Organic seed propagation and plant breeding
Preliminary results of the survey

Frederic REY, ITAB
1. DIVERSE SEED EXPECTATIONS
1. Contrasting situations - OA in EU

• En 2010, près des 2/3 des surfaces bio de l'Union européenne se situaient en Espagne, Italie, Allemagne, France, Royaume-Uni et Autriche.

• 80% des exploitations biologiques européennes étaient localisés en Italie, Espagne, Autriche, Allemagne, Grèce, France et Pologne.

Répartition des surfaces cultivées bio et en conversion dans les pays de l'Union européenne en 2010.

 Sources : Agence BIO d’après différentes sources européennes – 2012

Organic land share / total cultivated land

Organic Land (ha)

Sources: Agence BIO from various EU sources -2012
...a wide range of agro-environmental zones
1. Contrasting situations

Main organic crops in some EU countries

Predominance of arable crops

**Austria**
- Arable crops
- Fodder crops
- Vegetables
- Fruits
- Wine

**Germany**
- Arable crops
- Fodder crops
- Vegetables
- Fruits
- Wine

**Italy**
- Arable crops
- Fodder crops
- Vegetables
- Fruits
- Wine

Sources: SOLIBAM-2010 data
1. Contrasting situations

**Main organic crops** in some EU countries

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- **Italy**
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  - Vegetables
  - Fruits
  - Wine

**Predomance of fodder crops**

- **Spain**
  - Arable crops
  - Fodder crops
  - Vegetables
  - Fruits
  - Wine

- **UK**
  - Arable crops
  - Fodder crops
  - Vegetables
  - Fruits
  - Wine

- **France**
  - Arable crops
  - Fodder crops
  - Vegetables
  - Fruits
  - Wine

- **Portugal**
  - Arable crops
  - Fodder crops
  - Vegetables
  - Fruits
  - Wine

Sources: SOLIBAM-2010 data
3.1 Contrasting situations

Main distribution channels for organic products

Diversified for **France, Germany and the Netherlands**

Short chain/local markets **Italy**

Mainly to exportation: **Hungary (95%), Spain**
2. TRENDS IN ORGANIC SEED PROPAGATION
2. Organic Seed Production

Trends in areas devoted to organic seed propagation

in France (Gnis-Coop de France, 2011)

+ 84% growth

![Graph showing the evolution of surfaces in hectares for different crops (POIS PROTEAGINEUX, LUPIN BLANC, FEVEROLE, SOJA, COLZA OLEAGINEUX, MAIS, TRITICALE, SEIGLE, SARRASIN, ORGE, EPEAUTRE, BLE TENDRE, AVOINE NUE, AVOINE) from 2007 to 2011.](graph.png)
### Yields for organic seed multiplication in France (Gnis-2008, 2011)

<table>
<thead>
<tr>
<th>Crop</th>
<th>Harvested area (ha)</th>
<th>Yield (t)</th>
<th>Organic/Conventional (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barley</td>
<td>756</td>
<td>3.3</td>
<td>51%</td>
</tr>
<tr>
<td>Wheat</td>
<td>1740</td>
<td>3.1</td>
<td>44%</td>
</tr>
<tr>
<td>Maize</td>
<td>172</td>
<td>1.7</td>
<td>48%</td>
</tr>
<tr>
<td>Faba beans</td>
<td>467</td>
<td>2.6</td>
<td>52%</td>
</tr>
</tbody>
</table>
3. SURVEY: PRELIMINARY RESULTS

Organic seed propagation and plant breeding
<table>
<thead>
<tr>
<th>Country</th>
<th>contributors (nbr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>10</td>
</tr>
<tr>
<td>France</td>
<td>7</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>6</td>
</tr>
<tr>
<td>Austria</td>
<td>3</td>
</tr>
<tr>
<td>Denmark</td>
<td>2</td>
</tr>
<tr>
<td>Switzerland</td>
<td>2</td>
</tr>
<tr>
<td>Germany</td>
<td>1</td>
</tr>
<tr>
<td>Latvia</td>
<td>1</td>
</tr>
<tr>
<td>Spain</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>
Number of seed companies involved in the sector

- Vegetables: 20
- Cereals: 15
- Legumes: 10
- Forage crops: 5
33 CONTRIBUTIONS

% of (organic + untreated seed) in product range

- 8% of products contain less than 10%
- 8% of products contain 10% to 24%
- 2% of products contain 25% to 49%
- 5% of products contain 50% to 99%
- 10% of products are 100% organic

?
organic seed sales increased in...
A positive growth of the organic seed market in the near future?

Based on 33 contributions
Main limiting factors: derogations, technical difficulties and market size…

Based on 33 contributions
Breeding for organic

Various strategies:

• 8 companies are developing organic breeding program from the beginning to the end.

• 6 start in common with conventional

• 3 don't make separation
Breeding for organic, limiting factors

Economic reasons for **54%**

### Main limiting factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on investment</td>
<td>35%</td>
</tr>
<tr>
<td>Financing models of dedicated</td>
<td>25%</td>
</tr>
<tr>
<td>Cost of organic variety registration</td>
<td>20%</td>
</tr>
<tr>
<td>Lack of knowledge of potential</td>
<td>15%</td>
</tr>
<tr>
<td>Management of organic breeding</td>
<td>10%</td>
</tr>
</tbody>
</table>

Lack of adapted rules to register

Cost of organic variety registration

Lack of knowledge of potential

Management of organic breeding
...several seed companies would be interested in a formal certification (9).
European seed regulation

**VCU testing** for varieties dedicated to OA, should remain compulsory?

Based on 29 contributions
European seed regulation

New seed categories (EC proposal May 2013)

Based on 29 contributions
**CONCLUSION**

**organic seed prod.**
- Positive market growth (e.g. France, UK, Germany, Austria)
- Limiting factors: *derogations*, technical difficulties

**plant breeding for OA**
- Several ongoing programmes
- Limiting factors: $$$ (return on invest. / financing) + adapted rules for variety registration

**diverse expectations**
- Context of the farm (agro-ecological, distribution channels)
- The development of the organic sector
- Diversity, an organic principle

**provide**
**purchase**

**support**
**suited var.**

**organic seed regulation**

**provide**

**organic seed prod.**

**purchase**
Contributors
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Cotswold Seeds Ltd
Stormy Hall Seeds
Pearce Seeds
Dalton Seeds
Bejo France
Moles Seeds
Agrico
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SA PINAULT
Otto Hauenstein Samen AG
AGROSEMENS
IAR Agri Ltd
Vitalis
De Bolster
Graines voltz
OBS
Innoseeds
Field Options Ltd

Thank you