Inovace studijních programů AF a ZF MENDELU směřující k vytvoření mezioborové integrace CZ.1.07/2.2.00/28.0302

Tato prezentace je spolufinancovaná z Evropského sociálního fondu a státního rozpočtu České republiky

FRUIT PICKING

- The most demanding and most important part in the cultivation technology
- Work labour costs make up 40-60 % of total working costs
- Yield estimate helps
  - - Plan and organize the harvest
  - - Storage and sale of the fruits

- Objective data gathered from
- - Continuous records and statistics of a particular orchard (short-term and long-term yield prognosis)
- - Identification of major yield components (average amount of fruits per tree, average fruits weight:
- - Small plots of land, max. 2 ha: Random selection
- - Large plots of land, 30-40 trees, higher variability: up to 60 trees
- - Exact estimate: 2-4 weeks before fruit picking
- - Stone fruits: Average productive volume (V):
- V = h * w 2/1.91 where v = tree height in (m)
- w = average tree width (m)
- - Berries: Similar technique as for pomaceous fruits

Identification of harvesting time

- Optimum harvesting time is characterized by fruits maturity which allows for transport, storage and top quality of the fruits. Optimum period for fruits picking differs in particular species by 5-20 days

Premature harvest

- Fruits have poor flavour/nutritional value, lower content of sugar and aromas; fruits further show physiological disorders (peel withering)

- Late harvest
  - Shortens shelf life, fruits start to crush easily Loss increases tenfold in stone fruits. Apples suffer from glassiness, flesh starts to decay, and more physiological disorders show

APPLE TREE – harvest maturity

- Peduncle can be separated from the cluster base (pre-harvest waste: Mc Intosh, Spartan , and Zvonkové varieties)
- Starch content (starch changes to blue when in contact with potassium iodide), changes in basic colour (9-degree scale)
- Seeds colour
- Flesh tenderness

Most accurate biochemical methods

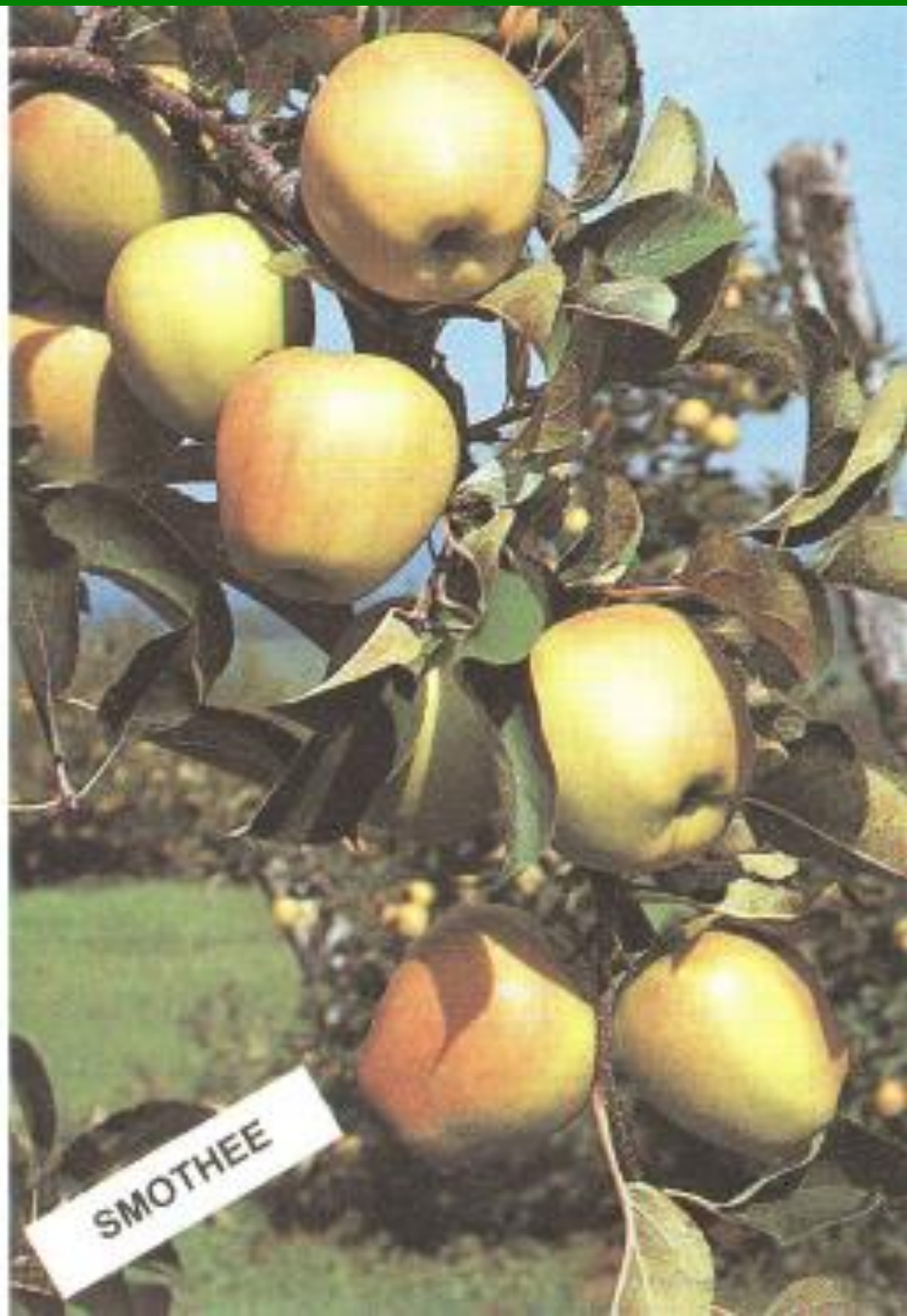
- Ethylene production in fruits: gas chromatograph
- Flesh tenderness: Penetrometer

Jonagold

PEAR TREE – harvest maturity

- Fruits are easily separated from the cluster base
- Measuring flesh tenderness with penetrometer
- Corkiness of lenticels (lenticels are white in unripe fruits, and brown, raised in ripe fruits)
- Peel changes from dark green to yellowish green

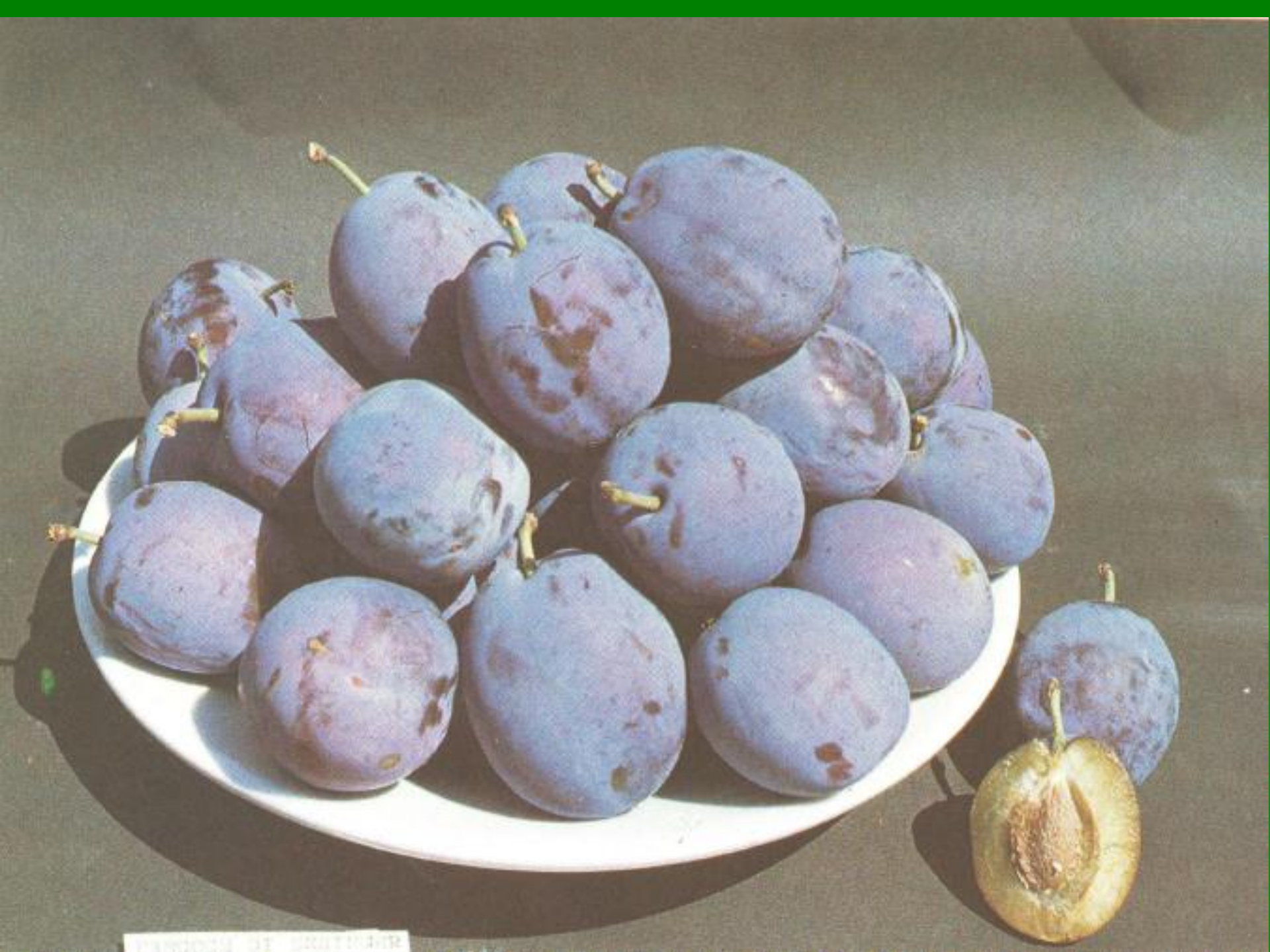

MAX RED
BARTLETT


SMOTHEE

Williamsova

PLUM TREE – harvest maturity

- Identified in relation to subsequent use
  - Salads: Hard fruits
  - Direct consumption: Pleasant taste (overripe plums crack, diseases)
  - Magiun and spirits production: Overripe fruits



CHERRY AND SOUR CHERRY TREES – harvest maturity

- Typical colour
- Fruits are easily separated from the cluster base
- Full colouring of juice (sour cherry)
- Light to dark mahogany colour in dark hard-fleshed cherry and heart-shaped cherry
- Yellowish green to light yellow – colourful hard-fleshed cherry

- Van

APRICOT AND PEACH TREES – harvest maturity

- Identified in relation to subsequent use
  - Apricots for transport – “hard maturity”
  - Apricots for jams - greenish yellow, greenish orange
  - Peaches – yellowish, pale shades at the onset of maturity (white-fleshed varieties)
- Changes in flesh tenderness