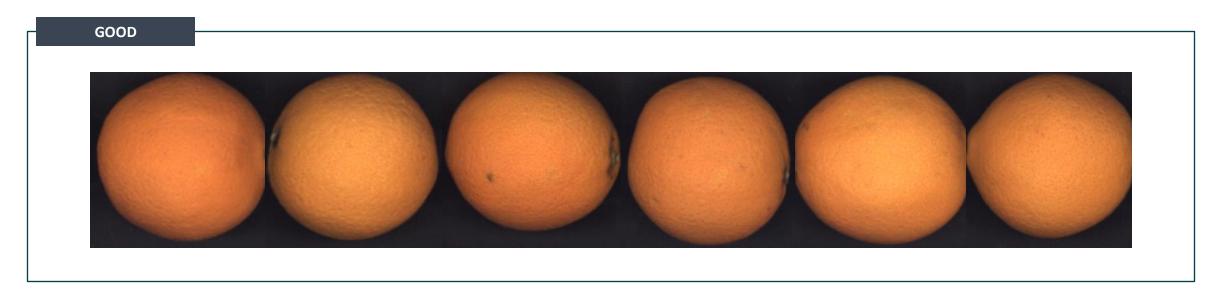
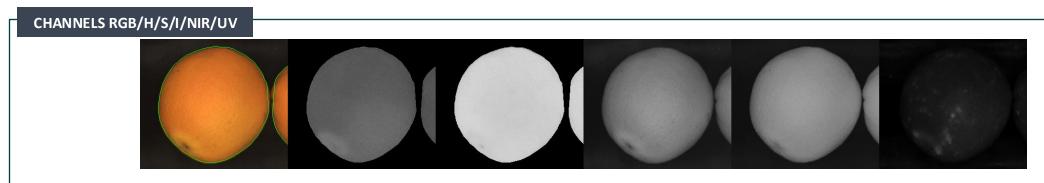


## DEFECT CATALOGUE

ORANGES AND MANDARINS

# Good product



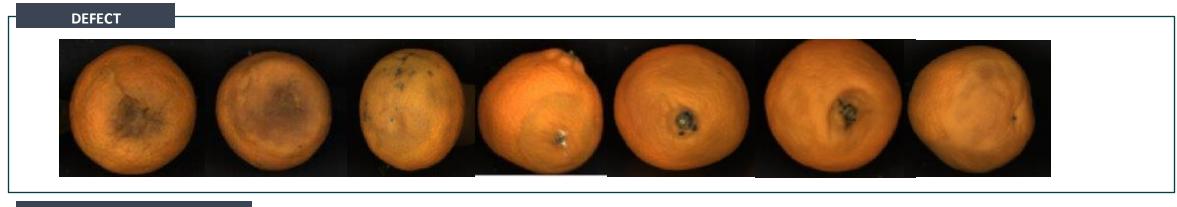


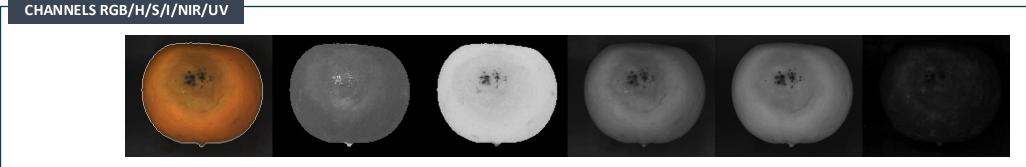


# Rotten (Decay)

**Appearance**: Clear transparent waste on fruit rind. Soft to touch.

Cause: Puncture or bruise during harvest or packing which allows fungus to contaminate the fruit and spread



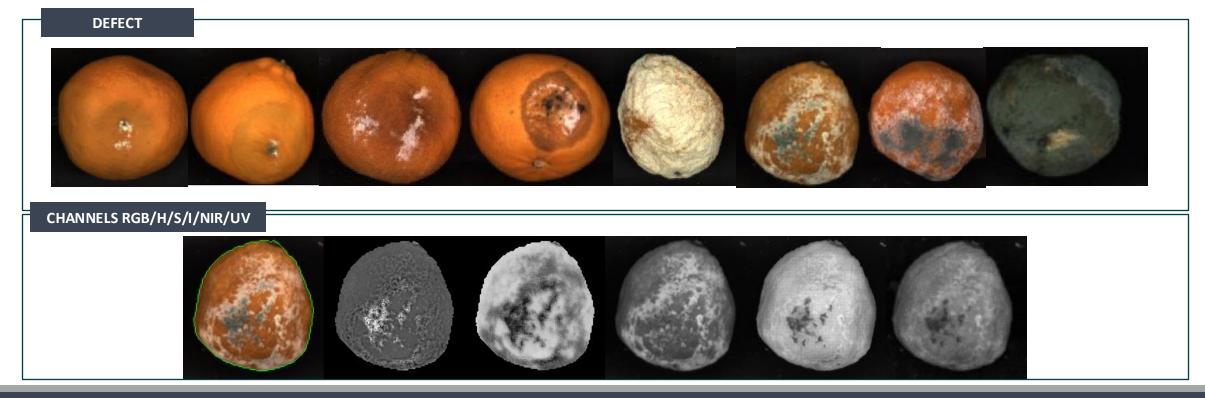




# Rotten (White rotten)

**Appearance**: Mould growth that initially starts as white and develops into blue or green mould.

**Cause**: Fungal infection of fruit rind, caused initially by puncture or weakness of the skin. This allows fungi to contaminate the fruit and spread. Acceleration is exaggerated with high humidity and temperatures or long term storage.

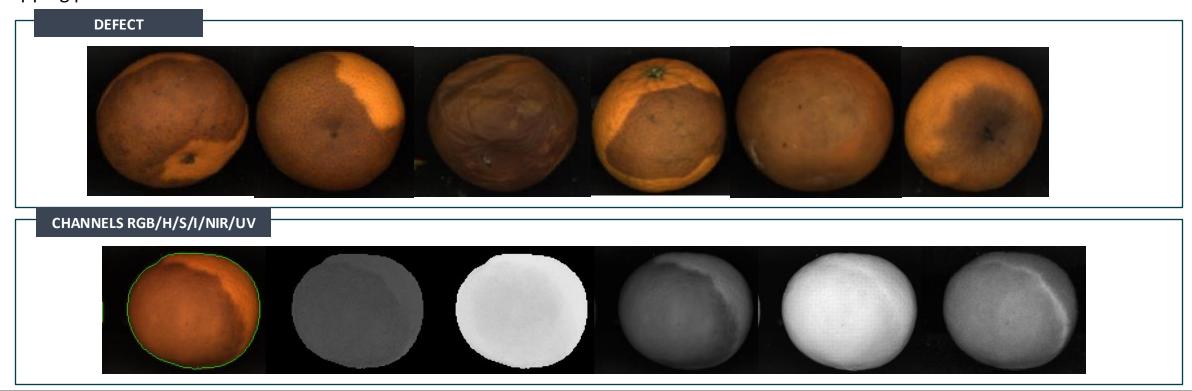




## Rotten (Rot)

**Appearance**: Brownish discoloured decaying peel tissue

**Cause**: Fungal infection at pre harvest stage. Not visible at pack house level when in early stage but develops during storage and shipping period

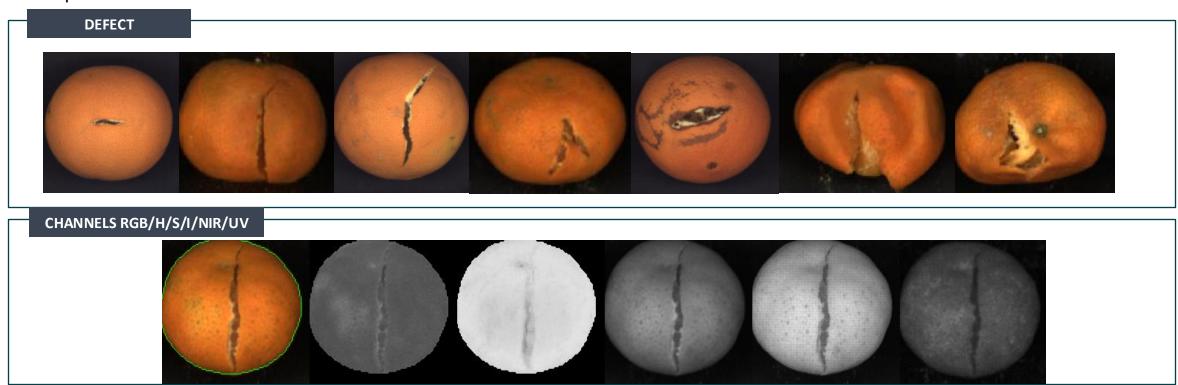




### Cracks

**Appearance**: Open split on the skin of the fruit

**Cause**: There are many ways splits can occur. Most common are poor handling during packing process, machine damages and natural growth splits

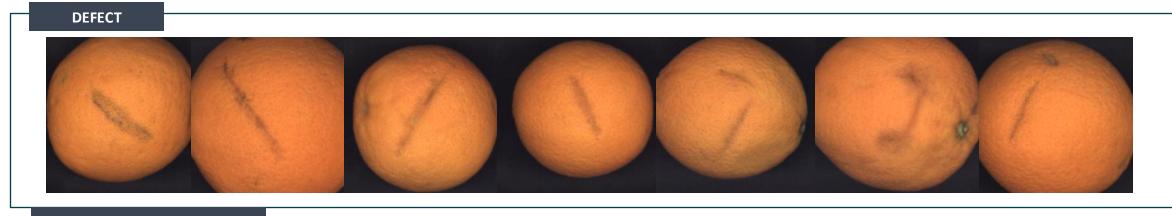




# Mechanical damage

#### **Appearance**:

#### Cause:



CHANNELS RGB/H/S/I/NIR/UV

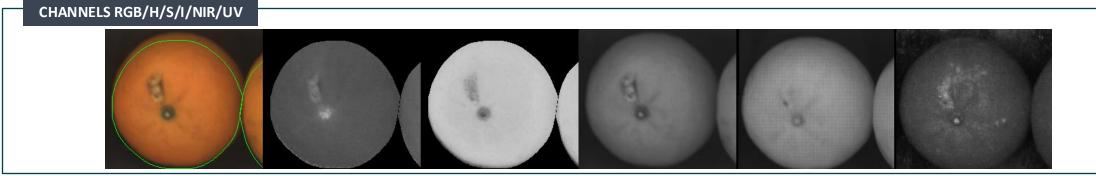


# Damage by pliers

**Appearance**:

Cause:







## Surface

**Appearance**: Brown, discoloured collapse of the fruit rind. Often appears sunken and is progressive.

**Cause**: The most common causes of rind breakdown are: Heavy rainfall, cell weakening followed by dehydration of mature fruit and warm weather conditions along with lack of water causing the fruit to be stressed.



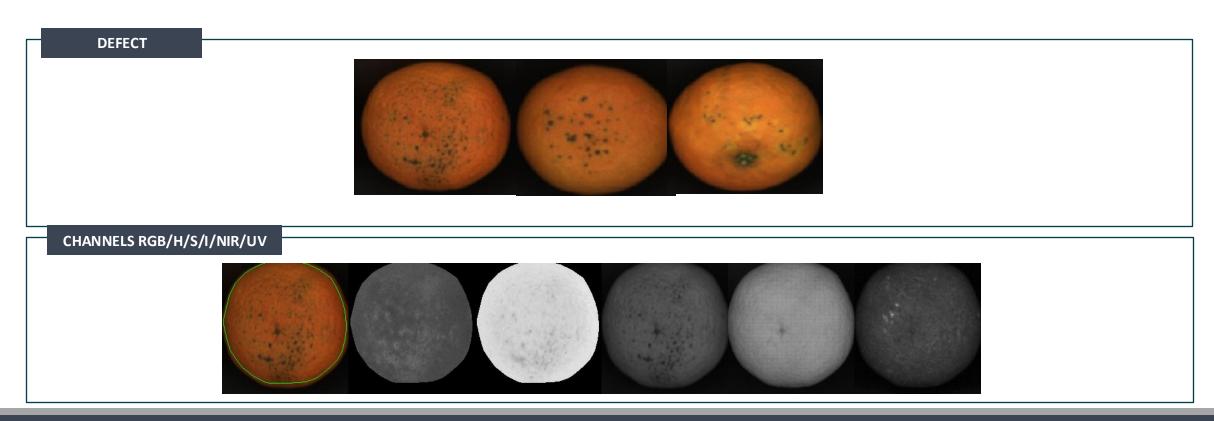




### Insect

**Appearance**: Spots on fruit which are either red or black in colour.

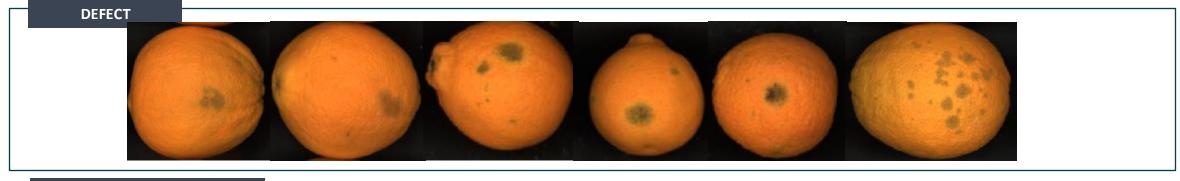
**Cause**: Armour of insect left on skin with insect not presen

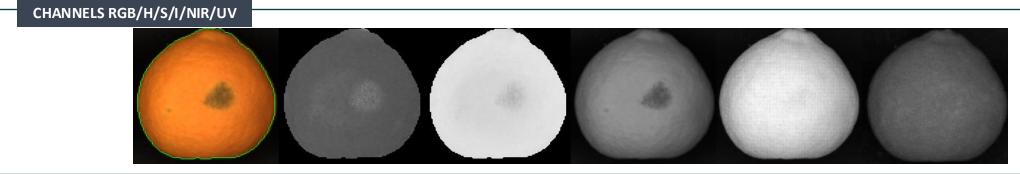




## Oil spots

**Appearance**: Patches on skin which are dark/green in colour but non progressive. Not to be confused with Rind Breakdown. **Cause**:Impact which causes Oil cells to rupture. Mild injury's result in yellow/light patches, severe injuries result in darker patches. Oil cells rupture easier when harvested in cold or wet conditions, also when handling is rough during transportation and packing stage.







### Scars

**Appearance**: Superficial scarring marks on fruit skin. Scarring can vary in colour from silver to dark

**Cause**: Fruit peel rubbing against branches/leaves whilst on tree leaving a scarred mark. More of a problem in windy coastal regions.



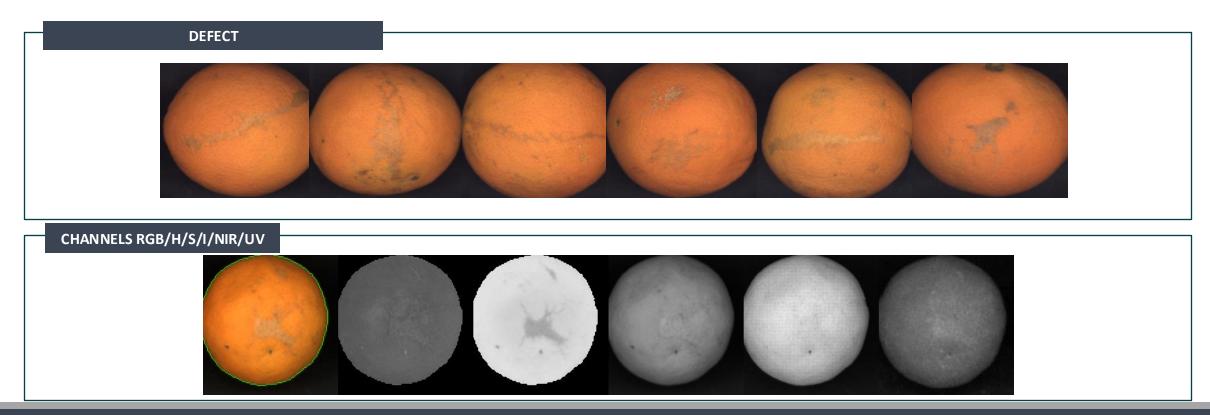




# Light Scars

**Appearance**: Superficial scarring marks on fruit skin. Scarring can vary in colour from silver to dark

**Cause**: Fruit peel rubbing against branches/leaves whilst on tree leaving a scarred mark. More of a problem in windy coastal regions.

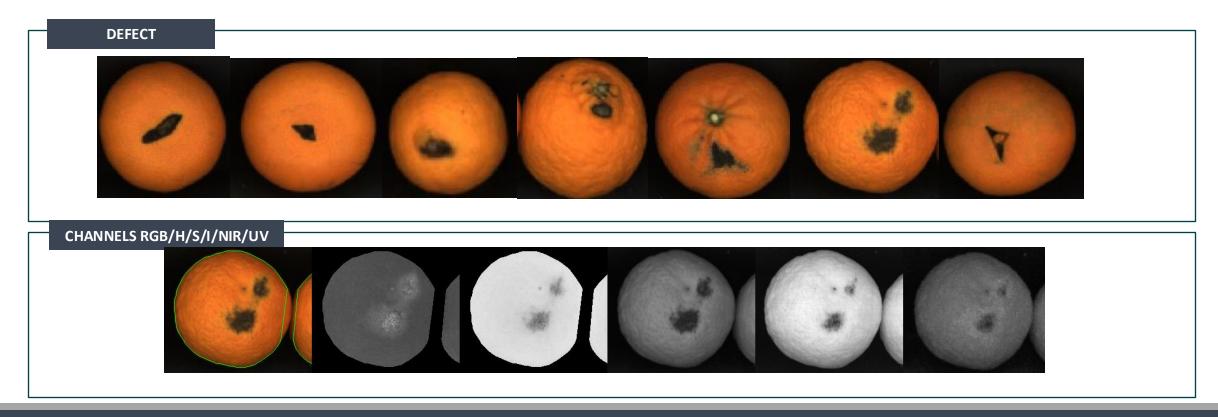




## Skin breakdown

**Appearance**:

Cause:

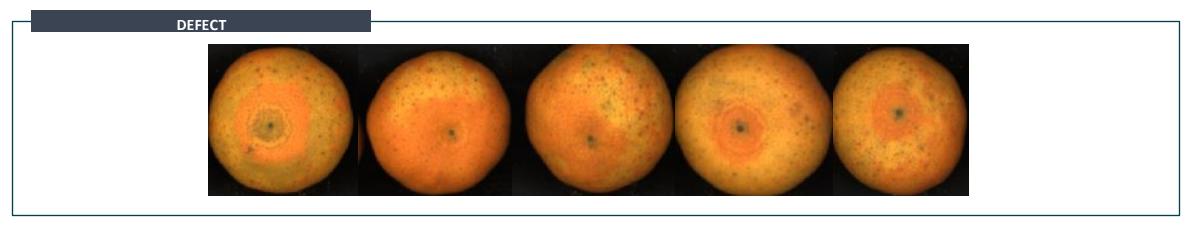


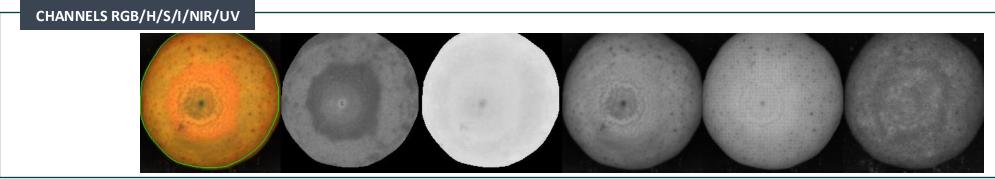


# Bleaching

**Appearance**:

Cause:



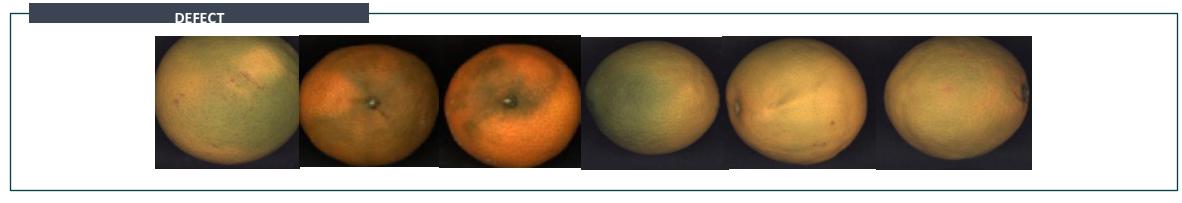


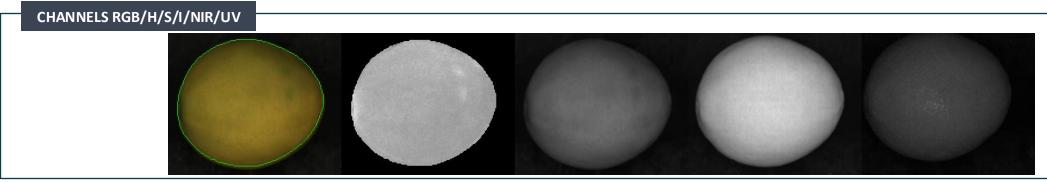


### Green

**Appearance**: Green colour on skin which can vary between defused and blocked.

**Cause**: Citrus fruit is naturally green in colour particularly at the early part of the season. Initiated by hot and cold temperatures. It is not an indication of fruit's maturity and has no effect on eating quality.





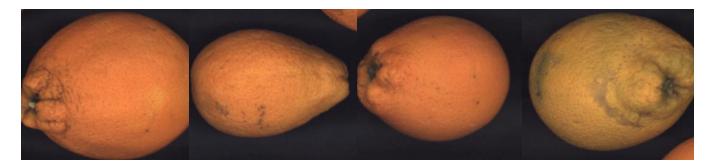


# Deformed peduncle

**Appearance**:

Cause:

**DEFECT** 



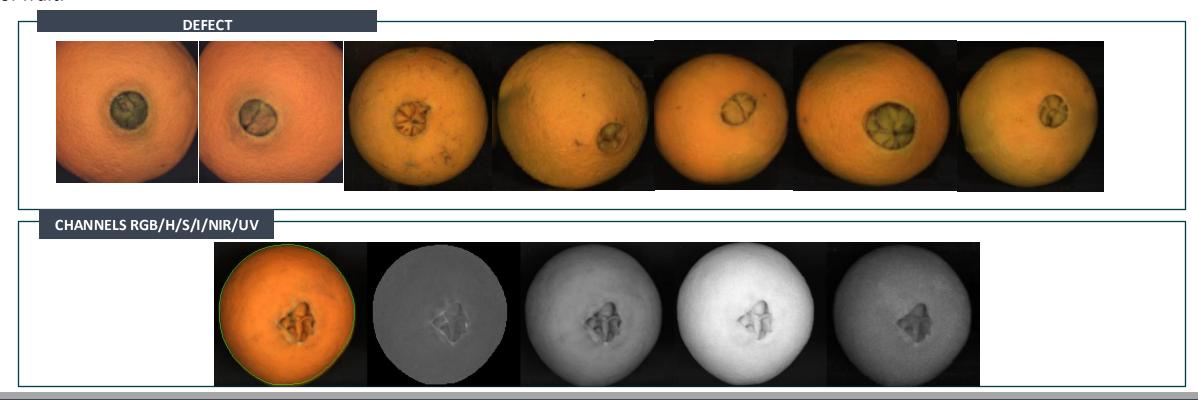
CHANNELS RGB/H/S/I/NIR/UV



## Deformed counterpeduncle

**Appearance**: Large navel on blossom end of fruit.

**Cause**: Growth defect. Navel ends are natural on navel varieties however large or protruding navels are deemed to affect appearance of fruit.

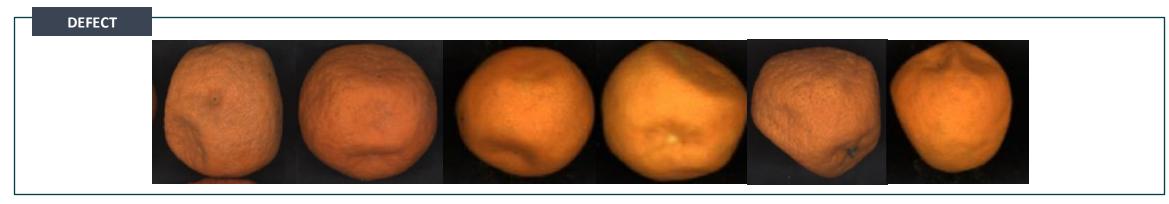




### Hollow

**Appearance**: Flat sided fruit

Cause: Caused by compression during transit. Compression damage is more common on soft citrus



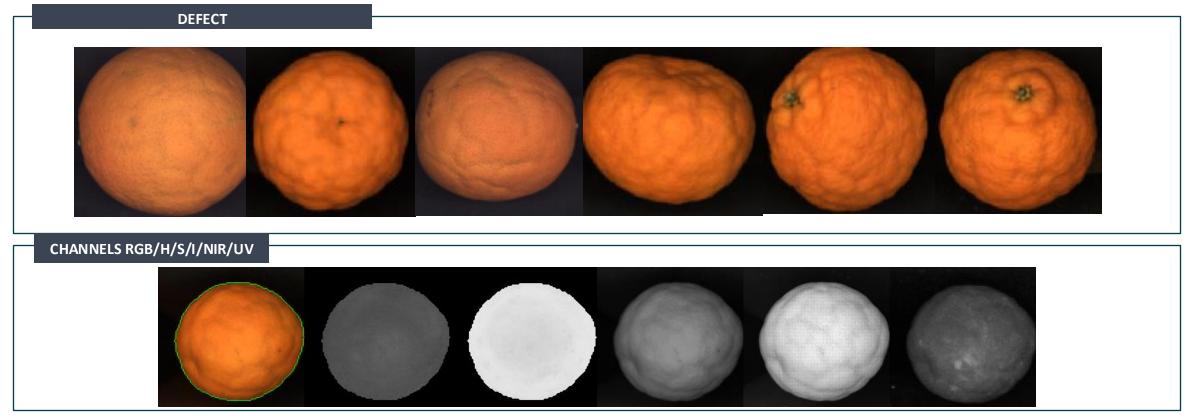




# Skin creasing

#### **Appearance**:

#### Cause:





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