

### TKI SMP: Sustainable plant-based raw material supply for protein food products in North-West Europe

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 Michiel van Dijk, with input from Roline Broekema, Jos Bijman, Marc Müller, Willem Ruster and Marjolein Selten

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### SMP Objective, consortium and approach

- Aim:** Study the feasibility of developing a decision support tool that will give insights in the potential to grow and process plant-based raw materials for protein food products in North-West Europe.
- Consortium**
- Approach**

Company	Country	Type
Wageningen	NL/Germany	Consumer food
to seed	BASF	Technology & input supplier
	Friends of digital farming	Agriculture business network
Cosun	Royal Cosun	Trading & processing (sugar and potatoes)
Markuly	Markuly	Trading & processing (i.e. potatoes)
Cooperatie	Cooperatie Group	Trading & processing (potatoes and peas)
AgriFarm	AgriFarm	Producer (cooperatives)
Protealis	Protealis	Input supplier (seeds)

Other partners:  
 NL: Agri France & NL agri Germany (not official partner)

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### Overview of key issues (based on company interviews)

- Location:** Where are protein crops currently grown and which areas are, or will be, the most suitable to grow different protein crops?
- Farm level:** What are the main factors determining the attractiveness (for the farmer) of growing protein crops in North-West Europe and how can the attractiveness be improved?
- Sustainability:** What is the impact of growing different protein crops (peas, potato, other crops) on the environment?
- Market:** What are current and future prices and (international) trade patterns of protein crops in North-West Europe?
- Policies:** What national and EU subsidies and other support measures are used to promote the production and uptake of protein crops, now and in the future?

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### Proposed solution: Integrated analysis

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### Proposed solution: Decision support system

**Starting point:** Type of proteins required for producing alt protein (consumer) products?  
 ↓  
 Plant-based raw material options in (NW) Europe? e.g. **faba beans**

Current state: <b>Faba Beans</b>	Potential	Requirements & challenges to reach potential (Δ)
<b>Farm level production:</b> <ul style="list-style-type: none"> <li>Current area: map + ha</li> <li>Volumes</li> <li>Role in production plan</li> <li>Economics: costs, revs, prices</li> <li>Env. sustainability footprint</li> </ul> <b>Supply Chain</b> <ul style="list-style-type: none"> <li>Current processing &amp; end use</li> <li>Volumes at protein level</li> <li>Cost/price range + <b>competitiveness vs leading protein sources</b></li> <li>Env. sustainability footprint</li> </ul>	Scenario 1: biophysical options <ul style="list-style-type: none"> <li>Areas + volumes</li> <li>Economics at farm &amp; supply chain</li> <li>Env sust. Footprint</li> </ul> Scenario 2: + economic limitations at farm and supply chain <ul style="list-style-type: none"> <li>idem</li> </ul>	<b>Farm level:</b> <ul style="list-style-type: none"> <li>Economics &amp; business model</li> <li>Env. sustainability</li> <li>(in) tangible barriers</li> </ul> <b>Supply chain:</b> <ul style="list-style-type: none"> <li>Economics</li> <li>Env. sustainability</li> <li>(in) tangible barriers</li> </ul>

**What is critical information that you need to choose and/or invest in protein crop value chains?**

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### Conclusions

- There is an overwhelming interest by companies in increasing the supply of plant-based raw materials for protein food products in (NW) Europe.
- Companies are in general aware about key bottlenecks in the value chain (especially profitability at farm level) but lack detailed knowledge.
- Companies are eager to know which factors (e.g. increase in yields, access to subsidies, higher prices, improved market transparency) can be addressed to increase farm profitability.

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## Next steps

- Submitting a PPS-project in September 2022 proved unfeasible.
- However, several partners indicated interest for further collaboration.
- Two sessions were held in November 2022 with about nine companies to gauge interest in an exploratory study to assess plant-based protein potential in Europe.
- Aim to have a final proposal signed by January 2023 and start as soon as possible thereafter.
- Possible PPS submission for 2024 and/or participation in an NGF project EPPIC.

## Private partner support by SMP

- SMP consortium included **eight** private partners.
- SMP facilitated:
  - International collaboration between companies within the protein value chain.
  - International collaboration between knowledge institutions (e.g. WUR) and private partners.
  - Consortium building and participation in follow up projects.