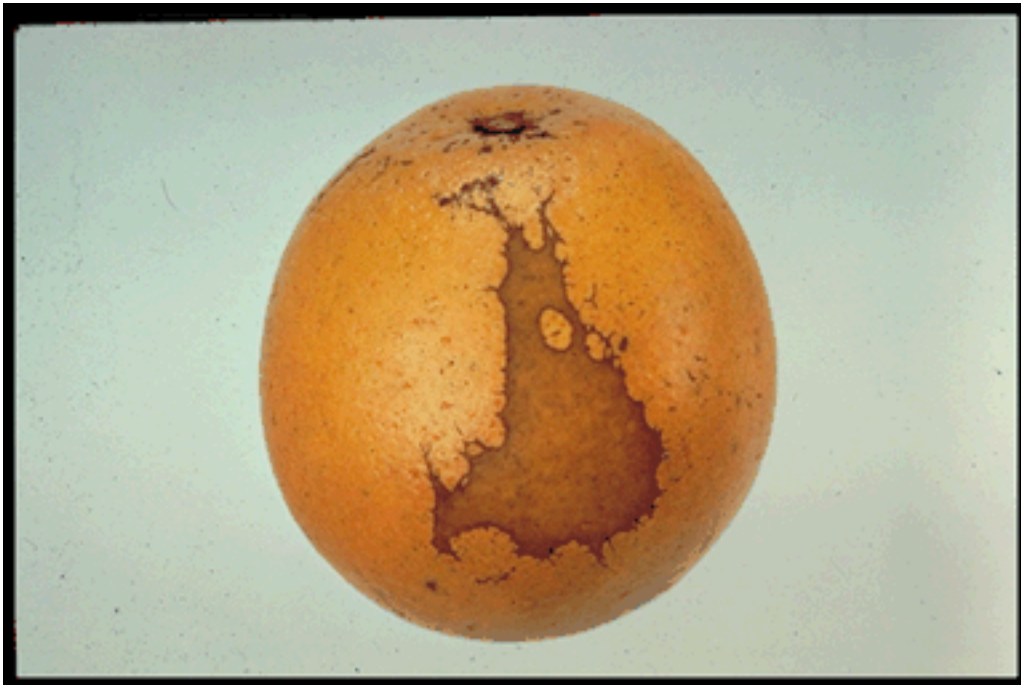
ORANGES AND TANGELOS

SLIDE 21 – SUPERFICIAL SCARS



ORANGES AND TANGELOS

SLIDE 22 – SUPERFICIAL SCARS



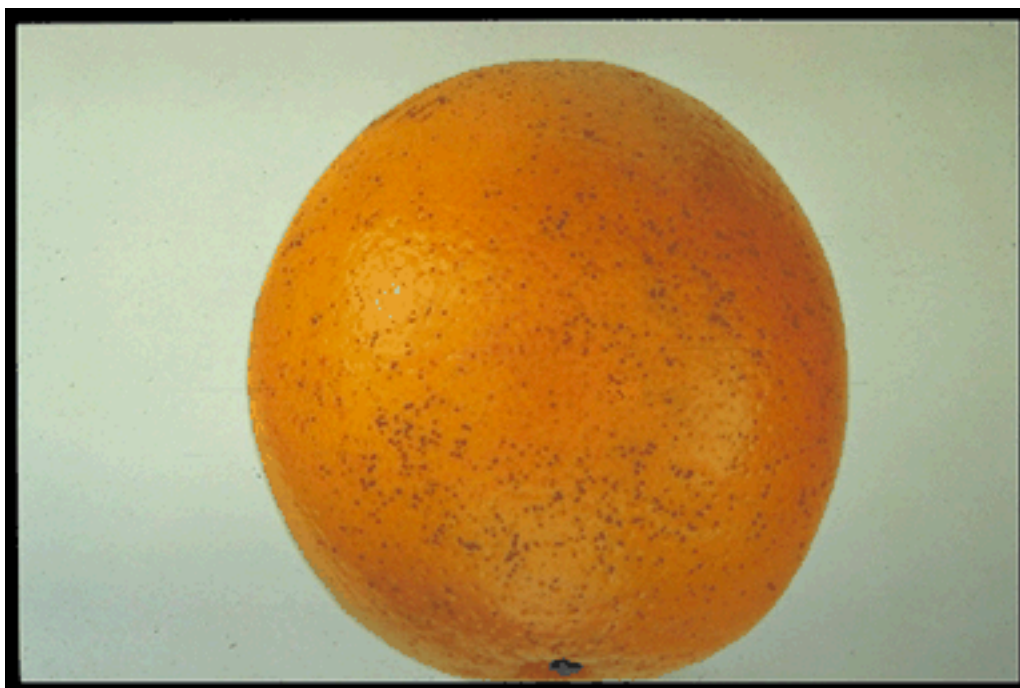
ORANGES AND TANGELOS

SLIDE 23 – RUST MITE



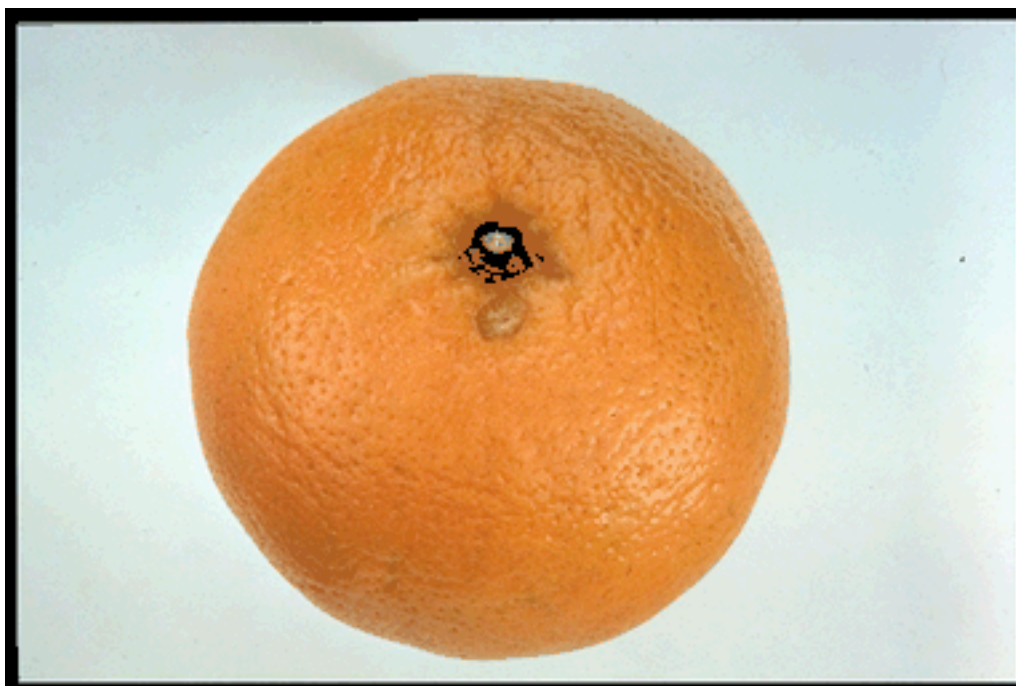
ORANGES AND TANGELOS

SLIDE 24 – SPECK TYPE MELANOSE



ORANGES AND TANGELOS

SLIDE 25 – CUTS NOT HEALED



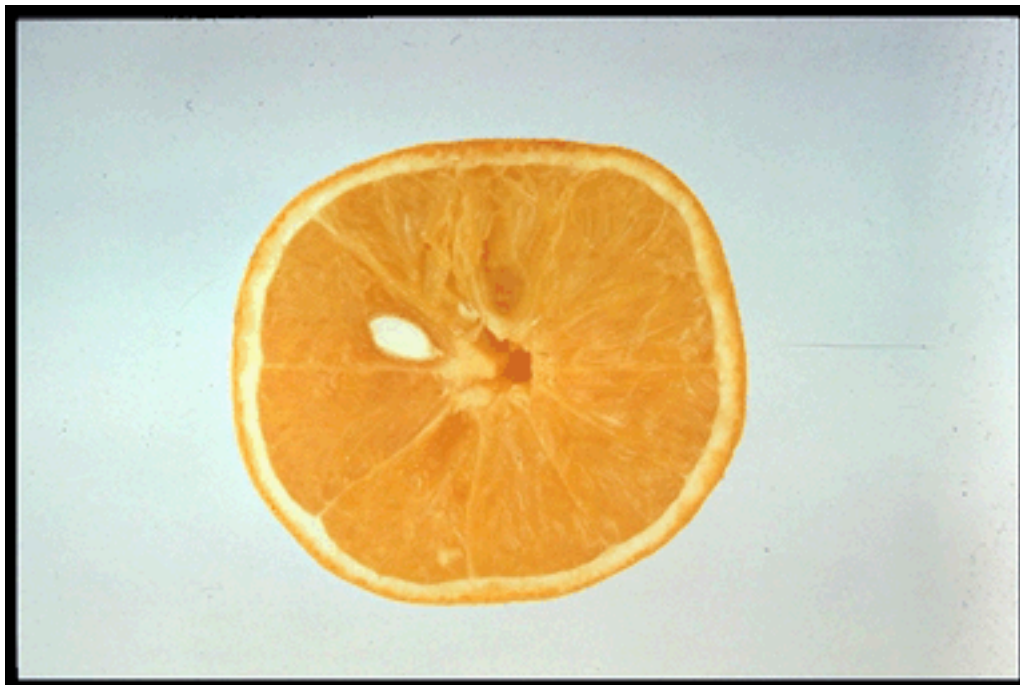
ORANGES AND TANGELOS

SLIDE 26 -- BUCKSKIN



ORANGES AND TANGELOS

SLIDE 27 – BRUISES (CUT)



ORANGES AND TANGELOS

SLIDE 28 – GROWTH CRACK



ORANGES AND TANGELOS

SLIDE 29 – GREEN MOLD ROT



ORANGES AND TANGELOS

SLIDE 30 – BLUE MOLD ROT



ORANGES AND TANGELOS

SLIDE 31 – SOUR ROT



ORANGES AND TANGELOS

SLIDE 32 – BROWN ROT



ORANGES AND TANGELOS

SLIDE 33 – SIDE ROT



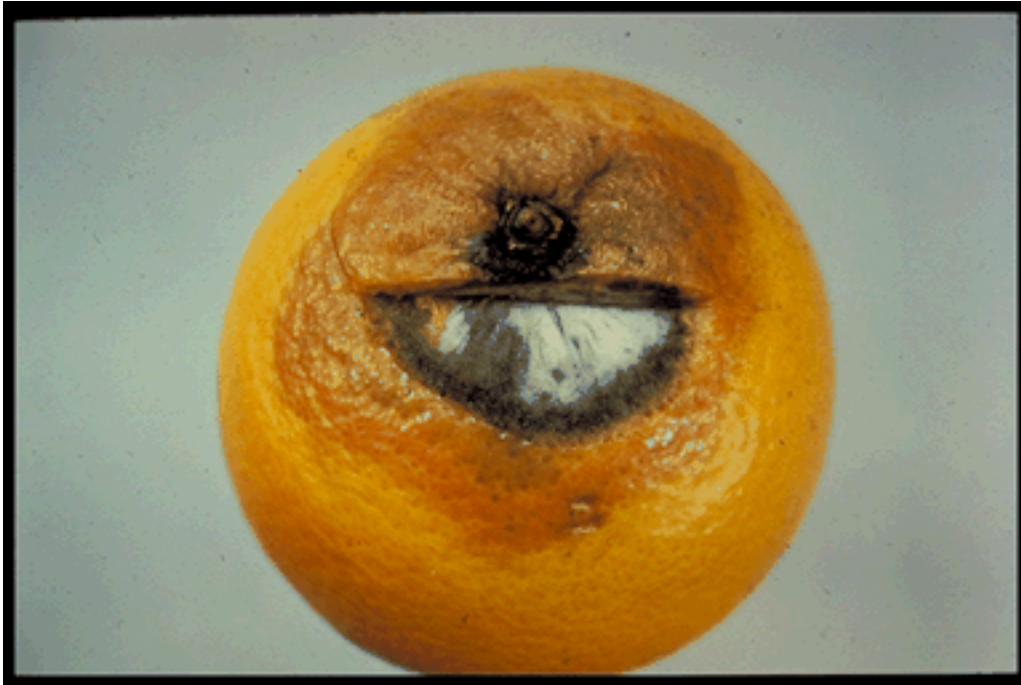
ORANGES AND TANGELOS

SLIDE 34 – STEM END ROT



ORANGES AND TANGELOS

SLIDE 35 – BLACK ROT



ORANGES AND TANGELOS

SLIDE 36 – CAKED MELANOSE



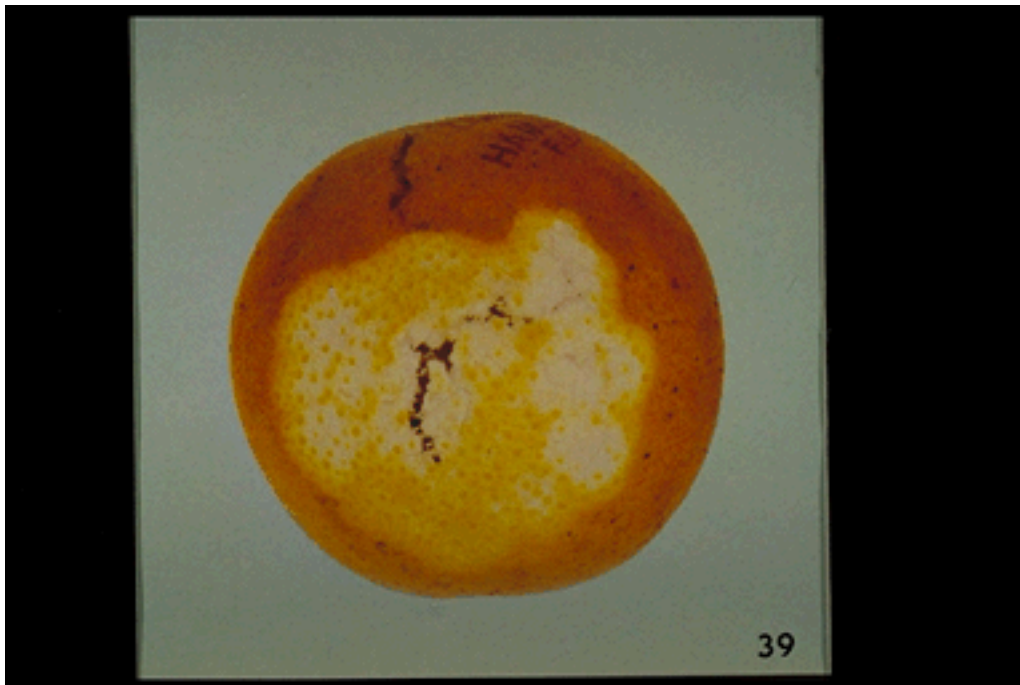
ORANGES AND TANGELOS

SLIDE 37 – CAKED MELANOSE



ORANGES AND TANGELOS

SLIDE 39 -- CREASING



ORANGES AND TANGELOS

SLIDE 41 -- CREASING



ORANGES AND TANGELOS

SLIDE 42 – GREEN SPOT



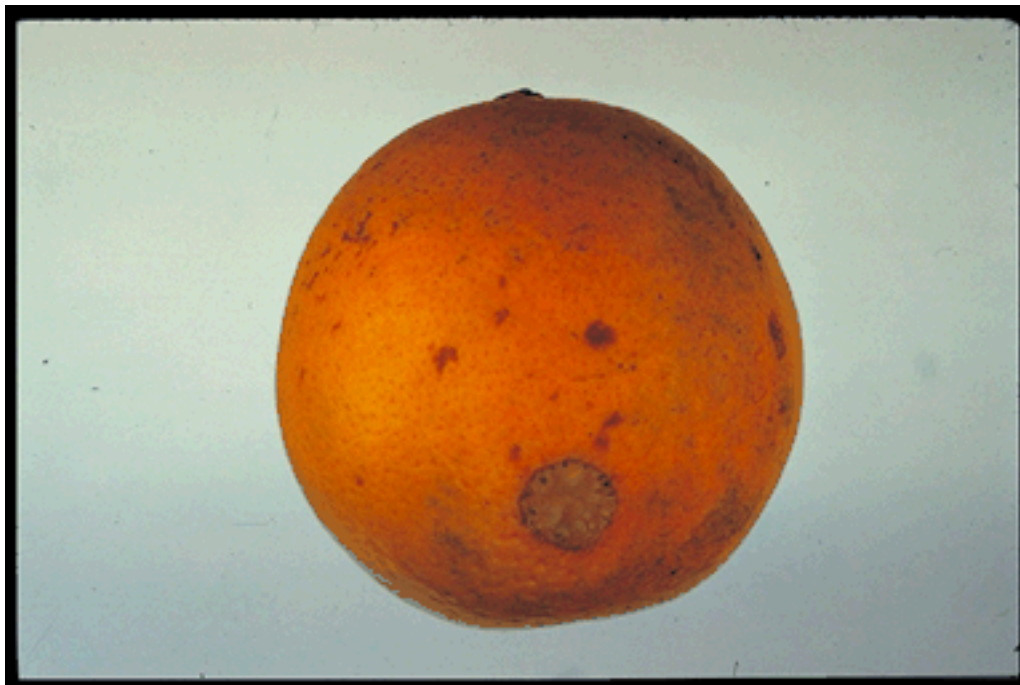
ORANGES AND TANGELOS

SLIDE 43 -- HAIL



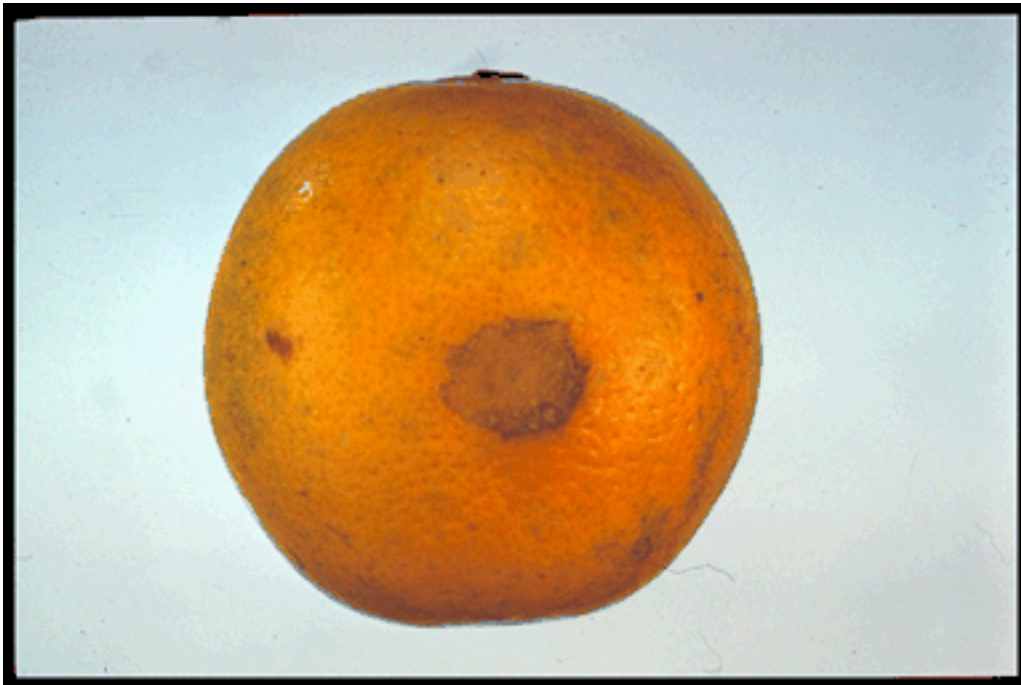
ORANGES AND TANGELOS

SLIDE 44 -- HAIL



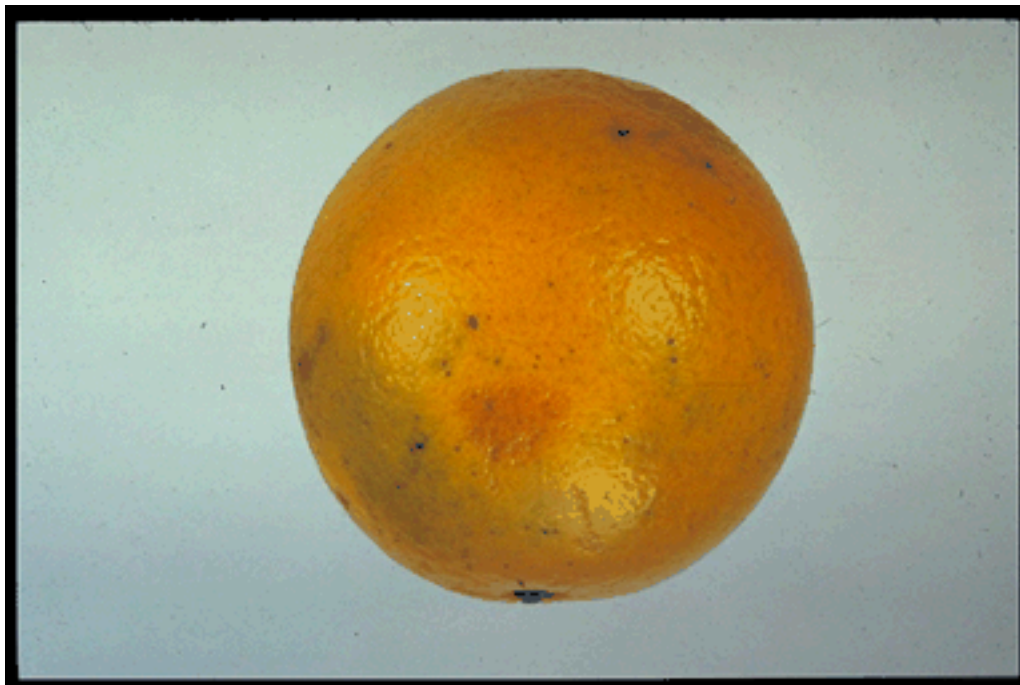
ORANGES AND TANGELOS

SLIDE 45 -- HAIL



ORANGES AND TANGELOS

SLIDE 46 – OIL SPOTS



ORANGES AND TANGELOS

SLIDE 47 – OIL SPOTS



ORANGES AND TANGELOS

SLIDE 48 – SCAB



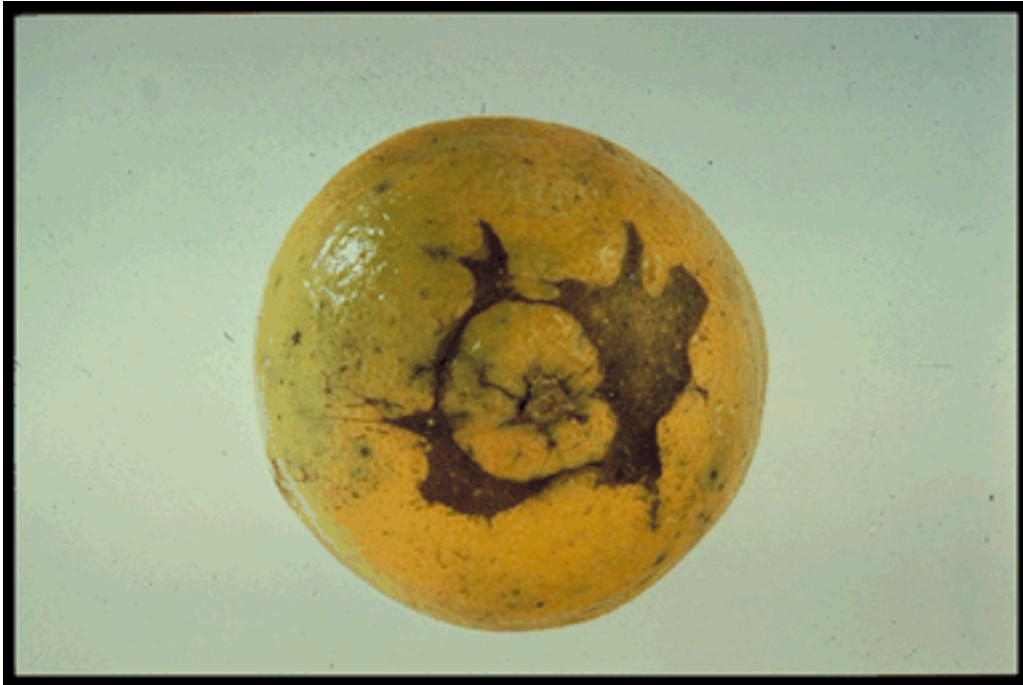
ORANGES AND TANGELOS

SLIDE 49 – SCAB



ORANGES AND TANGELOS

SLIDE 51 – SCARS



ORANGES AND TANGELOS

SLIDE 52 – SCARS



ORANGES AND TANGELOS

SLIDE 53 – SCARS



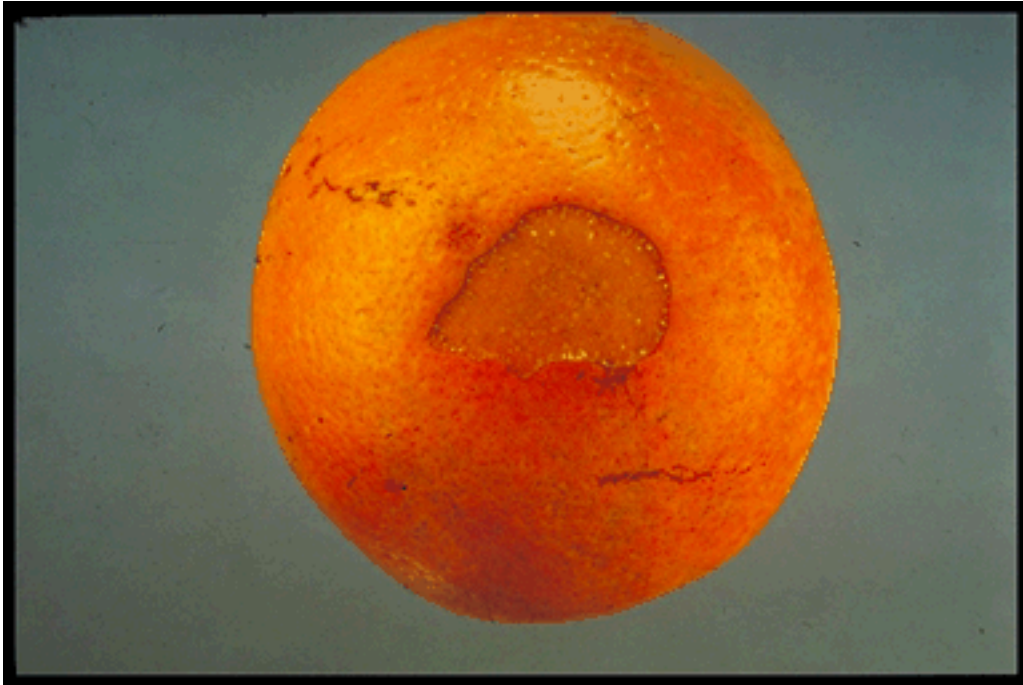
ORANGES AND TANGELOS

SLIDE 54 – SCARS



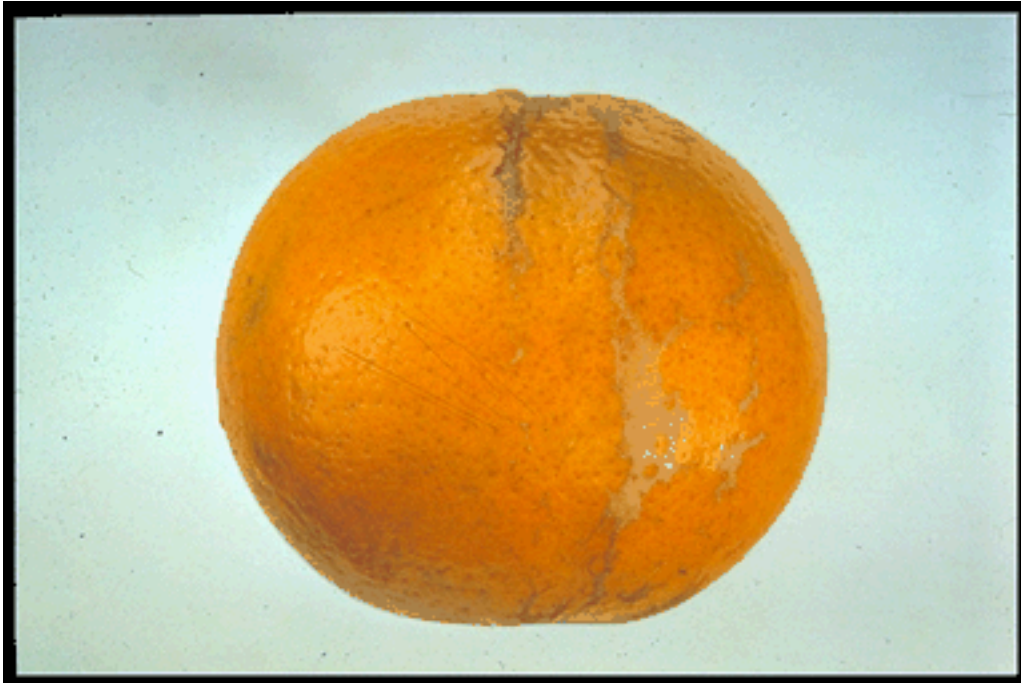
ORANGES AND TANGELOS

SLIDE 55 – SCARS



ORANGES AND TANGELOS

SLIDE 56 – SCARS



ORANGES AND TANGELOS

SLIDE 57 – SCARS



ORANGES AND TANGELOS

SLIDE 58 – SCALE



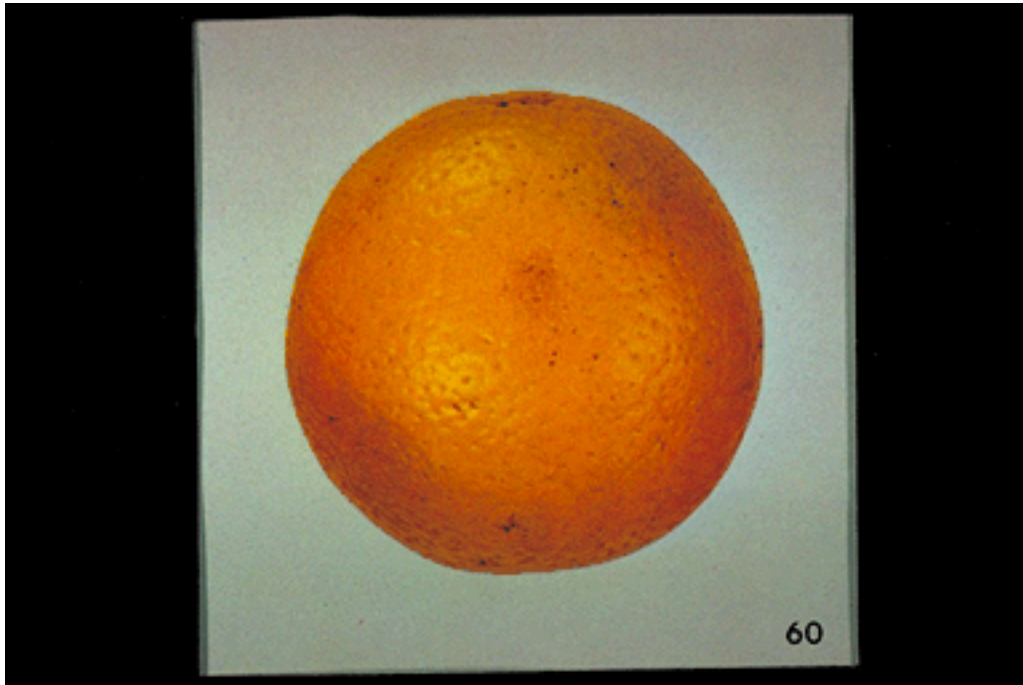
ORANGES AND TANGELOS

SLIDE 59 – SCALE



ORANGES AND TANGELOS

SLIDE 60 – SKIN BREAKDOWN



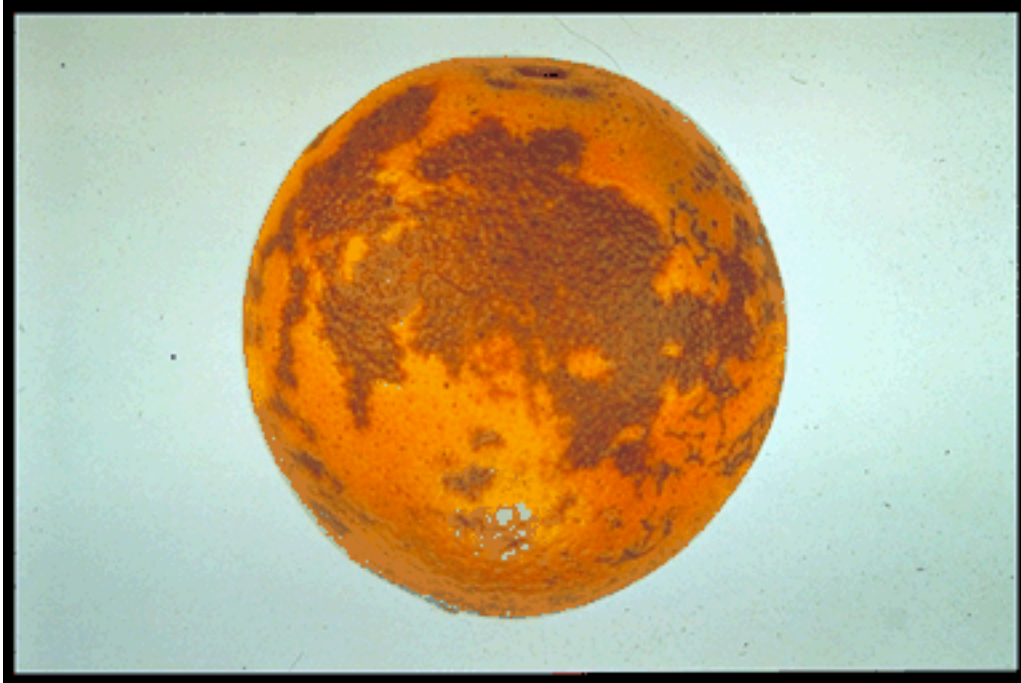
ORANGES AND TANGELOS

SLIDE 61 – SKIN BREAKDOWN



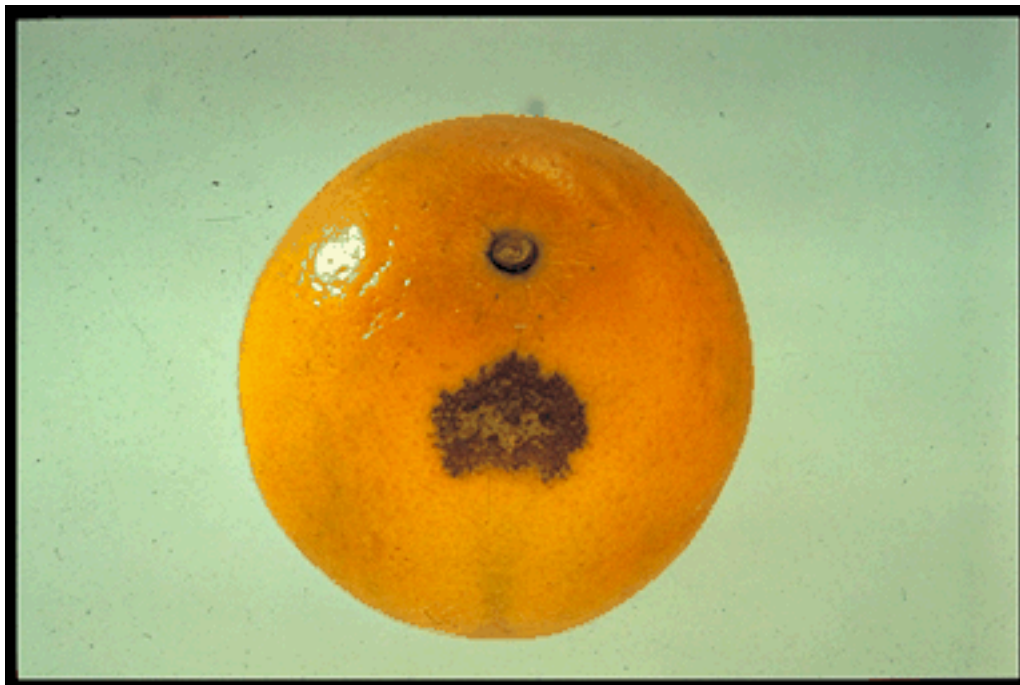
ORANGES AND TANGELOS

SLIDE 62 – SKIN BREAKDOWN



ORANGES AND TANGELOS

SLIDE 63 – SPRAYBURN



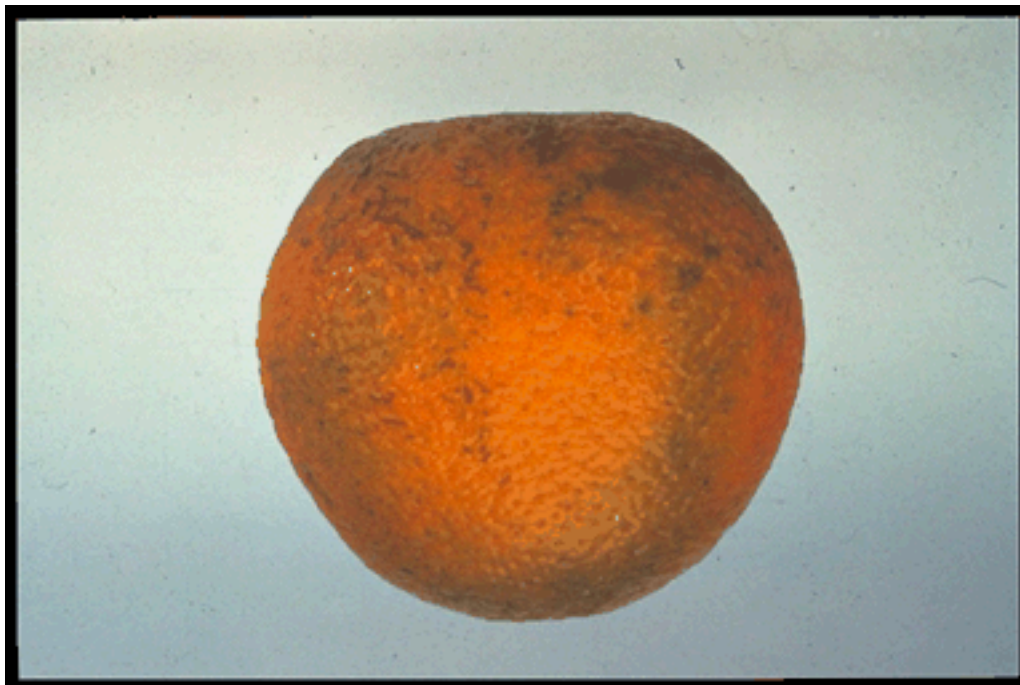
ORANGES AND TANGELOS

SLIDE 64 – SPRAYBURN



ORANGES AND TANGELOS

SLIDE 65 – SUNBURN



ORANGES AND TANGELOS

SLIDE 66 – SUNBURN



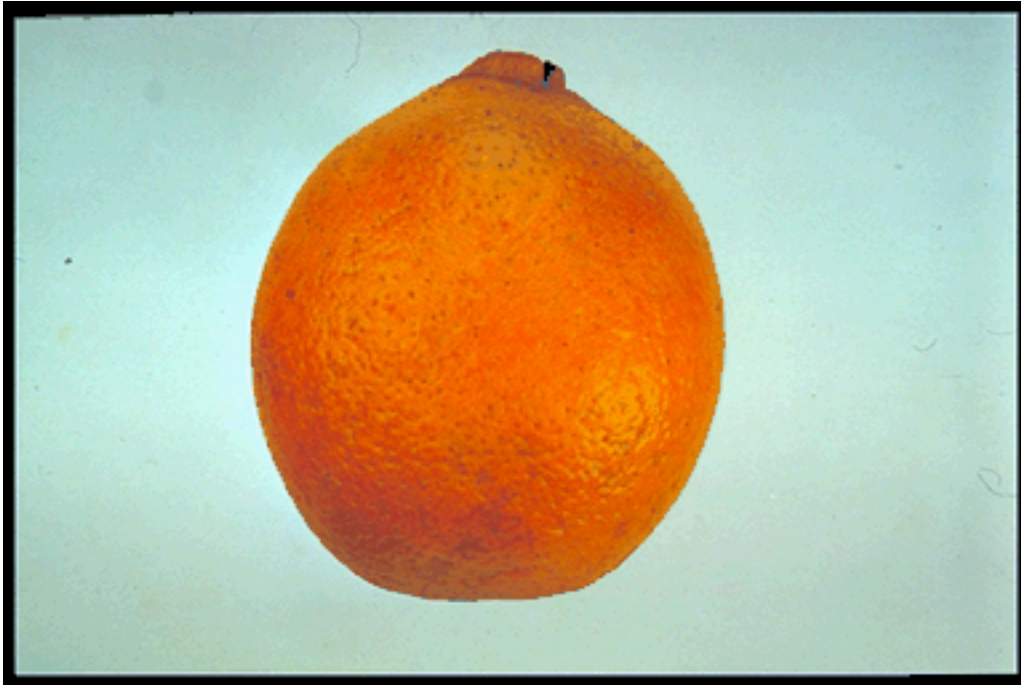
ORANGES AND TANGELOS

SLIDE 67 – SPLIT ROUGH OR PROTRUDING NAVELS



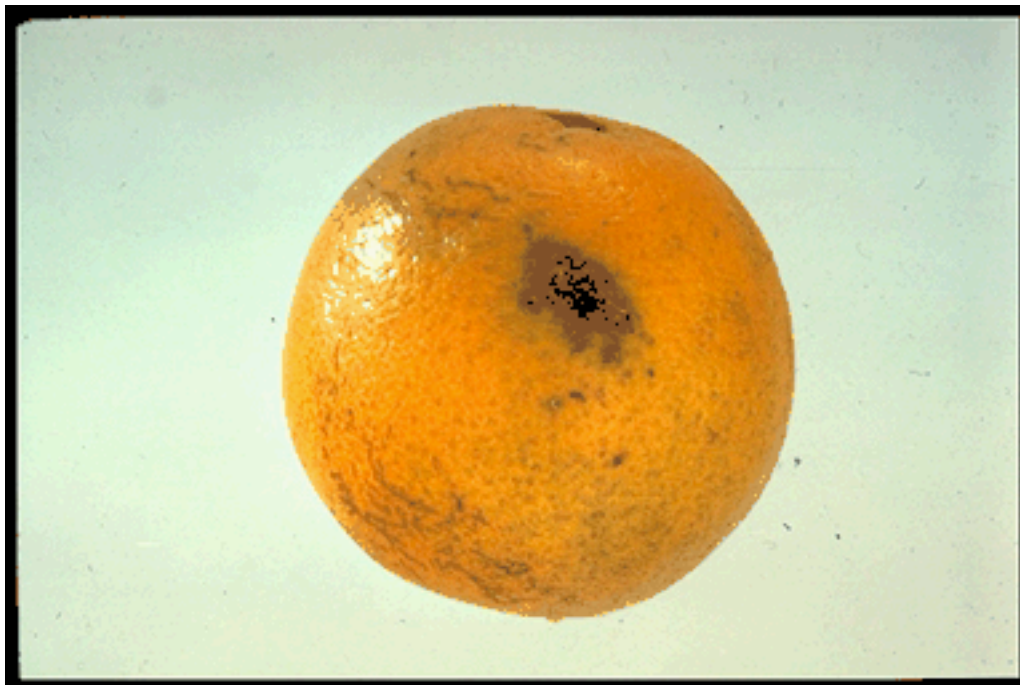
ORANGES AND TANGELOS

SLIDE 68 – SPLIT ROUGH OR PROTRUDING NAVELS



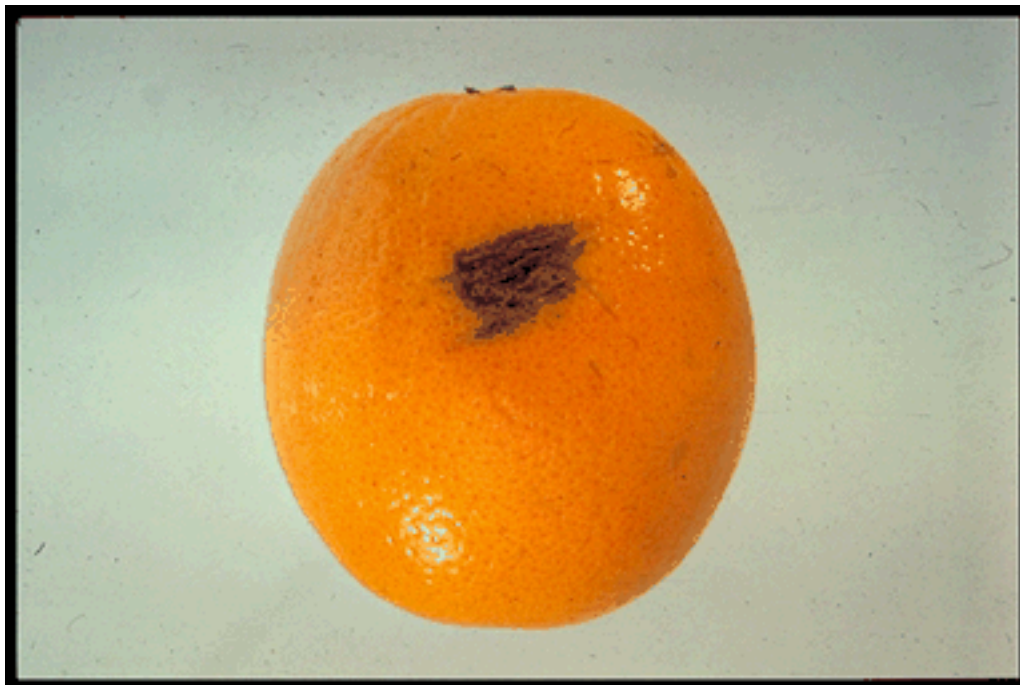
ORANGES AND TANGELOS

SLIDE 69 – THORN SCRATCHES



ORANGES AND TANGELOS

SLIDE 70 – THORN SCRATCHES



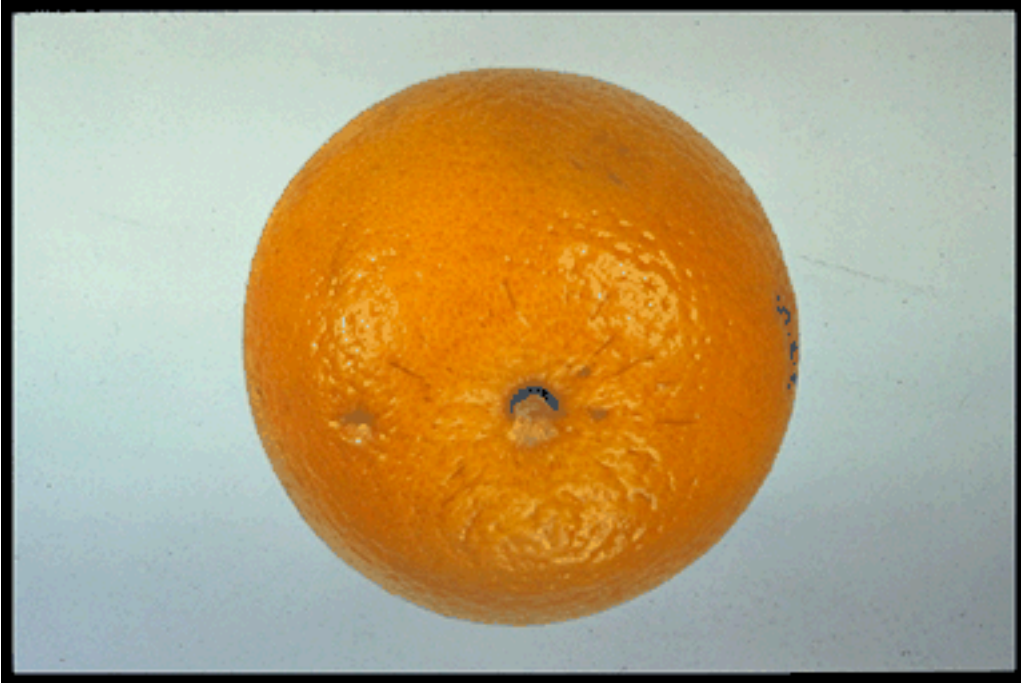
ORANGES AND TANGELOS

SLIDE 71 – THORN SCRATCHES



ORANGES AND TANGELOS

SLIDE 72 – PULLED STEM



ORANGES AND TANGELOS

SLIDE 73 – PULLED STEM

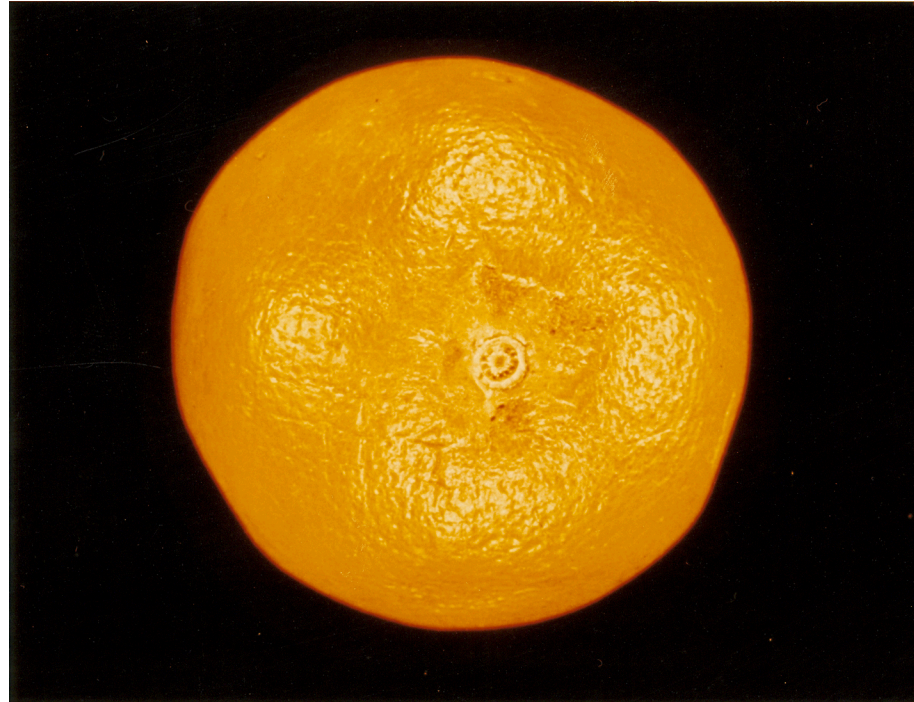


ORANGES AND TANGELOS

SLIDE 74 – PULLED STEM



ORANGE SKIN-BREAKDOWN



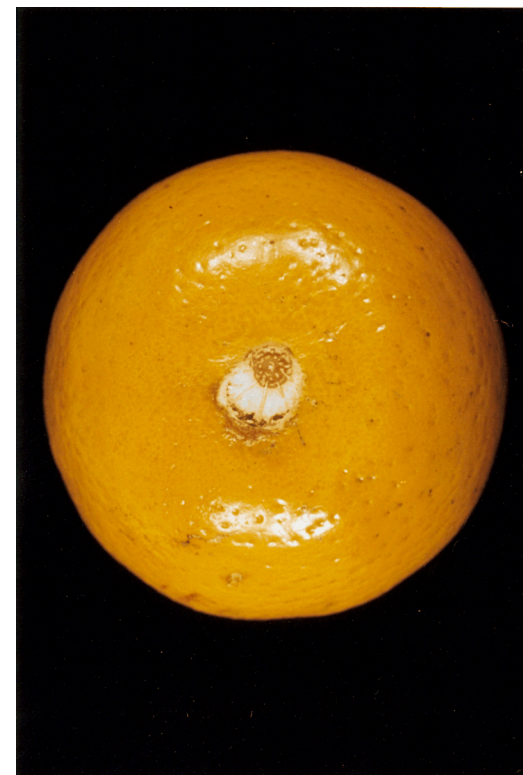
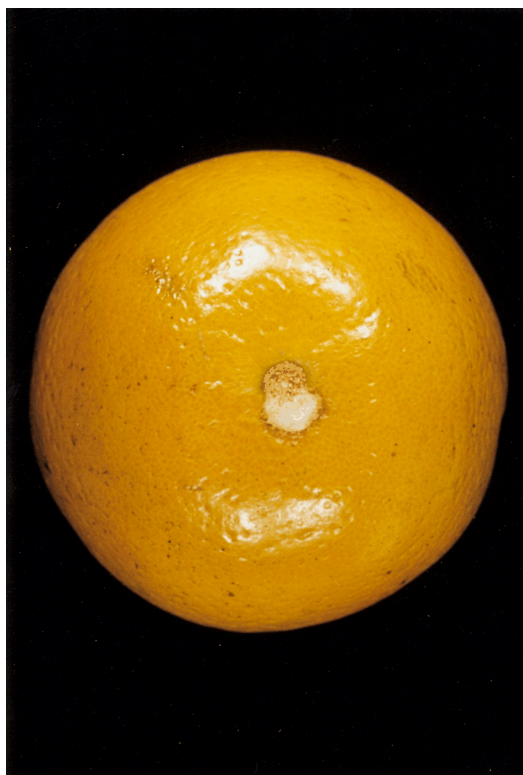
UPPER LIMIT U.S. NO. 2

Skin-breakdown is present only in the four dark areas near the stem scar. Light areas on the shoulders are photographic highlights with no skin injury involved. This orange would be considered the lower limit of U.S. No. 1 if the smallest dark area was not present.

C-1, March 1990
(Previous photo had no date)

PULLED STEMS

Torn rind areas occurring adjacent to the stem button caused by pulled stems (plugs) shall be scored as damage, serious damage, or very serious damage respectively when materially, seriously or very seriously detracting from the appearance or marketing quality of the orange.



“Damage” – When the rind adjacent to the stem button is torn more than the aggregate area of a circle $\frac{3}{16}$ inch in diameter.

“Serious damage” – When the rind adjacent to the stem button is torn more than the aggregate area of a circle $\frac{1}{4}$ inch in diameter.

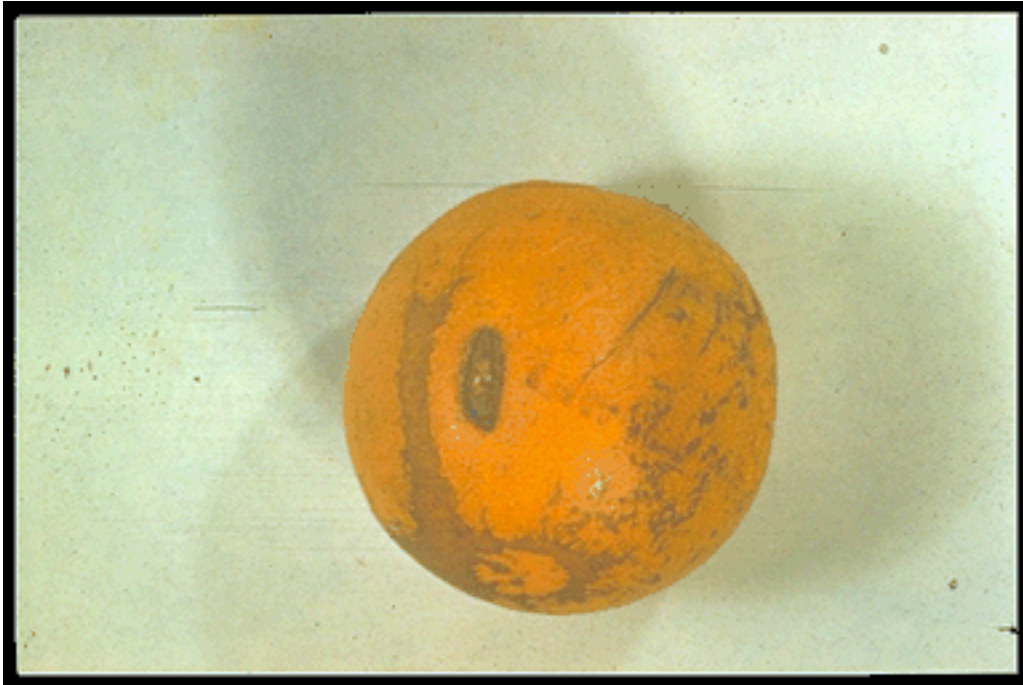
“Very serious damage” – When the rind adjacent to the stem button is torn more than the aggregate area of a circle $\frac{5}{16}$ inch in diameter or when the flesh is exposed.

The aggregate areas specified in the definitions are equivalent to the various circle diameters on a 100 size Florida or Texas orange or an 88 size Arizona or California orange.

ORG-CP-1
Pulled Stems
February 1990
(Previously Pulled Stems, August 1970)

ORANGES

SLIDE 95 – DEEP SCARS



ORANGES

SLIDE 96 -- SCALE

