Malus/Pyrus genetic resources in Switzerland

Markus Kellerhals and David Szalatnay
National plan of action (NAP)

- based on the global plan of action
- implemented through the Swiss Federal Office of Agriculture
- projects in collaboration with different organizations, mainly NGO’s
Swiss commission for the conservation of cultivated plants (SKEK)

- Head quarters located at Agroscope Changins-Wädenswil, Changins site

- Fruit Working Group within SKEK:
  - Coordination (H.P. Kreis)
  - Concept
  - Guidelines
  - technical and pomological working group

- National online Database (www.bdn.ch) accessible by all stakeholders

www.cpc-skek.ch
NAP-project: National Fruit Inventory (2000-2005)

- National inventory on the genetic resources of all fruit and small fruit species

- Established by the NGO Fructus in collaboration with Agroscope Changins-Wädenswil and partner organizations

www.fructus.ch
National Fruit Inventory (2000-2005)
National Fruit Inventory (2000-2005)

- questionnaires were sent to land owners having fruit trees
- about 12‘000 land owners responded (~20%)
- 195‘000 trees (accessions) mentioned
- more than 2‘000 endangered accessions are being saved in collections
National Fruit Inventory (2000-2005)

Repartition of accessions mentioned in the Swiss fruit inventory:

- Apple: 35%
- Pear: 21%
- Cherry: 14%
- Other stone fruit: 13%
- Nuts and chestnuts: 8%
- Small fruit: 4%
- Different: 5%
Inventory: Percentage of apple accessions from all fruit species considered
Conservation of *Malus* and *Pyrus* genetic resources in Switzerland

- Introduction orchards
- Primary collections
- Duplication collections

Decentralised approach

Primary collection Höri operated by Fructus
Increasing public awareness for fruit genetic resources
NAP project: Agronomical and pomological description (started 2004)

Project of the NGO Fructus in collaboration with Agroscope Changins-Wädenswil

- Descriptors for the main fruit species defined considering ECP/GR descriptors and European Database requirements
- Handbooks with descriptors established
- Several 100 accessions documented incl. pictures
- Variety identification (pomological)
NAP project: Description of Fruit Genetic Resources (start 2007)

- Project supposed to start in 2007
- Objectives:
  - Pomological description
  - Molecular characterization
  - Susceptibility to diseases (scab, mildew, fireblight)
  - Processing and fruit quality
- Utilization for breeding
- Small scale commercial use
COST 864: Pome Fruit Health 2006-2011

- 4 Working Groups:
  Plant-pathogen interaction, Germplasm resources and breeding, Production methods, Biotechnological approaches
- Working group 2: Germplasm resources and breeding (WG leaders: Markus Kellerhals and Andreas Peil)
- Meeting of all 4 WG on November 20 and 21, 2006 in Vienna