Apples
Malus Domestica

UN-ECE Workshop
South Africa 20-22 April 2010.
Countries of production

- EU
- China
- Westcoast US
- RSA
- New Zealand
- Argentina
- Chile
Blossom period
orchard
Fruit drop (natural way)
fruit drop (natural way)
the best colouring after low night temperature
Hail protection
Pluk o trak
Transportation in big boxes
transportation inside packstation
First selection and measuring by camera’s
Each fruit goes to a selected row
Transportation by water
Minimum requirements

- Intact
- sound
- Practical free from pests
- Free from damage caused by pests affecting the flesh
- Free of any foreign smell or taste

A slight lack of freshness and turgidity
Major defects

- Calciumspot
- Fruitflesh brown
- Heavy pressuremarks
- Damaged caused by pests affecting the flesh
- Hollow fruit
- Several kind of rotting
- Open damage (stalkdamage)
Minor defects

- Misshapen
- Skin defects other than scalding like:
  - slight hail damage
  - slight scab
  - branch damage
- Slight bruises
BASIC FOR CLASSIFICATION
APPLES IN CLASS I AND II

- requirements for colour?
- variety with a rough or smooth skin?
Colour requirements for apples

- cat. A: 50% for Class I and 25% for Class II
- cat. B: 33% for Class I and 10% for Class II
- cat. C: 10% for Class I characteristic colouration for the variety
- Cat. D: no colouration
Smooth and rough skin varieties

**smooth skin varieties:**
- Class I: 20% slight roughness; max. 5% heavy roughness of the surface
- Class II: 50%; slight roughness max. 33% heavy roughness of the surface

**rough skin varieties:**
- Class I and Class II 100% roughness is allowed, excepted identified as skin defects
REQUIREMENTS FOR EXTRA CLASS

- the flesh must be perfectly sound
- apples in this class must be of superior quality. Shape, size and colouring must characteristic of the variety
REQUIREMENTS FOR CLASS I

Apples must be of good quality, shape and colouration.
The flesh must be perfectly sound

*Allowed is:*

- slight defects in shape and colouring
- oblong skin defects 2 cm in length
- other skin defects of maximum 1 cm²
- spots of scab of maximum 1/4 cm²
- slight bruises not exceeding 1 cm²
REQUIREMENTS FOR CLASS II

Apples must satisfy the minimum requirements. The flesh must be free from major defects.

**ALLOWED IS:**

- Defects of shape, colour and development in case characteristics are not undermined.
- Oblong skin defects of maximum 4 cm.
- Spots of scab of maximum 1 cm² in total.
- Other skin defects of maximum 2,5 cm².
- Slight bruises not exceeding 1,5 cm².
Sizing

- Minimum size for all classes: 60mm or 90 gram

- Smaller than 60 mm, but at least 50mm or 70 gram can be accepted in case the Brix level is at least 10.5
Uniformity

Difference in diameter between fruit in the same package:

> 5 mm or 20% of the average individual fruit weight in case of:
- Extra class
- Class I and II packed on layers
Uniformity

- Difference in diameter between fruit in the same package:
  - 10 mm or 25% of the average individual fruits in case of:
    - class I packed loose in the package or in consumer packaging
Tolerances

- Extra class: 5% not satisfying the class but meeting those of class I is allowed

- Class I: 10% not satisfying the class, but meeting those of class II is allowed

- Class II: 10% not satisfying neither the requirements the class nor the minimum requirements. Rotting or other defects rendering it unfit for consumption is excluded
Provisions concerning marking

- Name and address packer or dispatcher
- Name of produce in case the produce is not visible from the outside
- Name of the variety
- Origin of produce
- Class
- Size or number of fruit in case packed on layers
chlorosis
class I allowed
Colouring 10 % of the surface
Russetting
class I
Russeting Class I
Hail damage Class I
Hail damage class I
Hail damage class I
Scab Class I
Pressuremark class II
Pressuremark
class II
early hail class II
skin damage
class II
Cold damage class II
Cold damage class II
russeting
class II
russetting (Golden Delicious) class II
Watercore: class I and II (highest I, lowest II)
Healed cracks
class II
apple sawfly
class II
Bitter pit
out of grade
bitter pit
out of grade
core brown
out of grade
Fruit flesh browning out of grade
not clean out of grade
Cold damage
out of grade
hail
out of grade
scalding
out of grade
sunburn
out of grade
primary scab
out of grade
secondary scab
out of grade
Leaf roller affecting the flesh out of grade
defects caused by aphids
out of grade
Damaged caused by insects out of grade
worm eaten
out of grade
lenticel spot
out of grade
phoma spot
out of grade
bitter rot
out of grade
nose rot
out of grade
Not fresh
out of grade
Thank you for your attention

Questions?