Perennial grains: Perspectives of farmers in the USA and France

A study conducted in 2016

Valentine Debray
First Agroecology Europe Forum
October 2017
The study conducted at Cornell

A collaboration between Cornell University and ISARA-Lyon
Matthew Ryan, Sandra Wayman et Christophe David

What were the objectives?
1) Evaluate **farmer interest** in perennial grains
2) Identify **opportunities and challenges** associated with the adoption of such crops

Provide guidelines for further research

How did we meet these objectives?
An online survey for organic and conventional farmers in the US and France

407 farmers
Farmer demographics

Table 1. Farm size and farming system

<table>
<thead>
<tr>
<th>Category</th>
<th>US</th>
<th>France</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional</td>
<td>23%</td>
<td>21%</td>
</tr>
<tr>
<td>Organic</td>
<td>69%</td>
<td>63%</td>
</tr>
<tr>
<td>Small (under 100 ha)</td>
<td>44%</td>
<td>50%</td>
</tr>
<tr>
<td>Medium (100 to 200 ha)</td>
<td>10%</td>
<td>32%</td>
</tr>
<tr>
<td>Large (above 200 ha)</td>
<td>41%</td>
<td>17%</td>
</tr>
<tr>
<td>Livestock</td>
<td>48%</td>
<td>39%</td>
</tr>
<tr>
<td>Forage crops</td>
<td>57%</td>
<td>61%</td>
</tr>
<tr>
<td>Perennials(^1)</td>
<td>58%</td>
<td>50%</td>
</tr>
<tr>
<td>Ancient grains</td>
<td>36%</td>
<td>58%</td>
</tr>
</tbody>
</table>

\(^1\) Such as trees, vines and grasses

- In the US and France
- Organic and conventional farmers
Farmer interest in perennial grains

Figure 1. Farmer interest in perennial grains

- 58% of farmers ‘interested’ or ‘very interested’
- 39% need more information
Motivations for growing perennial grains

"Please rank the top three reasons why you might be interested in growing perennial grains"

- **Increase or maintain farm profitability**: 71% organic, 48% conventional
- **Reduce input use**: 68% organic, 19% conventional
- **Reduce labor requirements**: 48% organic, 36% conventional
- **Improve soil health**: 44% organic, 44% conventional
- **Improve weed management**: 32% organic, 27% conventional
- **Diversify crop production**: 31% organic, 11% conventional
- **Grow on sloped or marginal land**: 13% organic, 16% conventional
- **Reduce soil erosion**: 13% organic, 15% conventional
- **Graze or produce forage in addition to grain**: 15% organic, 5% conventional
- **Help mitigate climate change**: 13% organic, 4% conventional
- **Improve water quality**: 5% organic, 5% conventional
- **Provide wildlife habitat**: 6% organic, 0% conventional

Figure 2. Main motivations for growing perennial grains according to organic and conventional farmers
Challenges associated with perennial grain production

“Given the potential challenges associated with perennial grain production, what would be your top 3 concerns?”

- Increased pest problems (weeds, diseases, insects) **: 36% Organic, 43% Conventional
- Low grain yield: 41% Organic, 41% Conventional
- High cost of seed: 39% Organic, 45% Conventional
- Lack of marker where you can sell your crop: 33% Organic, 43% Conventional
- Low profitability **: 28% Organic, 52% Conventional
- Specialized equipment requirements: 17% Organic, 31% Conventional
- Decreased grain yield over time or limited crop life span **: 25% Organic, 41% Conventional
- Difficulty harvesting *: 5% Organic, 20% Conventional
- Low seed availability: 11% Organic, 18% Conventional
- Low grain quality *: 4% Organic, 14% Conventional

Figure 3. Main concerns of organic and conventional farmers regarding perennial grain crop production
Conclusions

Which opportunities and potential limits did farmers perceive?

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Potential limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual-use purpose crops: a way to add value</td>
<td>Pest problems</td>
</tr>
<tr>
<td>Restoration of degraded land</td>
<td>Grain yield</td>
</tr>
<tr>
<td></td>
<td>Seed cost</td>
</tr>
</tbody>
</table>
Thank you for your attention!