

Why and how farmers change their practices towards crop diversification: examples from a case study in France

Revoyron Eva, INRA & ESA, France, e.revoyron@groupe-esa.com

Le Bail Marianne, INRA

Mawois Marie, ESA

Meynard Jean-Marc, INRA

European Conference on Crop Diversification

Budapest

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Background

Simplification and specialisation of cropping systems since the 1970s (Meynard et al., 2013; Mignolet et al., 2012; Schott et al., 2010); **technological lock-in around a few main crop species** (Magrini et al., 2016; Meynard et al., 2013, 2018)



DiverIMPACTS' WP5 *From lock-ins to innovation and value-chain redesign*: addressing barriers and drivers at farm level

Collaboration with several case studies, including one in the Vendée department in France, with existing experiences of crop diversification



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Research question

Why and how do farmers add new crops to their systems?



Requires a dynamic and systemic analysis

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Change process:

- Break down the change into several steps
- Draw from different approaches previously used in agronomy:
 - **Redesign** (Toffolini et al., 2016, 2017; Meynard et al., 2012): knowledge and indicators mobilised to reorganise the cropping system
 - **Learning** (Chantre et al., 2014; Cristofari et al., 2018): evolution pathways of farmers' technical choices, knowledge and pragmatic judgments in relation with advice, exchanges with peers or experimentations
 - **Mobilisation of internal and external resources** (Blesh et Wolf, 2014), including work (Nettier et al., 2012; Petit Delecourt, 2018; Coquil et al., 2018)

Definitions

What we mean by "DIVERSIFICATION" in this study

Diversification crops:

- New crops that are commercialised outside the farm
- Crops that represent a low area at the local scale, and/or low volumes for downstream actors

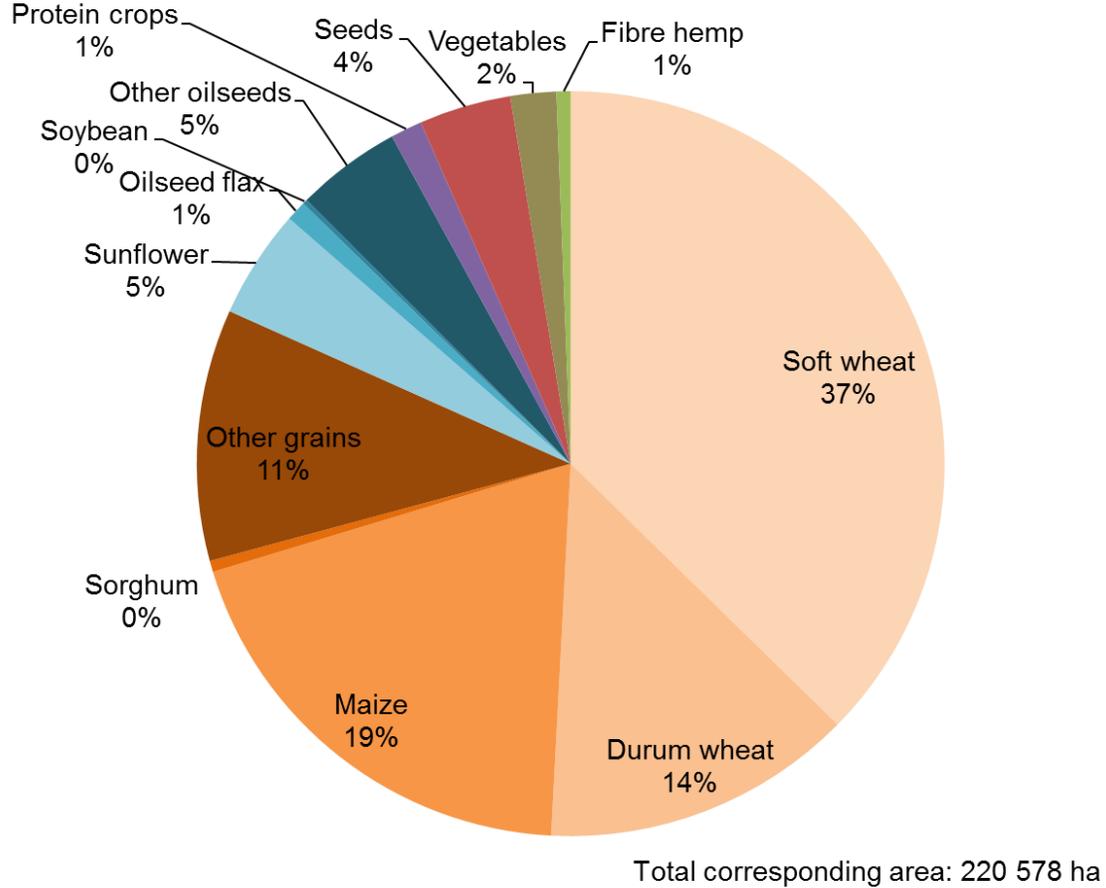
Crop diversification:

- A dynamic process
- A global increase of the number of crop species at the farm scale (instead of a substitution of one crop by another)

Material & Methods



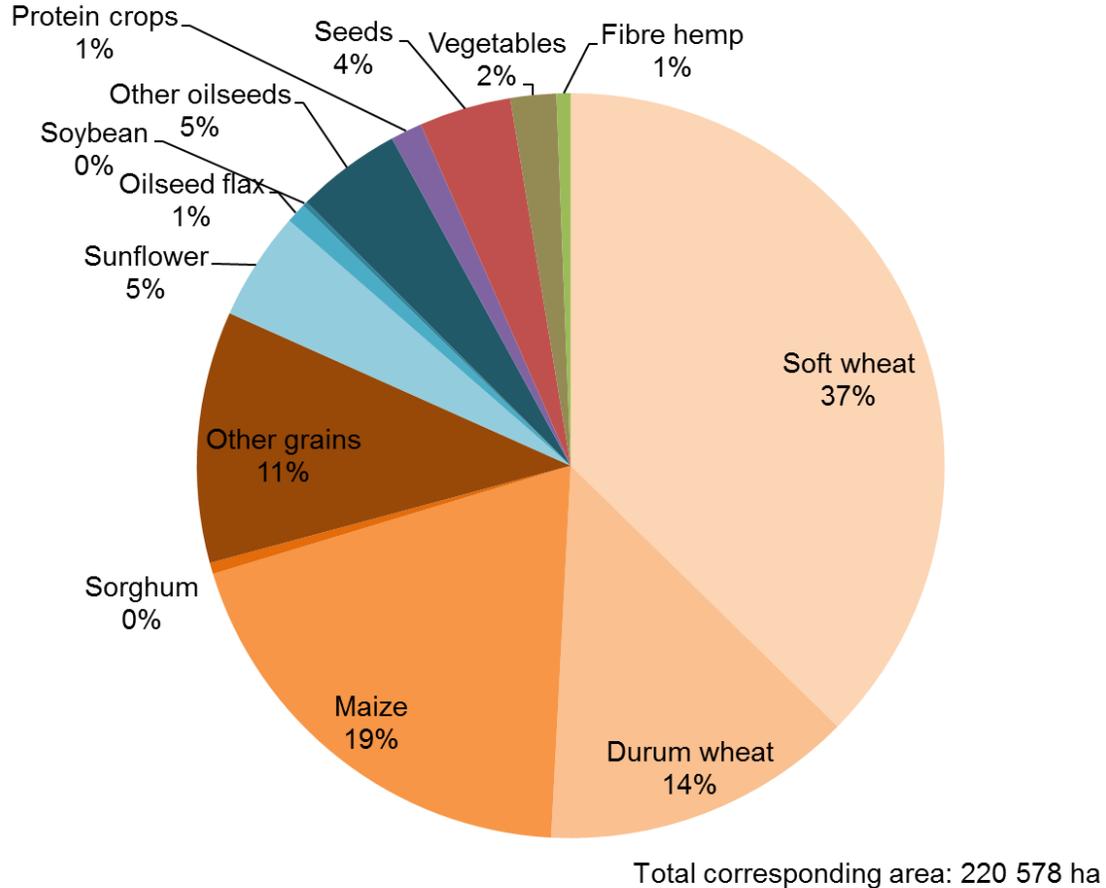
Main annual crop areas in Vendée in 2016



Material & Methods



Main annual crop areas in Vendée in 2016



Sampling

- Recent diversification process (5-10 years)
- Diverse number of and % area occupied by diversification crops

Interview content

- Evolution of the farmers' cropping systems:
 - Chronology of changes in crops and crop areas;
 - Reasons for changing and criteria for assessing changes;
 - Role of knowledge and learning;
 - Role of productive resources;
 - Role of marketing modes;

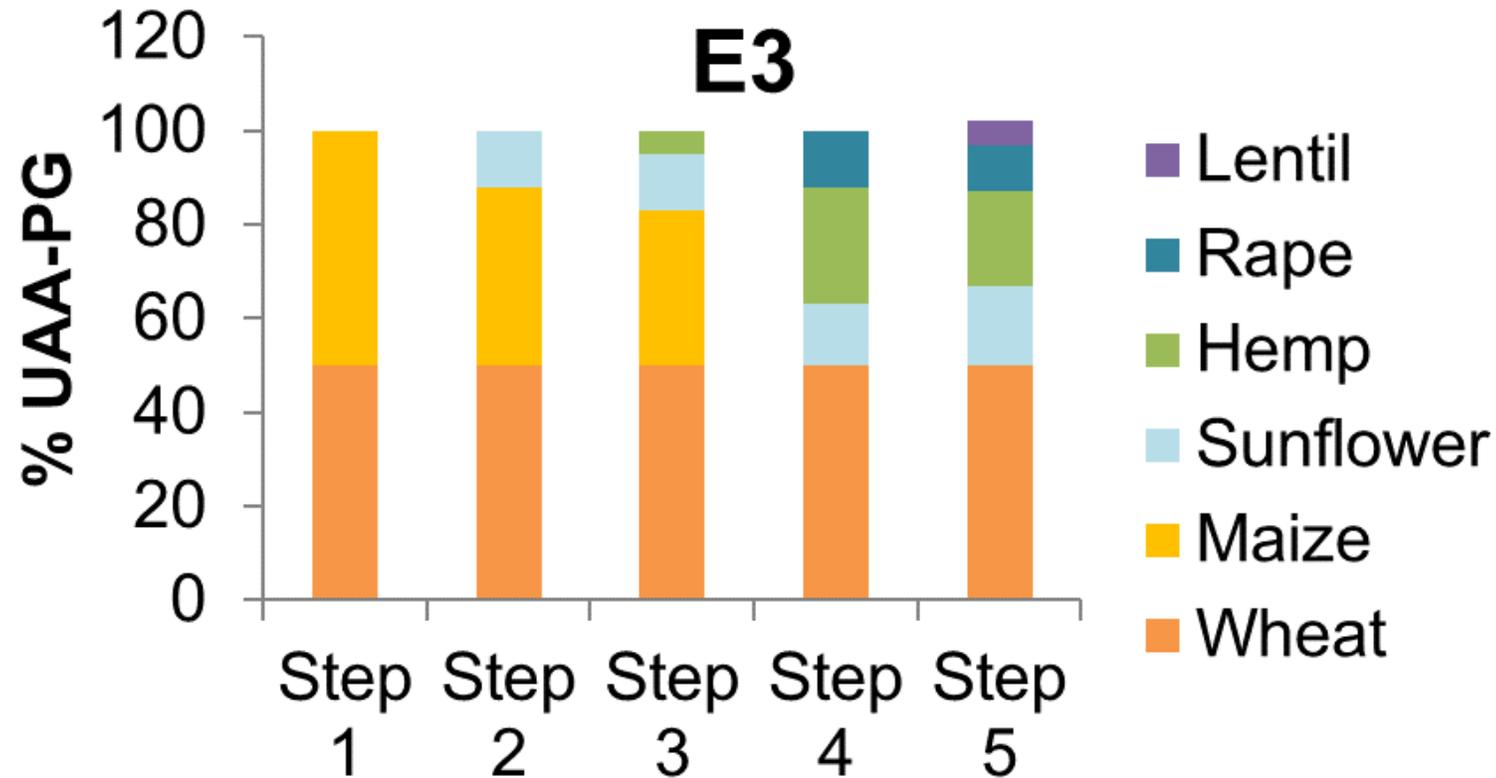


First results on 9 farms



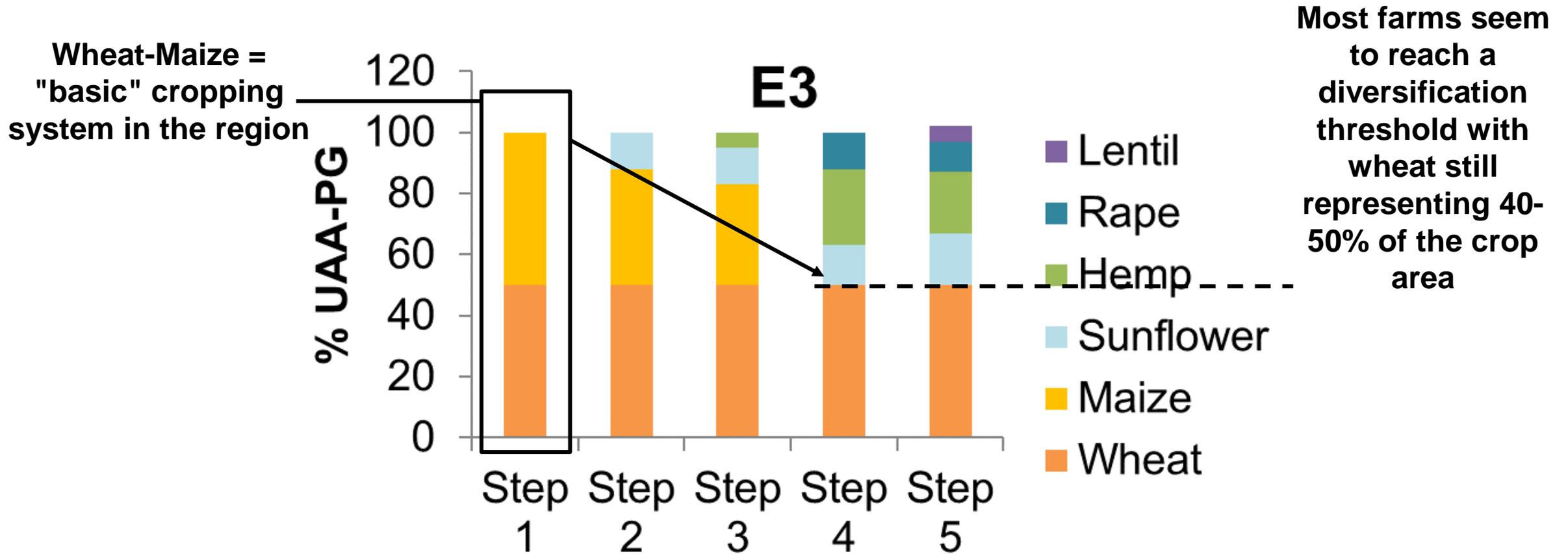
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Example of a farm's evolution in crop diversity



UAA: Utilized Agricultural Area; PG: Permanent Grassland

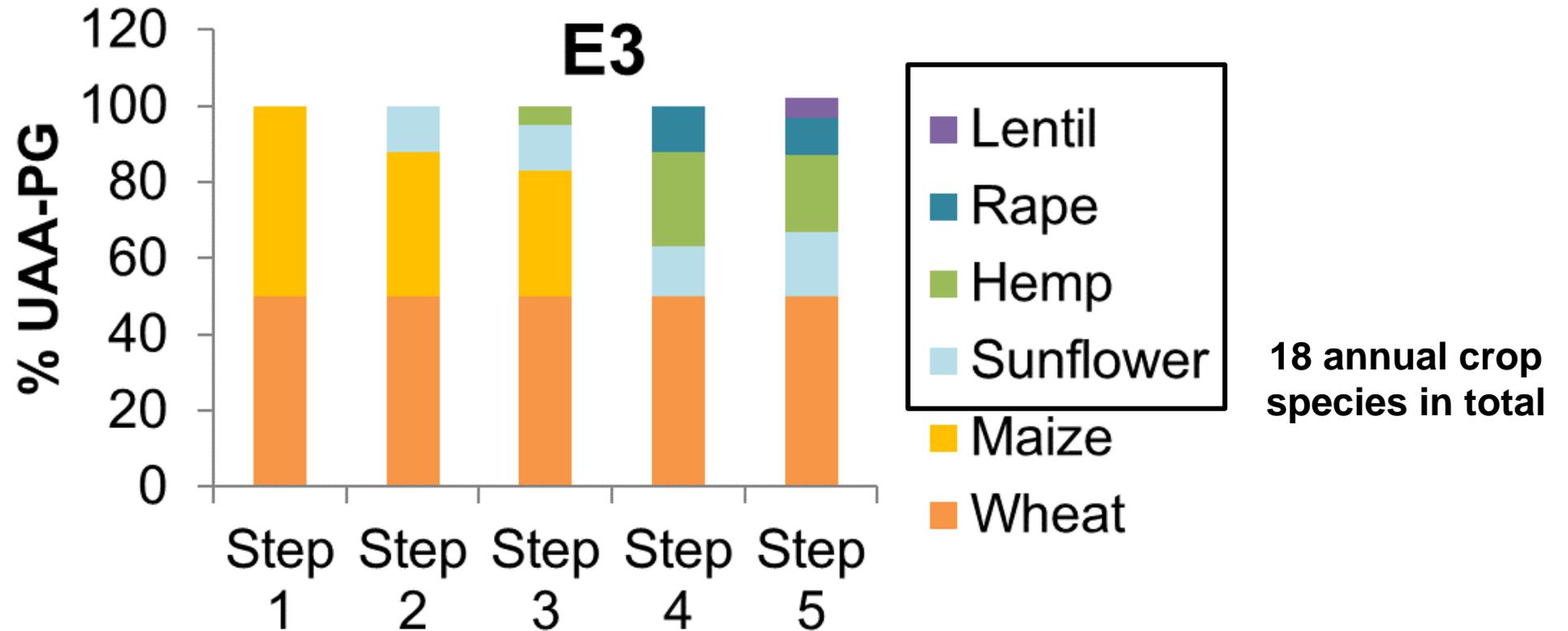
Example of a farm's evolution in crop diversity



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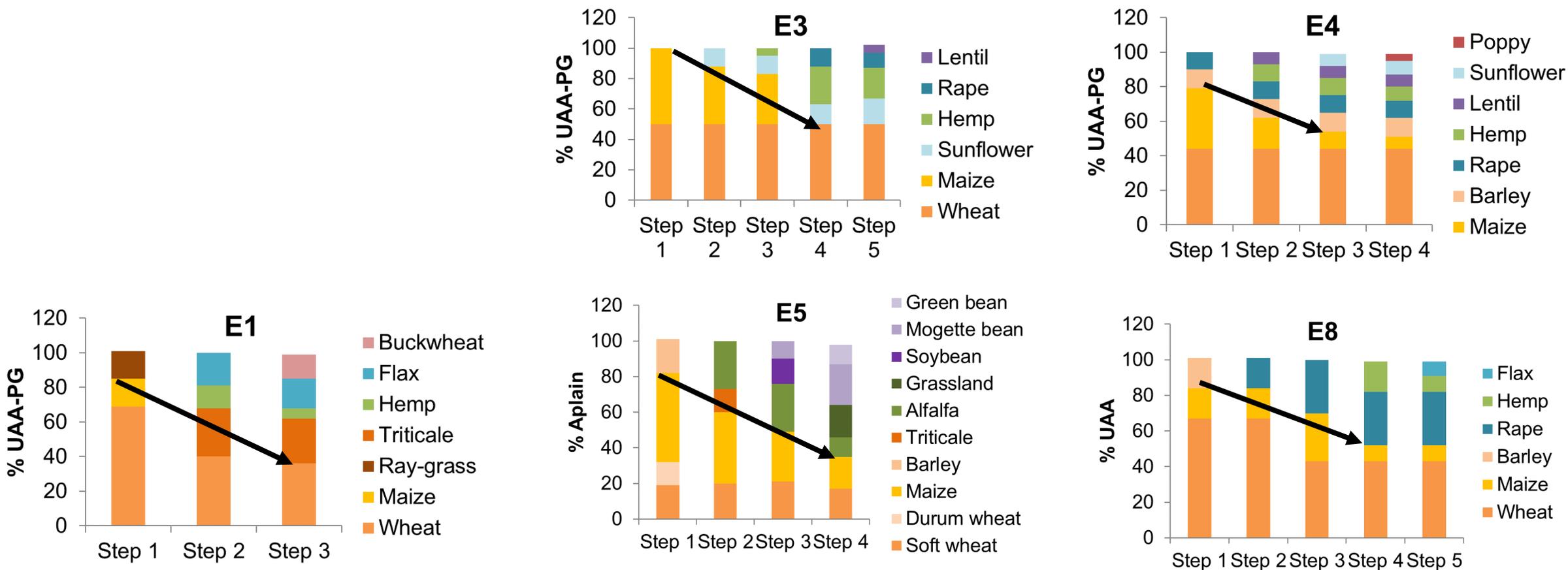


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Farms who work with large structured value-chains usually show a gradual, regular increase in crop diversity



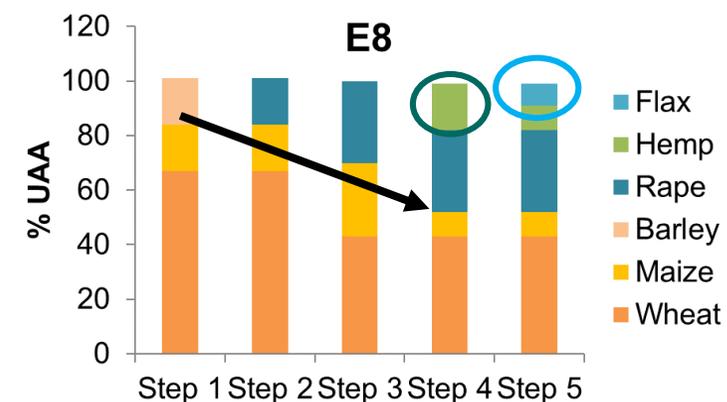
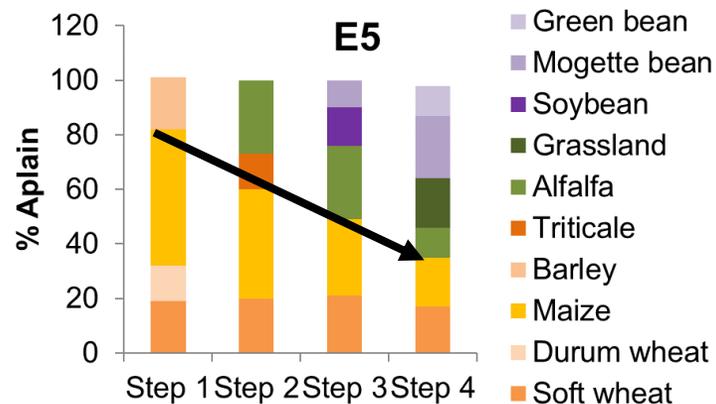
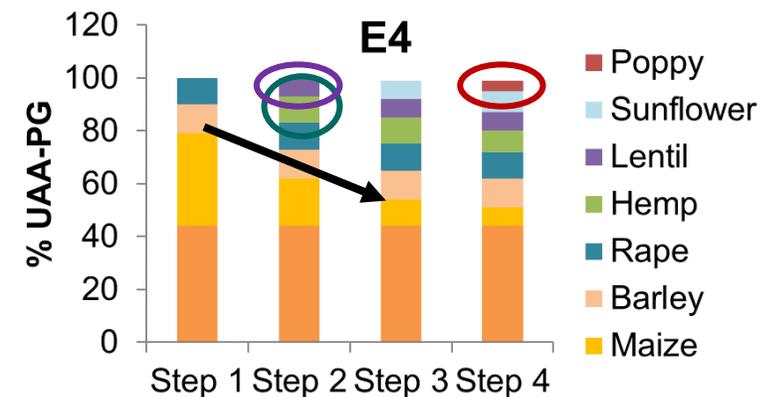
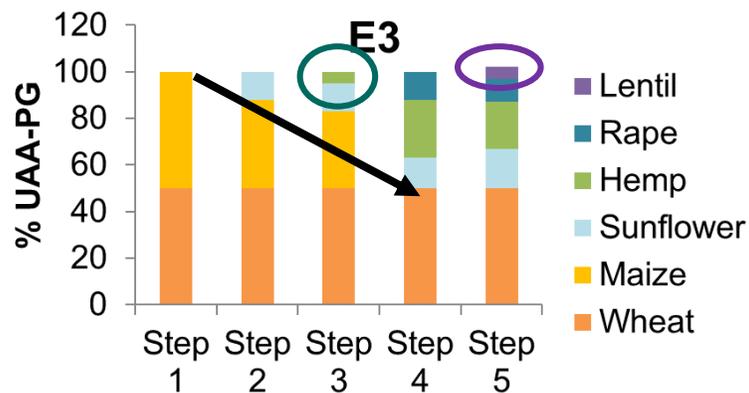
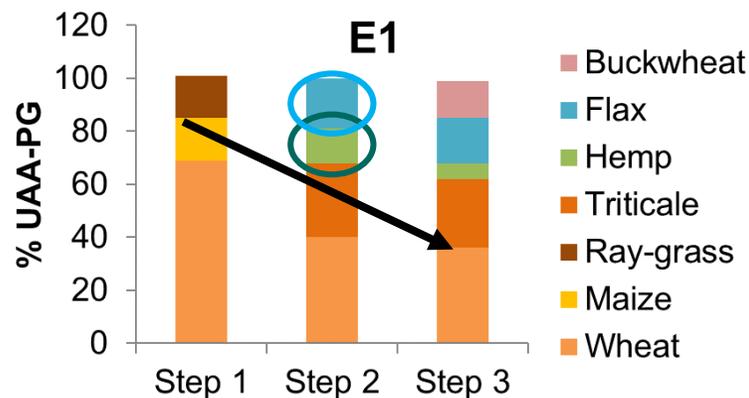
Farms who work with large structured value-chains usually show a gradual, regular increase in crop diversity

... corresponding to the dynamics and strategies of these value-chain actors at a larger scale

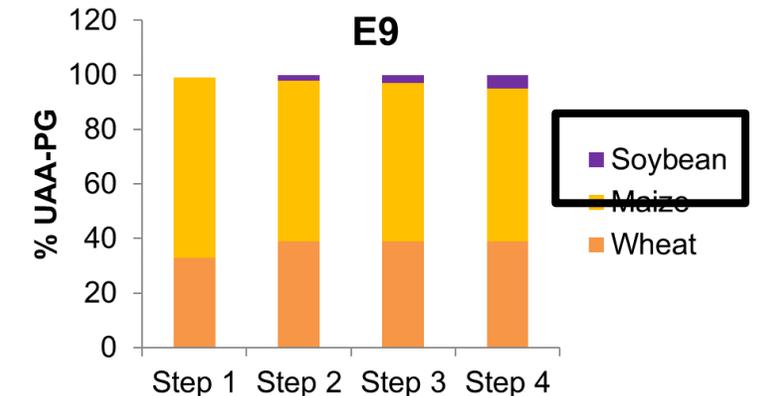
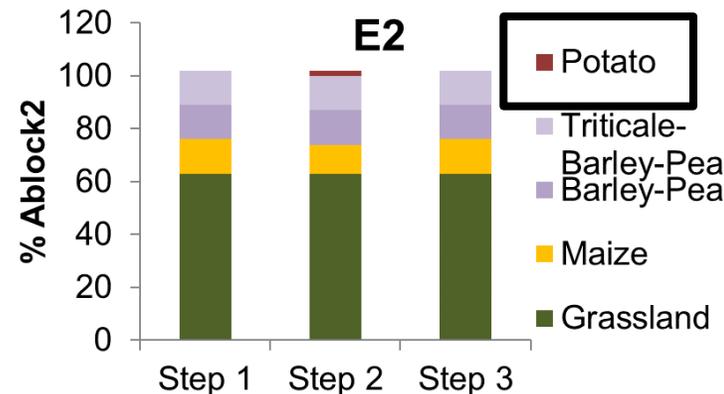
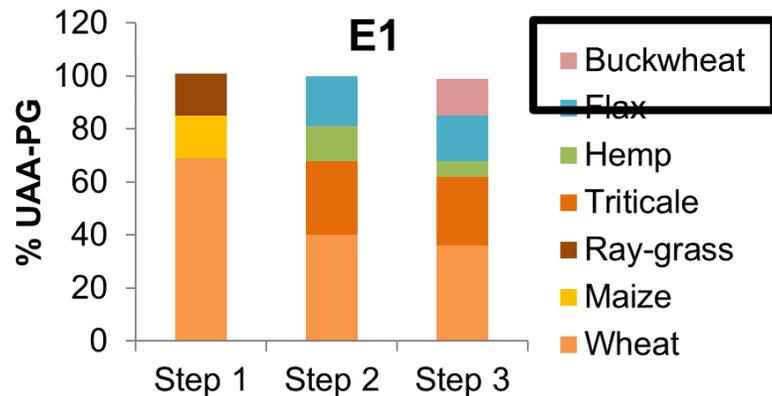
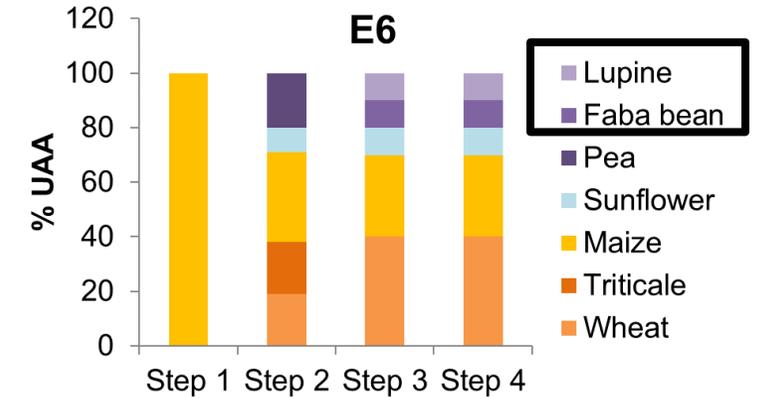
Annual contracts on Hemp

- Flax
- Lentil
- Poppy

...

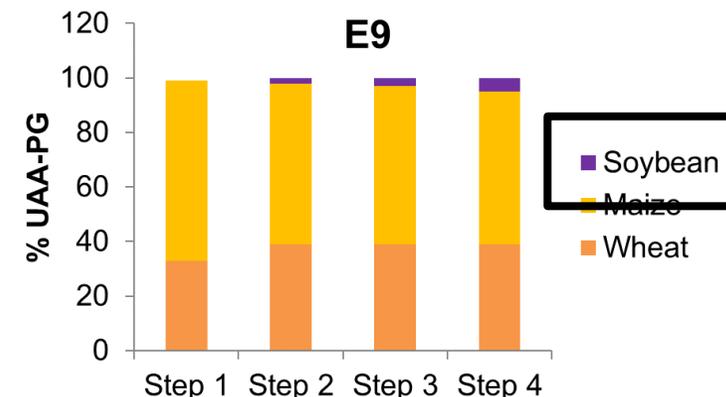
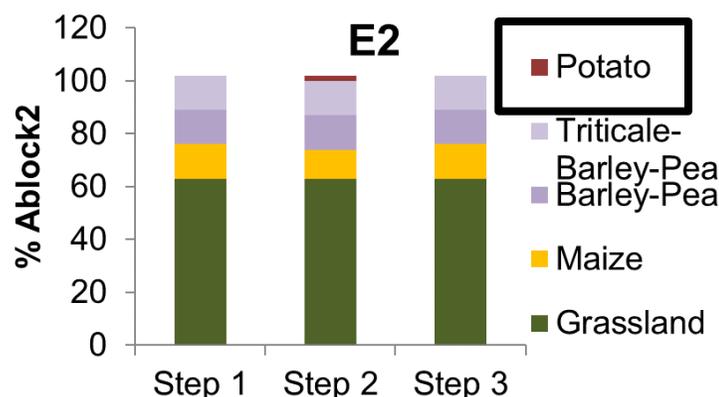
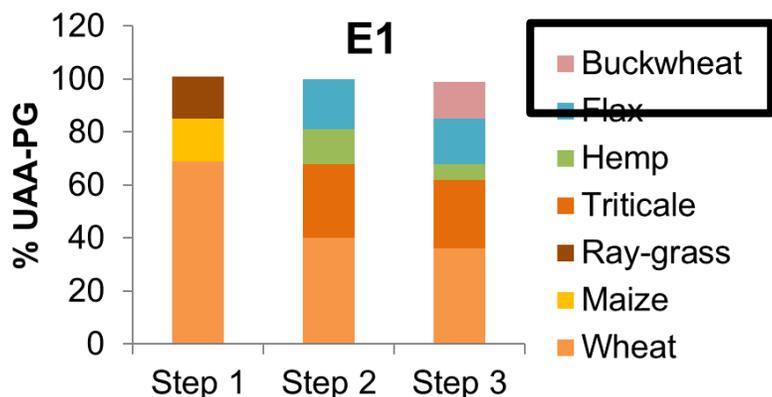
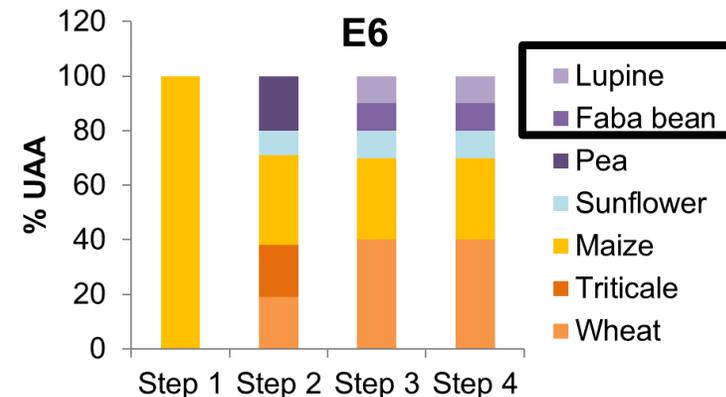


Farms who try to reach other value-chains or to build their own: commercial independence vs. security?



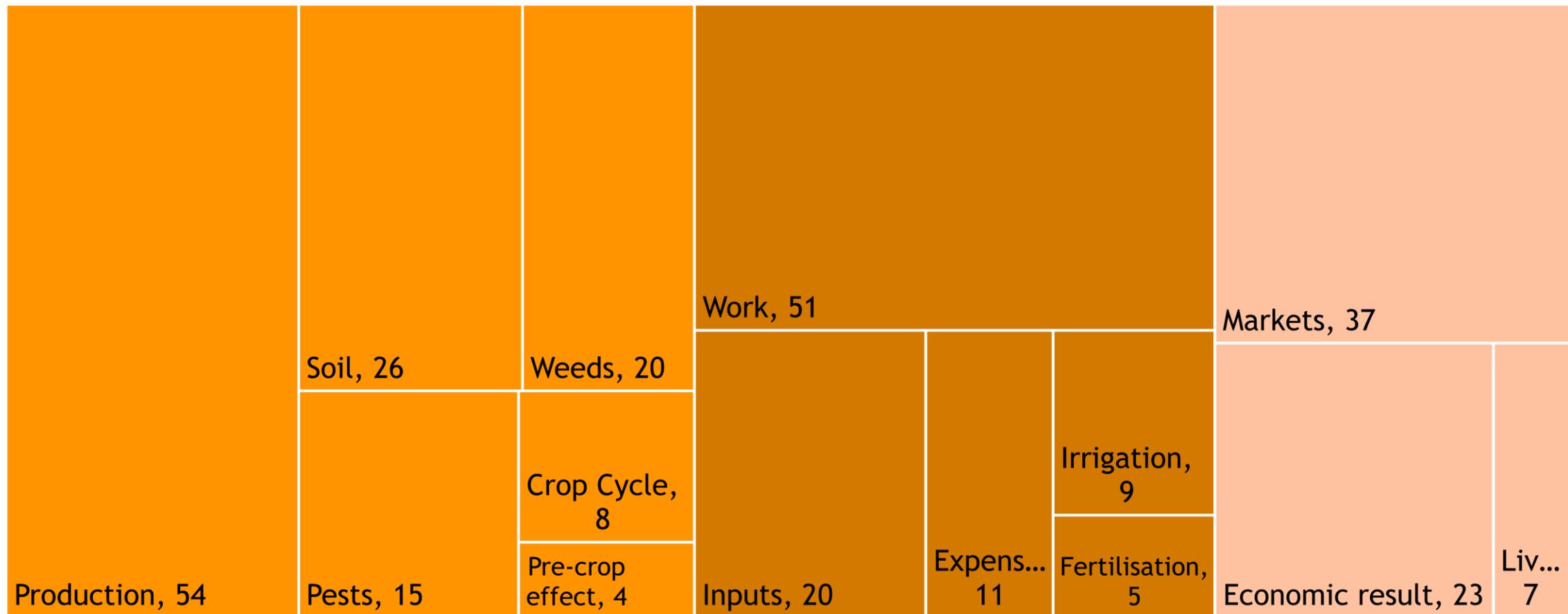
Farms who try to reach other value-chains or to build their own: commercial independence vs. security?

- Higher uncertainty and constraints on the marketing of their crops
- A way to reach specific farmers expectations that are not satisfied by the main value-chains



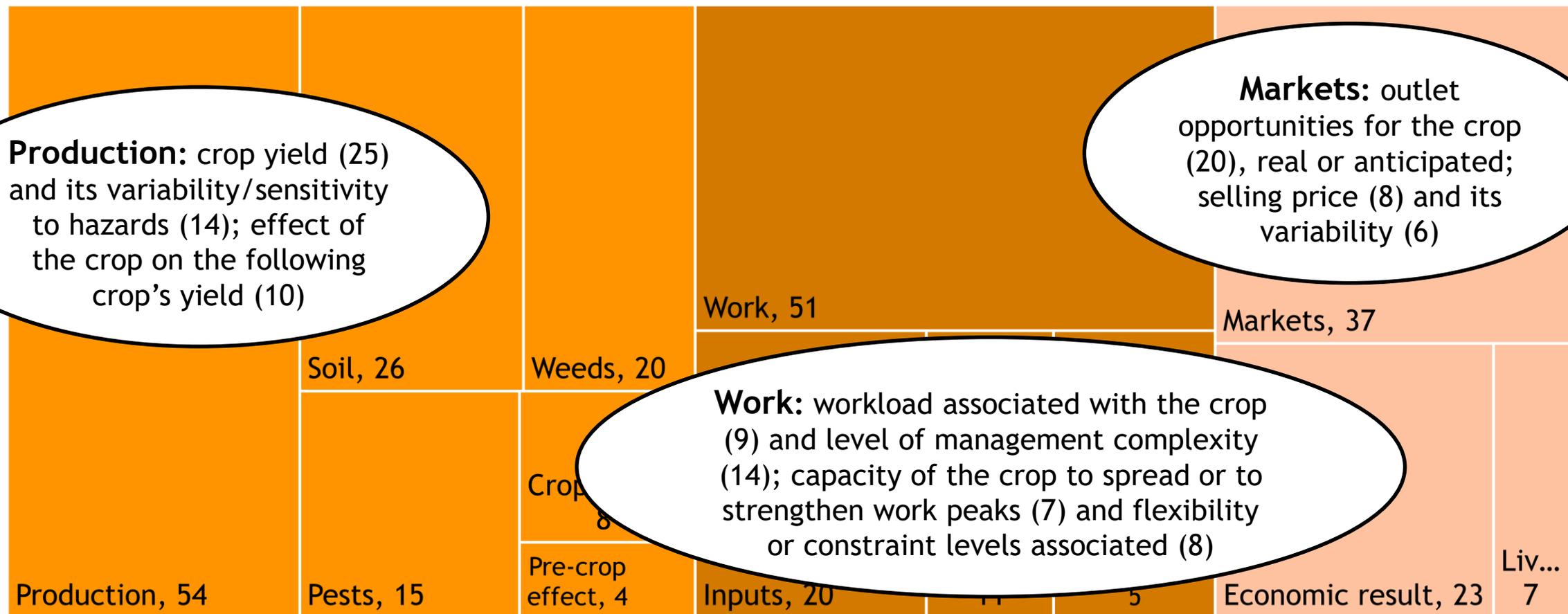
Farmers mobilise a large number and range of criteria during their crop diversification process

Mains thematics of the assessment and choice criteria used by farmers
(7 farms - 292 occurrences)



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How farmers overcome issues around knowledge, productive resources and market outlets

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Type of cognitive resource	Advisory and training services	Professional networks	Technical documentation	Experience & experimentation
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- Marketing: **80% of farmers** take charge of the **storage and/or delivery** of some crops in order ensure access to a market outlet

Perspectives

- **Enlarging the sample** of interviewed farmers: other types of value-chains (short chains, direct selling); organic farmers; ...
- Interviews with **other stakeholders** are being carried out to better understand the practices and strategies of value-chain operators and advisory services
- **Discussion** of interview findings with CS actors
- Comparative study of **other territories**: collaborations have been planned with CS19 (in Sweden) and 22 (in Italy) of DiverIMPACTS

Thank you for your attention!



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