Making seeds of heirloom varieties available to the public

Cornelia Lehmann, Chairwoman
VERN e. V. in Greiffenberg/Uckermark

- 1996 established as non-profit organisation
- Background
  - 1993 idea to stimulate on-farm conservation activities in biosphere reserves (background by CBD, mab-rules...), cooperation between IPK, federal environment and agriculture ministry (mab-office) and local agencies for nature protection...
  - 1994 – 1995 recultivation of an abandoned horticultural farm in Greiffenberg by means of an employment-creation measure
  - The IPK Genebank contributed a huge amount of accessions with the aim to bring them back into use
  - 1996 formation of the association VERN
• Aims
  – Conserve old and rare crops
  – Improve the availability of seeds from old varieties
  – Stimulate *on-farm/in-garden* management of old varieties
  – Impart the knowledge about heirloom varieties
  – Encourage home gardeners to save their own seeds
VERN e. V. in Greiffenberg/Uckermark

• Activities
  – Maintenance of a collection of about 2000 old varieties
  – Distribution of seeds on a non-commercial basis
  – Encouragement of *on-farm* activities
  – Re-introduction of genebank accessions into use
  – Public relations and knowledge transfer
  – Cooperation in research and pilot projects with universities, regional authorities, etc.
Financing

• **Budget funds**
  – Membership fees (600 members, fee 30 €/year)
  – Seed and seedling distribution
  – Donations
  – Sponsoring
  – **Third-party funds**
    • Research or pilot projects (Federal Ministry of Food and Agriculture, BMEL)
    • Support programmes of the European Union (LEADER, Leonardo)
    • Other

Important: Voluntary services of members and friends
Selection of species to offer

• VERN offers seeds of agricultural and horticultural species

• In the 1990s, VERN started the activities without a special decision about species

• General criteria to select species to offer
  – Are there interesting varieties of the species available?
  – Is there a demand for seed of the species?
  – Are there severe problems associated with reproduction?
Multiplication of the material

- Garden in Greiffenberg
  - Propagation of about 200 varieties/year
  - 4000 m², 3 tunnel greenhouses

- Propagation of annual crops

<table>
<thead>
<tr>
<th>Annuals</th>
<th>Species</th>
<th>Plants or m² /variety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-pollinating</td>
<td>Tomato</td>
<td>10 plants</td>
</tr>
<tr>
<td></td>
<td>Lettuce</td>
<td>50 – 100 plants</td>
</tr>
<tr>
<td></td>
<td>Wheat</td>
<td>3 m²</td>
</tr>
<tr>
<td>Cross-pollinating</td>
<td>Squash</td>
<td>20 plants</td>
</tr>
<tr>
<td></td>
<td>Maize</td>
<td>200 plants</td>
</tr>
<tr>
<td></td>
<td>Buckwheat</td>
<td>3 m²</td>
</tr>
</tbody>
</table>
Multiplication of the material

- Propagation of biennial cross-pollinating crops

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of plants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. year</td>
</tr>
<tr>
<td>Carrot</td>
<td>500</td>
</tr>
<tr>
<td>Beetroot</td>
<td>500</td>
</tr>
<tr>
<td>Brassica</td>
<td>100 - 200</td>
</tr>
</tbody>
</table>
Multiplication of the material

- Multiplication and variety maintenance

Propagation bed with 60 plants of *Lactuca sativa* 'Struwelpeter'
Multiplication of the material

• Selection work to restore varietal identity of genebank accessions may be necessary

Examination of ‘Erfurter Lange’ (IPK BETA 42)
Zugang 1946, Donor: E. Benary
by Bundessortenamt 2013

Album Benary 1876, Tafel X
Organisation of the distribution

• Compendium, catalogue for rare crops
  – Small seed sachets and small portion packs of seed potatoes

• Activities
  – 3 „Kartoffeltage“ in March or April
  – 3 „Tomatentage“ in May
  – Local festivals, events, exchange markets, etc.
Price and amount of material

• Prices
  – Seed sachet (2.50 €, reduced price for members 2.00 €)
  – Seedlings (tomatoes, pepper 2.50 €; other plants 2.00 €)
  – Seed potatoes (portion pack of 10 tubers 3.50 €)

• Amount of material

<table>
<thead>
<tr>
<th>Arten</th>
<th>Menge</th>
<th>Beispiele</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kleinsamige Arten</td>
<td>½ Teelöffel</td>
<td>Salat, Kräuter, Tabak, Stauden-Sellerie, Zierpflanzen</td>
</tr>
<tr>
<td>Mittelgroßsamige Arten</td>
<td>2-3 Teelöffel</td>
<td>Rettich, Radieschen, Rote Beete, Gewürztagetes, Gartenmelde, Wurzelgemüse, Buchweizen, Hirse</td>
</tr>
<tr>
<td>Großsamige Arten</td>
<td>30 Samen</td>
<td>Bohnen, Erbsen, Mais, Gurken, Lupinen</td>
</tr>
<tr>
<td>Tomaten, Paprika</td>
<td>20-25 Samen</td>
<td></td>
</tr>
<tr>
<td>Zucchini, Kürbis</td>
<td>10-15 Samen</td>
<td></td>
</tr>
<tr>
<td>Getreide</td>
<td>30-50 g, je nach Art und Sorte reicht für 3-5 m²</td>
<td>Weizen, Gerste, Hafer, Roggen</td>
</tr>
</tbody>
</table>
Seed multiplication and distribution in networks

- *On-farm* management of old cereal varieties
  - since 1994, VERN evaluated genebank accessions in co-operation with regional authorities
  - ca. 150 accessions available for VERN members
  - Farmers propagate and distribute seeds within the VERN network (no commercial seed trade)
  - Efforts to set a supply chain up with mills and bakeries
  - Network of 30 farmers cultivates old varieties on ca. 500 ha
Seed multiplication and distribution in networks

- *On-farm* management of old agricultural varieties
  - 'KULAP' (ELER) support programme since 2001
    - The federal state of Brandenburg pays subsidies to farmers for *on-farm* cultivation (total area 150 - 250 ha/year)
    - 69 varieties are eligible (list of endangered crop varieties)
    - 10 ha/variety and farm may be funded
    - 400 € for 1 ha/variety, additional hectares 200 €/ha
  - Seed propagation and maintenance breeding within the VERN network
  - Co-operation with the regional authorities for seed certification
Seed multiplication and distribution in networks

• Pilot projects to re-introduce genebank accessions into on-farm/in-garden management*

*Bundessortenamt examined genebank accessions and updated variety descriptions

Farm shop offers an old lettuce variety

*Pilot projects financed by the Federal Ministry of Food and Agriculture (BMEL)
Seed multiplication and distribution in networks

- Establishment of a regional *on-farm* network

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Seed propagators

Seed users

Sufficient seed supply of the required varieties

Required varieties

Feedback about quality

- Seed propagating gardeners
- Seed using gardeners
- Seed propagating and using gardeners
Cooperation with the seed certification authorities (Bundessortenamt, BSA)

- BSA registered 3 conservation varieties on application of VERN (1 rye and 2 oat cultivars)
- BSA is partner of the pilot project „On-farm Erhaltung von alten Gemüsesorten durch den Aufbau eines Netzwerkes“ (2012 - 2016)
- If required, members of the board of VERN may consult experts of the BSA and vice versa
- Officials of the BSA and the BMEL organised consultations concerning the seed legislation
Cooperation with the Genebank

- In the nineties, the IPK Genebank supported the efforts to establish *in-situ/on-farm* cultivation in Greiffenberg and to distribute seeds of old varieties.

- The main part of the VERN collection originates from the IPK Genebank.

- The IPK Genebank is partner of the pilot project „On-farm Erhaltung von alten Gemüsesorten durch den Aufbau eines Netzwerkes“ (2012 - 2016).
Conclusions

• VERN makes seed of old varieties available to the public and functions as a link between genebank and users

• Seed transfer of non registered old varieties may be organized within on-farm networks

• Heirloom or old varieties with marginal economic potential should be excluded from the EU seed legislation
Thank you for your attention

Training course for seed savers:
Selecting and planting seed bearers of a small radish variety
On-farm Management of cereals

- Re-introduction of old varieties

**Selected samples of Genebank accessions**

**Field trials**
- Evaluation in the field
- Collection of data and rating
- Quality tests
- Propagation

**Examination**
- VERN garden
- Small plots, 1-3 m²
- Collection of data and rating

**Propagation on farms**
- Fieldplots > 0,5 ha
- Field reports of farmers
- Government inspections in the field
- Bakeries report experiences

**State Office Brandenburg (LELF)**
- Field trials for control

Scheme: R. Vögel
On-farm Management of cereals

• Re-introduction of ‘Champagnerroggen’

• 1994 Propagation of Genebank material
• since 1996 seeds distributed to farmers
• efforts to set-up a supply chain with mills and bakers
• 2013 registration as conservation variety