Plant Genome Research in Germany

- GABI (Genome Analysis of the Plant Biological System) is organized as a public-private partnership and supported by the Federal Ministry for Education and Research (BMBF) and private companies that are organized in the Industrial Platform GABI (WPG).
- 28 companies that have their business activities in the field of plant breeding, plant protection, manufacturing industry and biotechnology are involved with the WPG.
- 11 plant genomes are studied within GABI, e.g. barley, rapeseed, sugar beet, potato, rye, tomato, pine, oak, grapevine, maize and the model plant Arabidopsis.
- Since 1998, 52 national joint projects and 17 international joint projects in collaboration with France, Spain and Canada have been supported.

For more information see: www.gabi.de or www.wirtschaftverbund-gabi.de

Plant Breeding in Germany stands for

- better plants
- a higher profitability for agriculture and horticulture
- healthier food and feed
- a more attractive environment
- an environmental friendly economy

Key Data on Plant Breeding in Germany

- 130 plant breeding and seed trading companies
- 70 companies are original plant breeding companies, most of which are medium-sized companies
- 1 Mrd. US $ seed turnover in Germany
- 12,000 jobs in breeding and seed production
- 16.9 % R&D-rate
- 9,250 acres breeding nursery
- 179,400 square yards greenhouse space

Diversity of Varieties in Germany

<table>
<thead>
<tr>
<th>Agricultural varieties</th>
<th>Registered varieties at the German Plant Variety Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>cereals</td>
<td>351</td>
</tr>
<tr>
<td>maize</td>
<td>235</td>
</tr>
<tr>
<td>grass, clover</td>
<td>713</td>
</tr>
<tr>
<td>legumes</td>
<td>82</td>
</tr>
<tr>
<td>other fodder plants</td>
<td>55</td>
</tr>
<tr>
<td>rapeseed, canola</td>
<td>110</td>
</tr>
<tr>
<td>other oil- and fiber plants</td>
<td>88</td>
</tr>
<tr>
<td>beets</td>
<td>216</td>
</tr>
<tr>
<td>potatoes</td>
<td>198</td>
</tr>
<tr>
<td>vines</td>
<td>100</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td><strong>2,148</strong></td>
</tr>
<tr>
<td>Horticultural varieties</td>
<td></td>
</tr>
<tr>
<td>vegetables</td>
<td>538</td>
</tr>
<tr>
<td>ornamental plants (at the CPVO)</td>
<td>3,552</td>
</tr>
</tbody>
</table>

Global Challenges for Plant Research and Plant Breeding

- improving plants health
- improving stress tolerance
- optimization for energy recovery
- production of industrial feedstock and plant active ingredients
- improvement of ingredients and nutrient profile
- optimizing physiological processes/plant architecture
- global research cooperation and technology transfer
- improving innovative breeding methods
- improving nutrient efficiency, „low input”
- using genetic resources

German Plant Breeders’ Association

www.bdp-online.de