



Grundtvig European Learning Partnership „Our Agro Bio Diversity“

Report: Grundtvig-Workshop in Poland, 11. – 13. March 2013

Topic of Workshop:

Gene Bank – Ex Situ Protection of Biodiversity

Farmers Field – In Situ Protection of Biodiversity

Places: Warsaw, Radzikow, Powsin, Rozalin

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Day 1 Arrival– 11th of march 2013:

When we left Vienna in the morning the sun was shining brightly and as we arrived in Warsaw there was blowing snow, which lasted for all three days. In the evening we had dinner with all participants and so we learned to know the participants from Switzerland, Poland, Latvia and Romania.

Day 2– 12th of march 2013:

The next day we went to visit two institutions of GBIS (Global Biodiversity Information System), which are connected with each other and exchange all their information. Their collection of propagation material is open for private people and farmers:

Warsaw Botanical Garden of the Polish Academy of Sciences, National Centre for Biological Diversity Conservation, Powsin

The Polish Academy of Sciences is the leading governmental institution for the organisation of scientific research in Poland, which is carried on in 84 research units - institutes, centres, independent departments or stations. One of them is the Botanical Garden, located in Warsaw - Powsin.



Abb. 1: Blowing snow when we arrive in Warsaw on the first evening.



Abb. 2: Botanical Garden in Poswin: Cheerful atmosphere despite cold weather.

The Botanical Garden was established in 1974 as an independent research unit of the Academy of Sciences. The Gene Bank of the Botanical Garden was established to conserve the diversity of living plants and to make research with these plants. In 1990 the garden was opened for the public and nowadays about 100.000 visitors per year come to see this area of 40 km².

The main goal of this institute is to breed new varieties. Therefore the old varieties are conserved. The Gene Bank of the Botanical garden counts about 9.300 accessions. It contains about 1500 land varieties of rye, which are very important for Poland, since they have big areas of poor soil. Furthermore the collection contains vegetables, endangered plants, polish flowers, spices, roses, perennials, woody plants and a quite big number of fruit trees:

- Varieties for small gardens
- Old varieties
- Wild varieties of fruit trees

We get an introduction in the apple tree collection of the botanical garden. Staff of the botanical garden travel around Poland to collect old varieties, graft them and plant them in their own garden. The varieties are identified as far as possible. Some old apple varieties of the collection are introduced to us with pictures and adventurous stories: e.g. Aporta, Wintergoldparmäne, White Astrachan, Kostela, Sari Synap.

Then we go outside to see the collection of 370 apple trees (which are propagated on two different rootstocks). Mara and Michael make an appointment to come back the next day to cut some slips for grafting and plant the trees in their garden in Austria.

After that we get to see the storage of the 1.500 land-varieties of rye. They are kept in liquid nitrogen at minus 20 to minus 30° C. To be kept with this storage method the seeds must have a humidity of max. 6 – 7 %. (After harvest they have about 15 % of humidity. To dry them they are kept for one month in a very dry room at temperature of 20° C).



Abb. 3: Rye-seeds are kept in these containers in liquid nitrogen to be stored for about 30 years.

Apple propagation material is also conserved with a deep freezing method at minus 30° C. The slips for grafting are cut between December and January. Before deep freezing the humidity of the slips has to be at 6 – 7 %. Before dehydrating the slips are cut to a length of about 5 cm (only one bud should be on the slip). The slips are cooled down very slowly with a special device. The cooling tank we get to see contains 150 apple varieties. Contrary to cooling down the warming up should happen very quickly, therefore the slips are dashed with warm water. The slips which are kept with this deep freezing method are fertile in 80 % when being grafted.



Abb. 4: The slips are kept in this container at minus 30° C to be grafted after several years.

Genbank IHAR in Radzikow (Plant Breeding and Acclimatization Institute)

The Plant Breeding and Acclimatization Institute (IHAR) - National Research Institute is the largest Polish research centre in the multi-disciplinary area of crop improvement, biotechnology, germplasm conservation and enhancement. IHAR was founded in 1951 for research in breeding and seed production of major field crops. In this institute the old varieties are also conserved for breeding reasons. The staff doubts that old varieties one day could be interesting for consumers and that farmers could live by selling fruits and vegetables of old varieties. We tell them that we have made different experiences in Austria.

Our group gets a guided tour through the house and we get to see the room where the seeds are dried and also enter one of the four quite big storing rooms, where the seeds are kept in glass containers.

Afterwards we get an introduction into the database where data of all collected varieties is stored. The database is also accessible online. Also private people and farmers have access to this database and can order seeds: egiset.ihar.edu.pl

Subsequently we go to see a biological farm which produces different berries on an area of 100 ha. The berries are processed to jam, juices and liquor and are sold in biological stores in Warsaw. The farmer tells us that the profit of the product is higher when he sells it processed instead of the raw berries.

Day 3 – 13th of march 2013

The third day is a free day for the fellow travellers and project coordinator Claudia Kaufmann has an internal meeting with the other project partners from Switzerland, Poland, Latvia and Romania to talk about the current and follow-up projects.

In the evening we board the night train towards Vienna and arrive savely in the morning of the 14th of march.



Abb. 5: Storage of the seeds in glass containers – similar as ARCHE NOAH does it.



Abb. 6: Tasting of berry-liquors at the biological farm.