

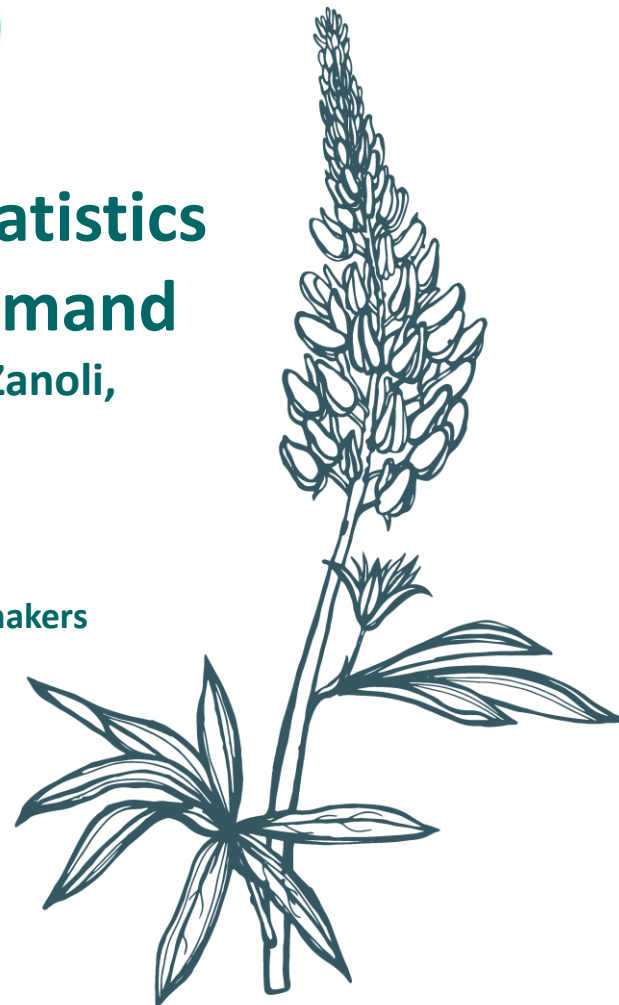
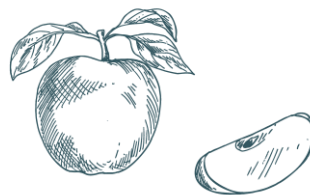
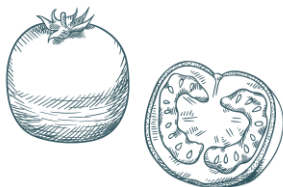


The EU organic seed sector – statistics on organic seed supply and demand

Francesco Solfanelli, Emel Ozturk, Raffaele Zanolì,
UNIVPM

Organic Innovation Days 2020
24 November 2020

LIVESEED final conference for stakeholders and policymakers



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727230 and by the Swiss State Secretariat for Education, Research and Innovation (SERI) under contract number 17.00090. The information contained in this communication only reflects the author's view. Neither the Research Executive Agency nor SERI is responsible for any use that may be made of the information provided.



Estimating the potential of organic seed market in EU countries and Switzerland

- For the first time this work provide an **overall statistics of organic seed supply and demand** in Europe.
- **Innovative approaches** were developed and tested to improve the data collection and analysis, with special reference to the organic crop area estimates and the organic seed use rate at EU member states.

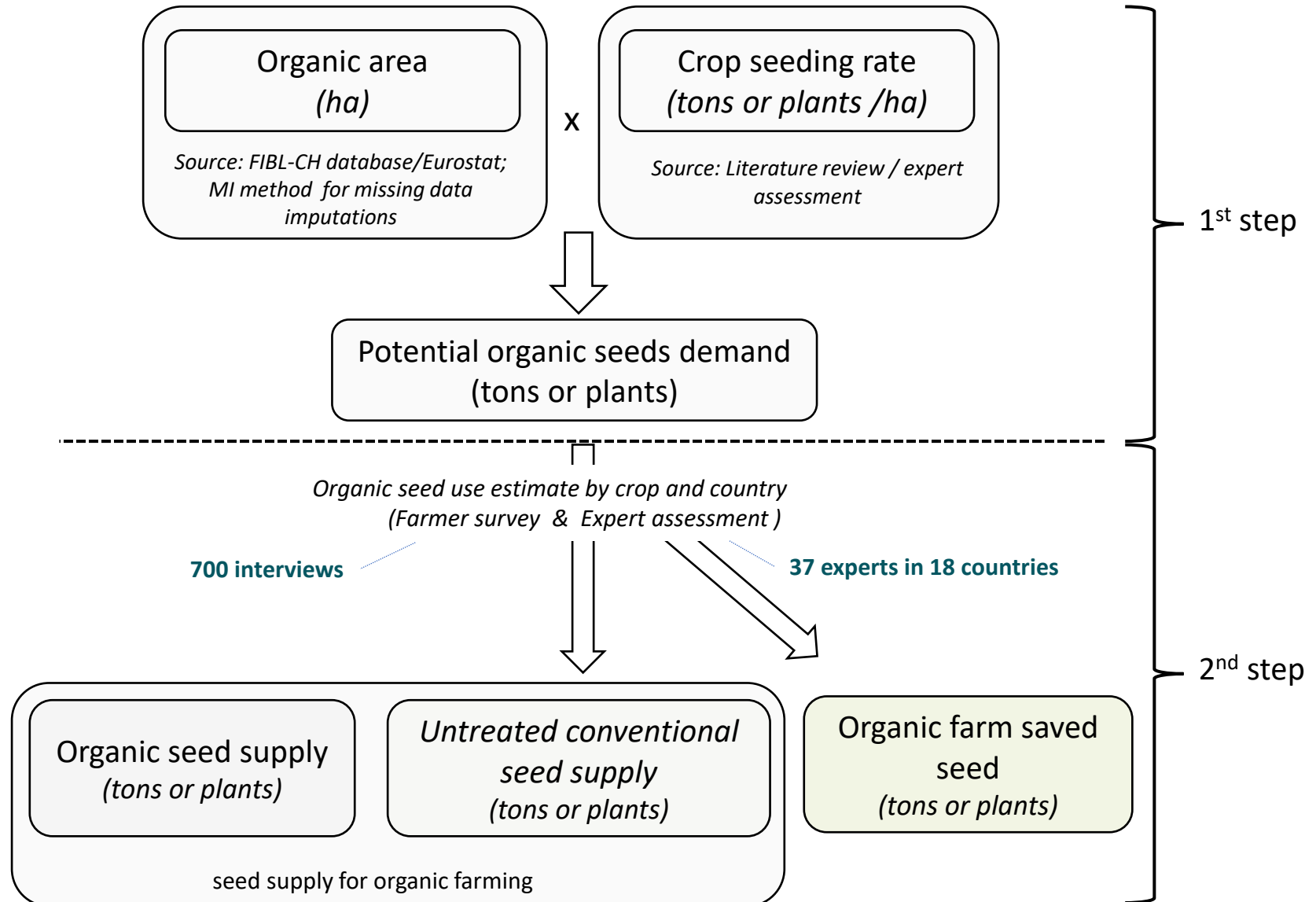


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Partners: BIONEXT, FIBL-CH, FIBL-DE, ORC

Task: 1.1.1 - Analysis of current production and use of organic seed.

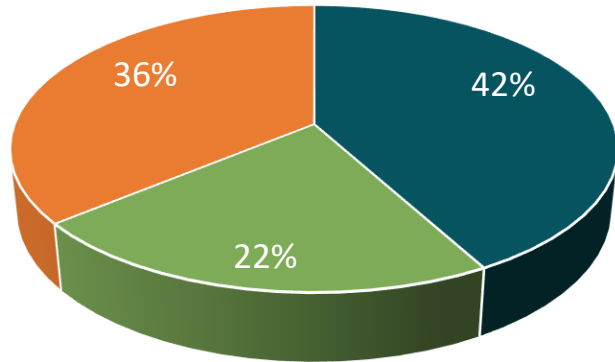
EU organic seed demand assessment: approach and procedures



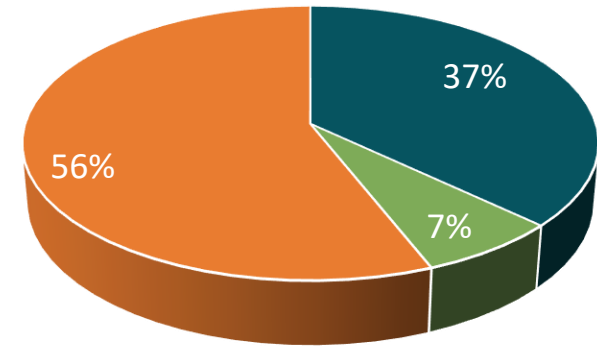
Seed and reproductive material used in OF by crop category (EU + CH in 2016)

Values expressed as a percentages of the estimated amount

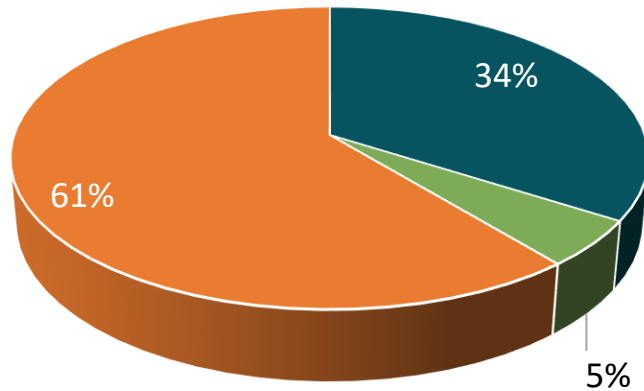
Arables



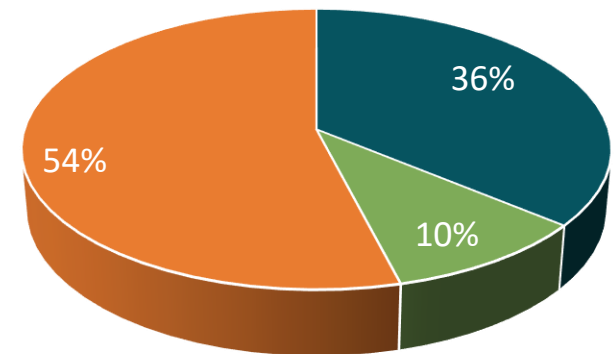
Vegetables



Forages



Fruits



ORGANIC SEED SUPPLY

NON-ORGANIC SEED SUPPLY *

ORGANIC FARM SAVED SEED

Estimated amount of seed and plant reproductive material used in organic farming in EU + CH in 2016

<https://orgprints.org/38616/>

	Organic seed supply (amount & percentage)		Organic farm saved seed (amount & percentage)		Non-organic seed supply (amount & percentage)*		Total organic seed demand (amount)
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CEREALS

Barley (metric tons)	21.348	47%	12.466	28%	11.285	25%	45.098
Grain maize (metric tons)	1.521	51%	168	6%	1.309	44%	2.998
Oat (metric tons)	23.247	43%	18.765	34%	12.503	23%	54.516
Wheat (metric tons)	60.727	42%	37.201	26%	46.637	32%	144.564

FORAGE and GRAIN LEGUMES

Lucerne (metric tons)	1.115	43%	249	10%	1.217	47%	2.582
Peas (metric tons)	5.638	42%	2.564	19%	5.149	39%	13.351
Soybean (metric tons)	4.549	46%	2.037	20%	3.374	34%	9.961

VEGETABLES

Carrot (mio of seeds)	3.018	24%	106	1%	9.331	75%	12.455
Onion (mio of seeds)	2.277	55%	235	6%	1.648	40%	4.161
Tomato (nr. of transplants)	52.586.746	22%	22.952.357	10%	162.971.075	68%	238.510.179

FRUITS & BERRIES

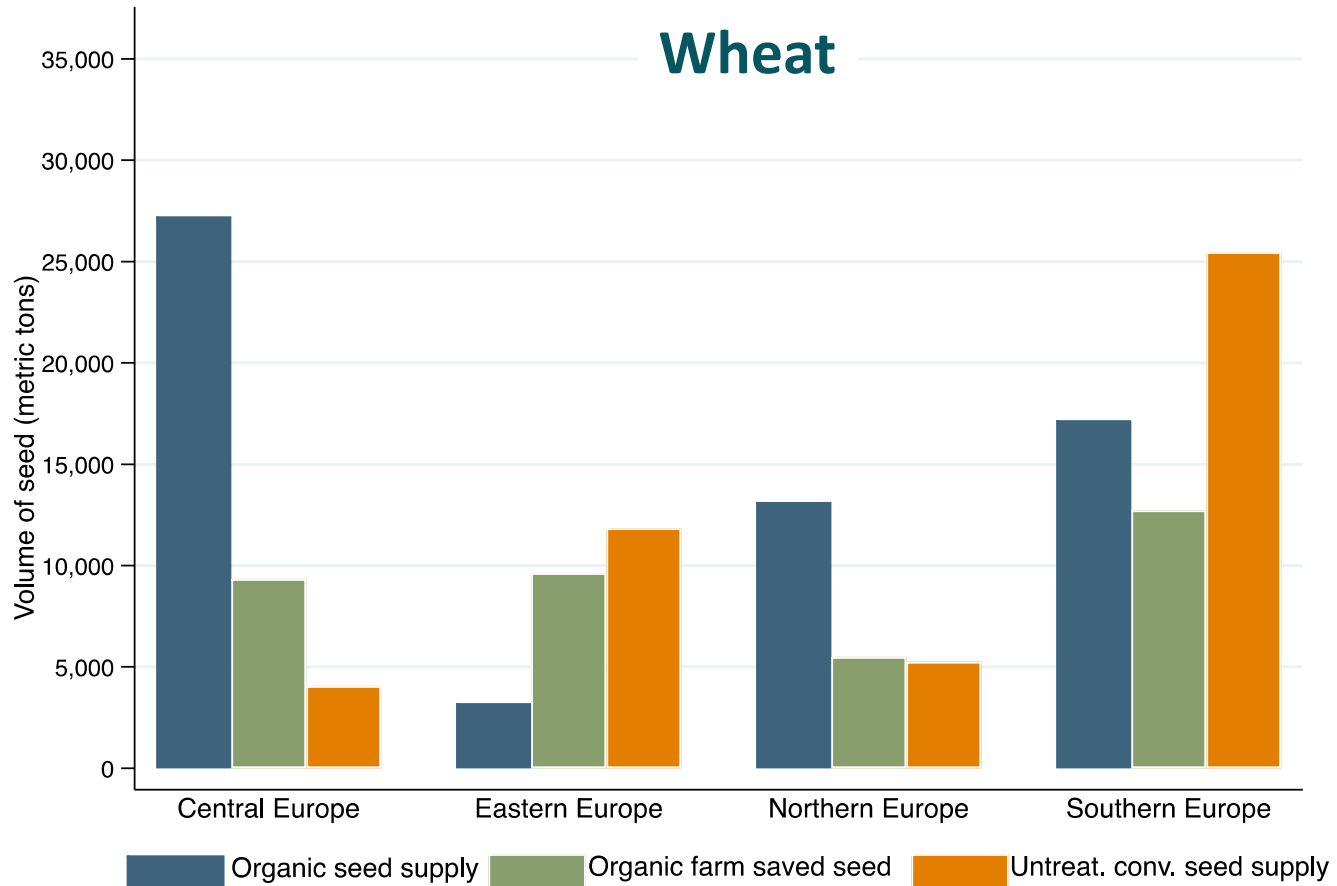
Apple (nr. of transplants)	1.629.674	36%	585.247	13%	2.280.694	51%	4.495.615
Strawberry (nr. of transplants)	35.984.450	21%	6.213.572	4%	129.035.509	75%	171.233.532



Peer-reviewed publication!

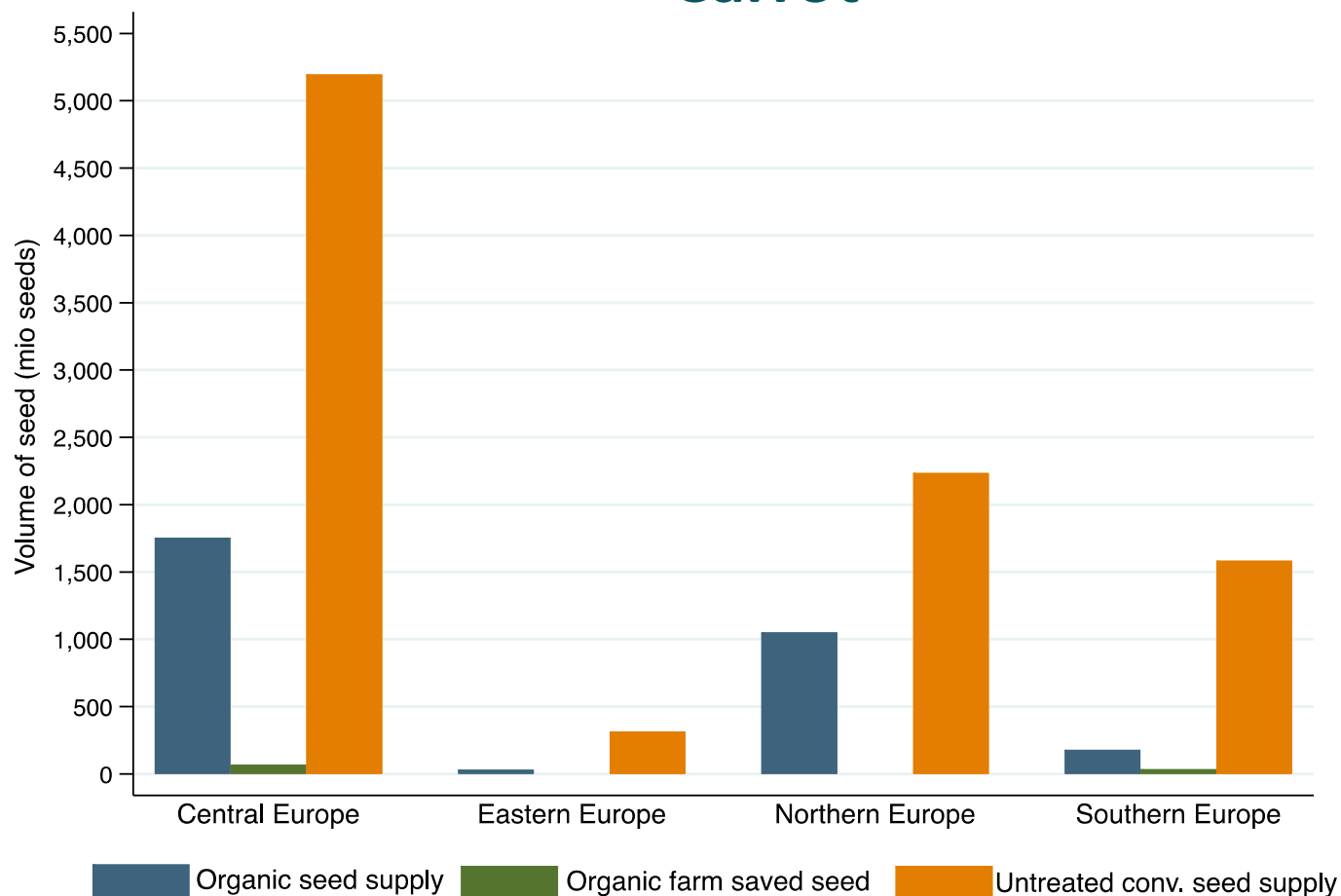


Estimated amount of wheat seed used in organic farming in EU+CH in 2016 (MT)

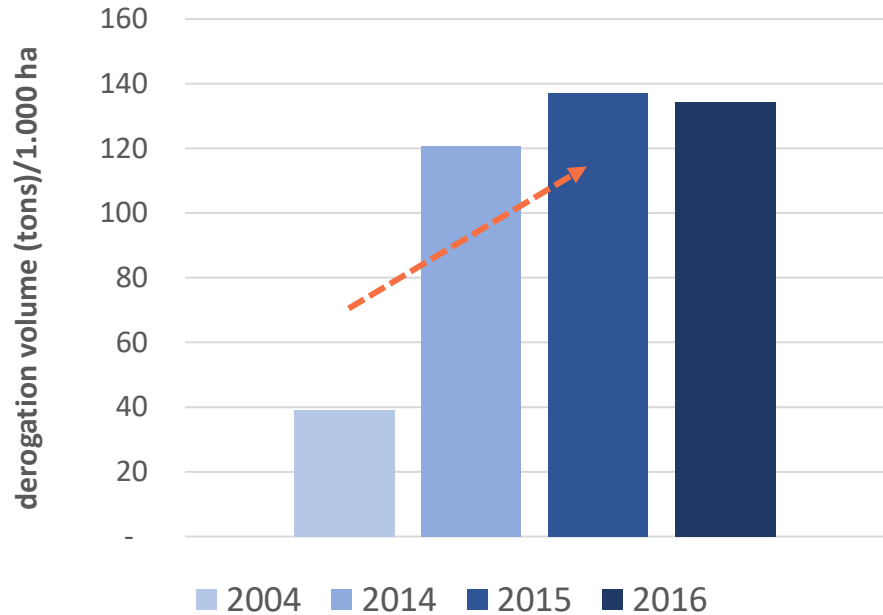


Estimated amount of carrot seed used in organic farming in EU+CH in 2016 (mio seeds)

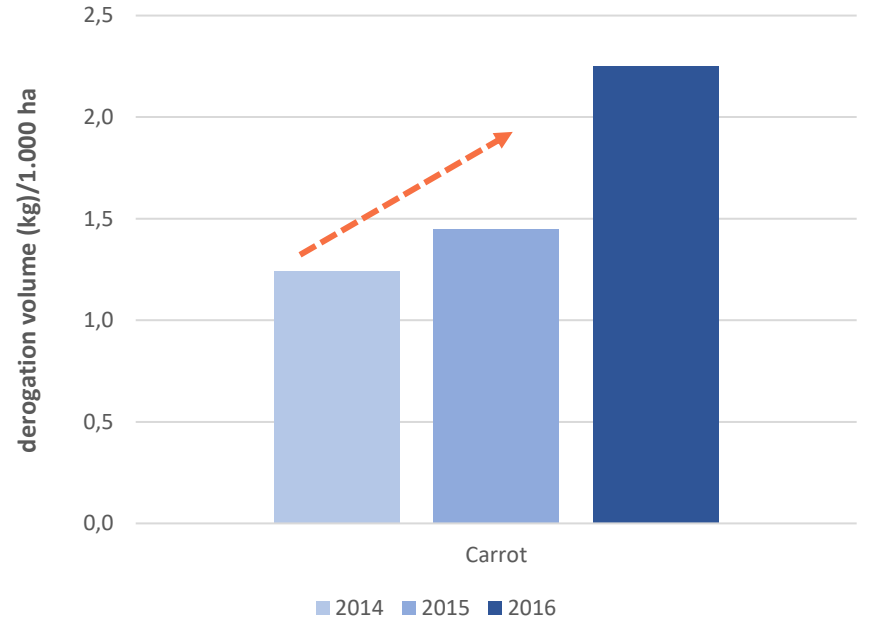
Carrot



Volume of derogations per 1.000 hectares of organic wheat and carrot land over years

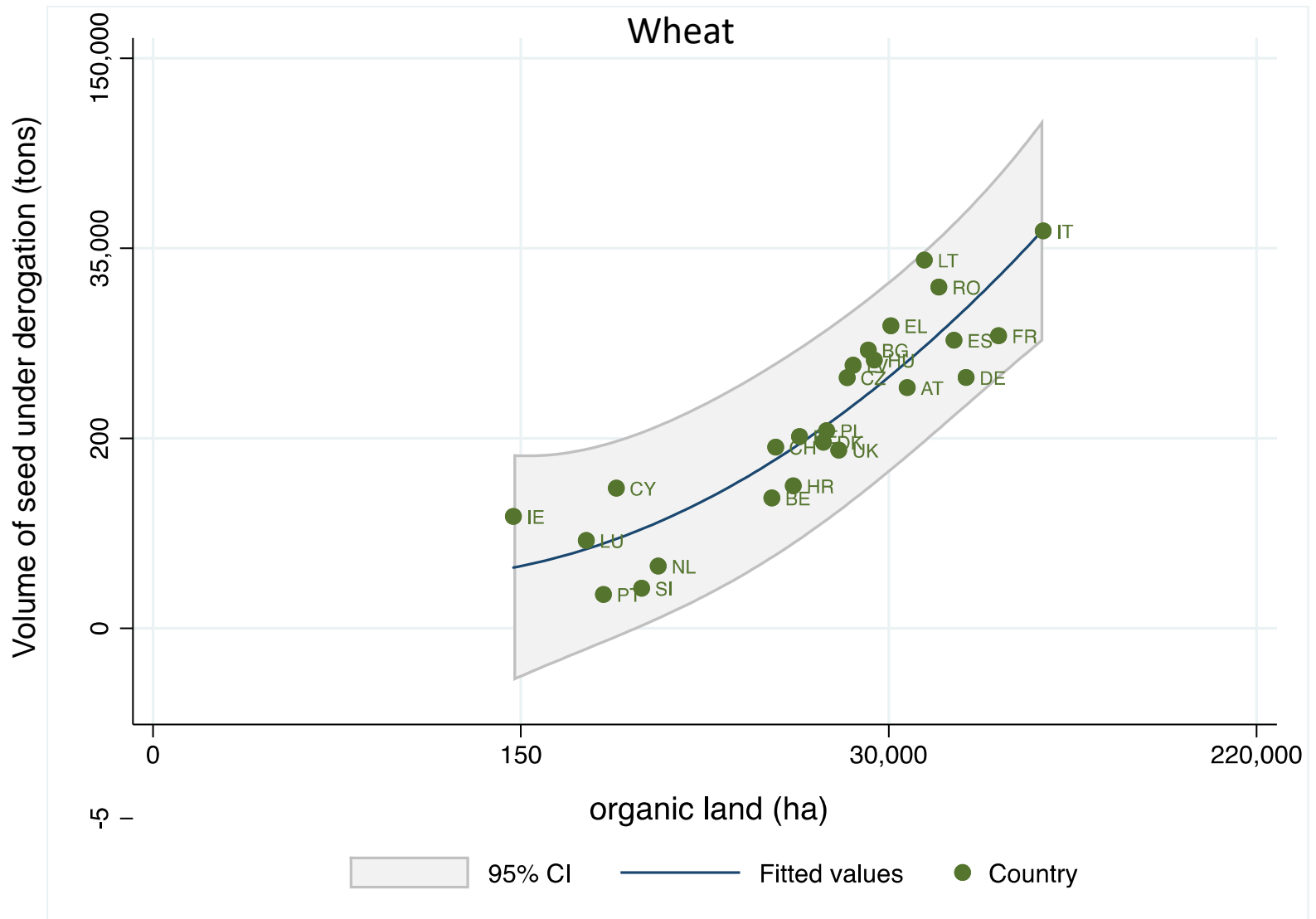


Wheat



Carrot

Relationship between the volume of derogations and the organic land by country (year 2016) - wheat



Conclusions

- The potential of good statistics on EU organic seed production and use cannot longer be ignored.
 - Seed suppliers and breeders need information to make **appropriate investment decisions**, including whether or not enter into the organic sector;
 - Farmers need information to support their **purchasing decision**.
 - Policy makers need information to define **appropriate level of regulation** and support measures.
- In the next years this will gain even more importance, due to :
 - the coming into force of the new European Organic Regulation 2018/848, according to which the **derogations should be phased out by 2036**;
 - The new strategic agenda of the EU commission, which fixed the **objective of at least 25%** of the EU's agricultural land under **organic farming by 2030**.
- However, good statistics need good quality, accurate and timely data.....



Conclusions

The method implemented for estimation comply to the criteria set by the FP7 OrganicDataNetwork

However, seed supply and demand estimates could benefit from:

- **Better data availability on EU organic crop land**
 - despite the statistical robustness of the method, it should be clearly stated that MI, as any other imputation methods, are not substitute of good data.
- **High quality reporting on derogation at EU member states**
 - In many cases, data on derogations has proven to be not fully reliable (availability, accessibility, format of publications, data reliability and validity; harmonization of crop classification and unit of measurement).
- **Accurate data from European Seed Certification Agencies Association (ESCAA)**
 - ESCAA do not currently differentiate between certified organic and certified non-organic seed (currently DE and AT only)
- **Collaborative approach from seed suppliers**
 - The primary data source to estimate the organic seed market was the universe of seed suppliers and retailers, however the survey on seed supplier did not yield enough reliable data to be used in estimation.

Question

What factors explain the difference in organic seed use between the crop sectors?

Thank you!

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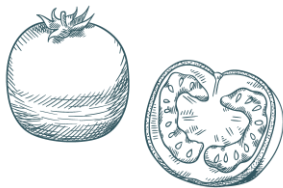
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LIVSEED

Creating incentives for farmers to use
organic seed

Maaike Raaijmakers-Bionext



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Agenda



Why incentives are needed



Types of incentives



Some examples

Why incentives to use organic seed are needed

- To compensate for disincentives
 - The choice is often limited
 - Organic seeds are in general more expensive
 - Concerns about the quality
- The advantages of organic seed are not seen
 - The varieties are usually conventional too
 - Conventional seed for organic farming is also “untreated”
- Regulation is not always a solution



Types of incentives: economic

- Discount on the price of organic seed
- Premium price for product made with organic seed
- Level the price difference
- Organic seed is pre-financed
- Organic farmers produce their own seed



Types of incentives: practical

- The cultivar is more suitable for organic farming
- The cultivar is adapted to local farming conditions
- Reduced risk of residues
- The access to organic seed is improved



Types of incentives: social

- Increases the integrity of the organic product
- To live up to consumer expectations
- A level playing field is in place: all organic farmers use organic seed



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Some examples durum wheat in Italy

- Two cooperatives in the pasta supply chain make a deal with the organic seed producer
- Collective purchasing makes the organic seed cheaper
- Cooperative pre finances the seed for the farmers
- Farmers receive the variety that is most fit for the product for a good price
- Organic seed use helps to promote the end product



Some examples arable crops in Romania

- Farmer's cooperative aims to become self-sufficient in organic seed production and use
- The cooperative purchased a seed processing plant
- This improves the quality of the seed they produce
- Members receive a discount and
- a higher price for their end products
- Regional propagating improves cultivar adaptation



Some examples spinach in The Netherlands

- Organic spinach is mainly produced for the industry market
- The supply chain is very cost price oriented
- One variety dominates the market
- Some farmers ask for organic seed
- Spinach seed production is difficult and risky
- Agreement between the seed producer and trader
- Farmers share the extra costs for organic seed



Some examples Reward the use of organic seed in the market



Vitalis Born,
Wholesum
Raised.



Organic agriculture starts with the seed. Vitalis Organic Seeds shares our commitment to organic integrity. This partnership ensures the tomato seeds we use were selected and produced under the highest organic quality standard — and then grown under the highest organic quality standard at our farms.

The result? Eco-friendly and more *flavorful* tomatoes.



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Question

How to communicate use of organic seed to consumers?



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More information

Creating incentives for farmers to use organic seed

Bottlenecks and success factors in 4 pilot case studies



PRACTICE ABSTRACT No. 22
Target audience: Farmers, the whole value chain

Values and benefits of organic seeds

Problems
Some stakeholders in the organic sector are not aware of the values and benefits of organic seeds. Therefore, unless required to do so by regulation, they are not motivated to use or promote organic seed. Especially since organic seed is usually more expensive than conventional seed.

Solutions
Organic integrity: Seed production is part of the production process and takes a lot of effort and time¹ (figure). Starting the organic production cycle with organic seed or vegetative propagating material as an input, increases the organic integrity of your product.

Figure: The seed production often takes longer than the production of the crop

Live up to consumer expectations: Consumers expect organic farmers to use organic inputs. This is one of the reasons for the European Commission to tighten the EU organic rules on seed use. Derogations allowing the use of conventional seed and vegetative propagating material should expire in 2035.²

Lower risk of residues: Unlike conventional seeds, organic seeds are propagated in an organic environment. This reduces the risks of chemical residues on the seed. In addition there are indications that some residues persist into the seedlings and even into the final product. For instance in the case of plants with low mass growth during cultivation (e.g. fresh herbs) or in organic fruits originating from conventional plants.³

Practical recommendations

- Educate stakeholders in the organic sector about the values and benefits of organic seeds⁴.
- Create demo fields with varieties of which organic seed is available.
- Organic seeds are the first step towards organic breeding. By buying organic seed, you stimulate seed producers to select and develop varieties that are better adapted to organic growing conditions.

Further information

- FAO2 The differences between certified organic seed and "untreated" conventional seed
- Organic regulation (EU) 2018/848
- https://organic.org/3483771/Poster_Spinner_Bonnard_2018_githubusercontent.com
- Why use organic seed? www.liveseed.eu/tools-for-practitioners/videos

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Publisher: QM2 Hungarian Research Institute of Organic Agriculture
Date: May 2020

PRACTICE ABSTRACT No. 21
Target audience: Farmers, agricultural teachers, Farm advisors

The difference between certified organic seed and "untreated" conventional seed

Problems
Many organic farmers do not know the difference between certified organic seed and "untreated" conventional seed. Therefore they are not motivated to buy organic seed, which is usually more expensive.

Solutions
Organic seed production
Organic seeds are multiplied in an organic environment. This is very challenging, especially for biennial crops such as carrot or leek (see figure) that need to overwinter in the open field. Disease and weed pressure in combination with lower yields, make organic seed production more expensive, than conventional seed production. Climate change is increasingly leading to crop failures and makes some of the classic seed growing areas unsuitable. Dry organic production areas with good ventilation (wind) are most suitable but scarce.

Certified organic seed
Certified organic seeds are produced according to the European Union's organic production rules. The multiplication period depends on the crop and can vary from 4 months for annual crops like spinach up to a year and a half for biennial crops like onion and cabbage. The quality standards for certified organic seed are the same as for conventional seed. Seeds that meet both requirements can be registered in one of the national organic seed databases.¹

Untreated conventional seed
Untreated conventional seeds are multiplied in a conventional environment. During the production chemical substances and fertilisers are used. "Untreated" means only that the seed is not treated with chemical substances after the harvest of the seed.

Practical recommendations
Organic farmers should be educated about the advantages of organic seed:²

- Produced in an organic environment
- No chemical treatments during production
- Lower risk of residues

Further information

- Link to all the EU organic seed databases: <https://www.liveseed.eu/tools-for-practitioners/eu-organic-seed-database/>
- FAO22 Values and benefits of organic seeds and vegetative propagating material
- Video of organic cucumber seed production: www.youtube.com/watch?v=RB3u9HVWq0c

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Contact: maaike@bionext.nl
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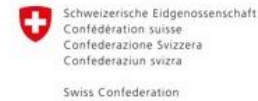
- Surveys
- Interviews
- Workshops
- Events



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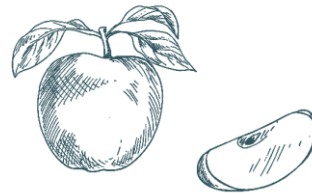
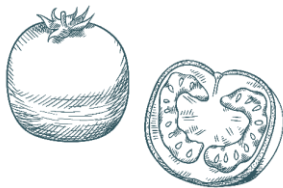
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LIVSEED

How to smooth transition and
find long-term solutions to obtain 100%
organic seed ?



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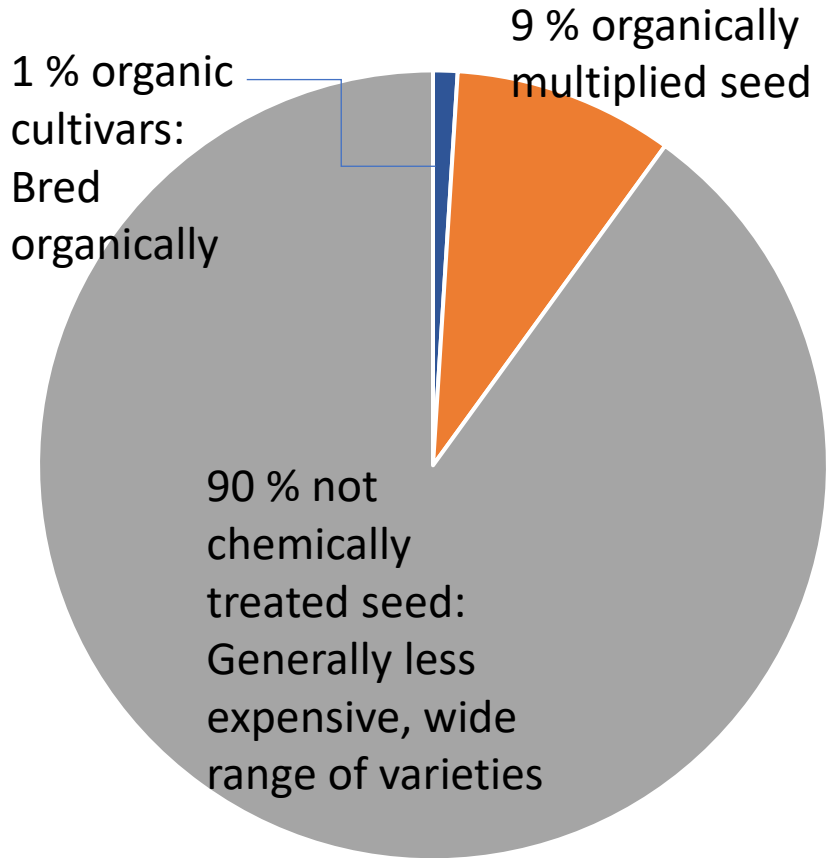
How to smooth transition and find long-term solutions to obtain 100% organic seed ?



- Which interventions are promising to increase organic carrot seed use and production?
- What are the impacts of the different policy interventions along the organic carrot seed value chain with respect to:
 - Organic seed use and production
 - Gross margins



Case study: Seed use in German organic carrot production for the late fresh market



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Materials and methods



- Ex-ante assessment \Rightarrow ***simulation model.***
- Heterogeneous landscape of value chain processes, different business models and possibilities, interactions among actors
 \Rightarrow ***multi-agent system.***
- At farm level: Innovation diffusion: Willingness to use organic seed \Rightarrow ***Network thresholds according to Rogers.***
- Timeframe \Rightarrow ***Presenting future scenarios for the next 8 years***

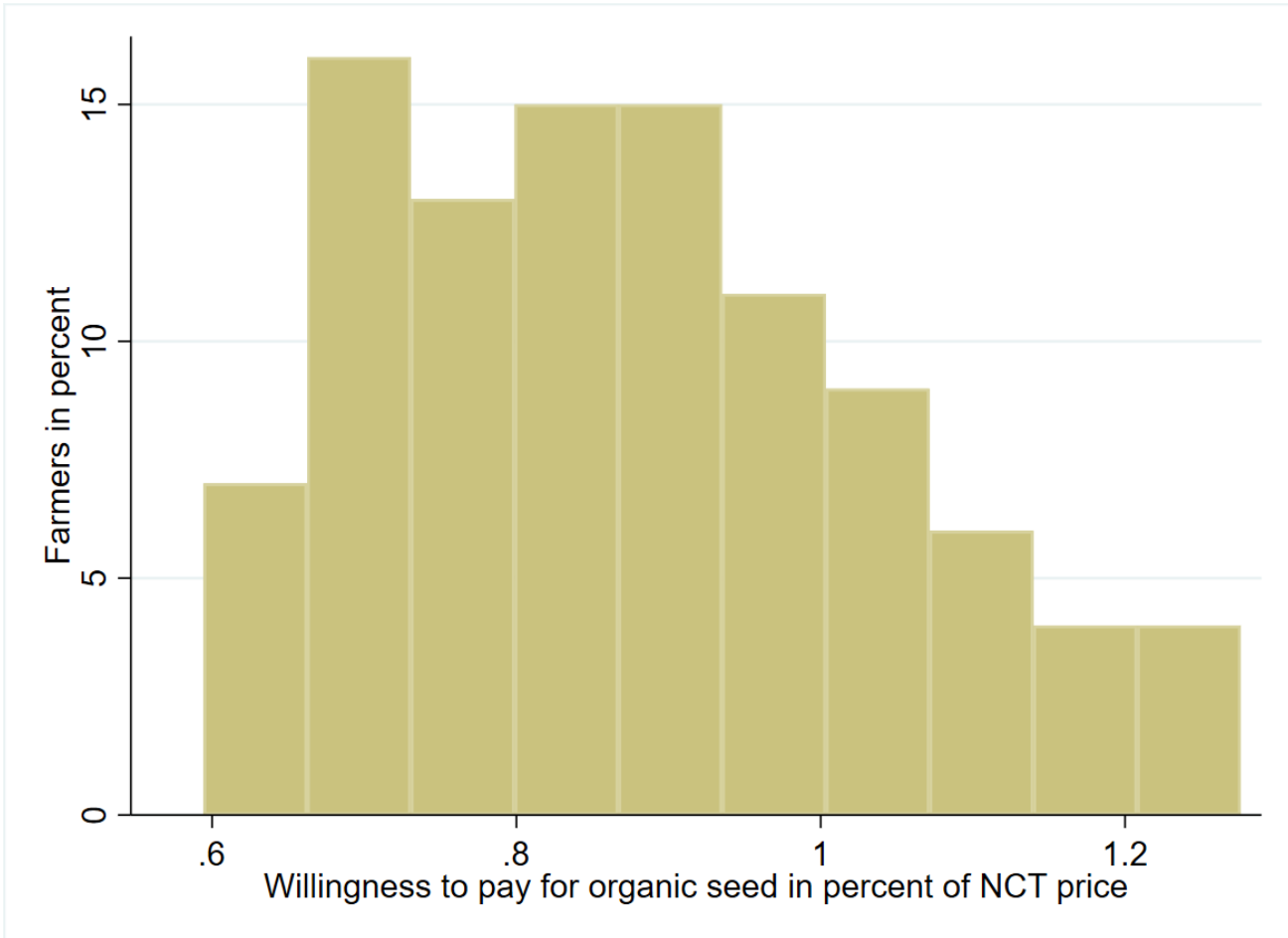


Innovation diffusion: How probable is it for a farm to use organic seed?



- Analysis LIVESEED farmer survey (Sample size: 128) and statistical agricultural data from Germany (Sample size: 1909)
- Influential variables:
 - Education (positive correlation with organic seed use),
 - Farm size (negative correlation with organic seed use),
 - Farm type (arable or horticulture), horticulture specialisation has a negative correlation with organic seed use, arable in comparison has a positive correlation
 - Whole sale is main market channel in the case study

Innovation diffusion: Motivational premium



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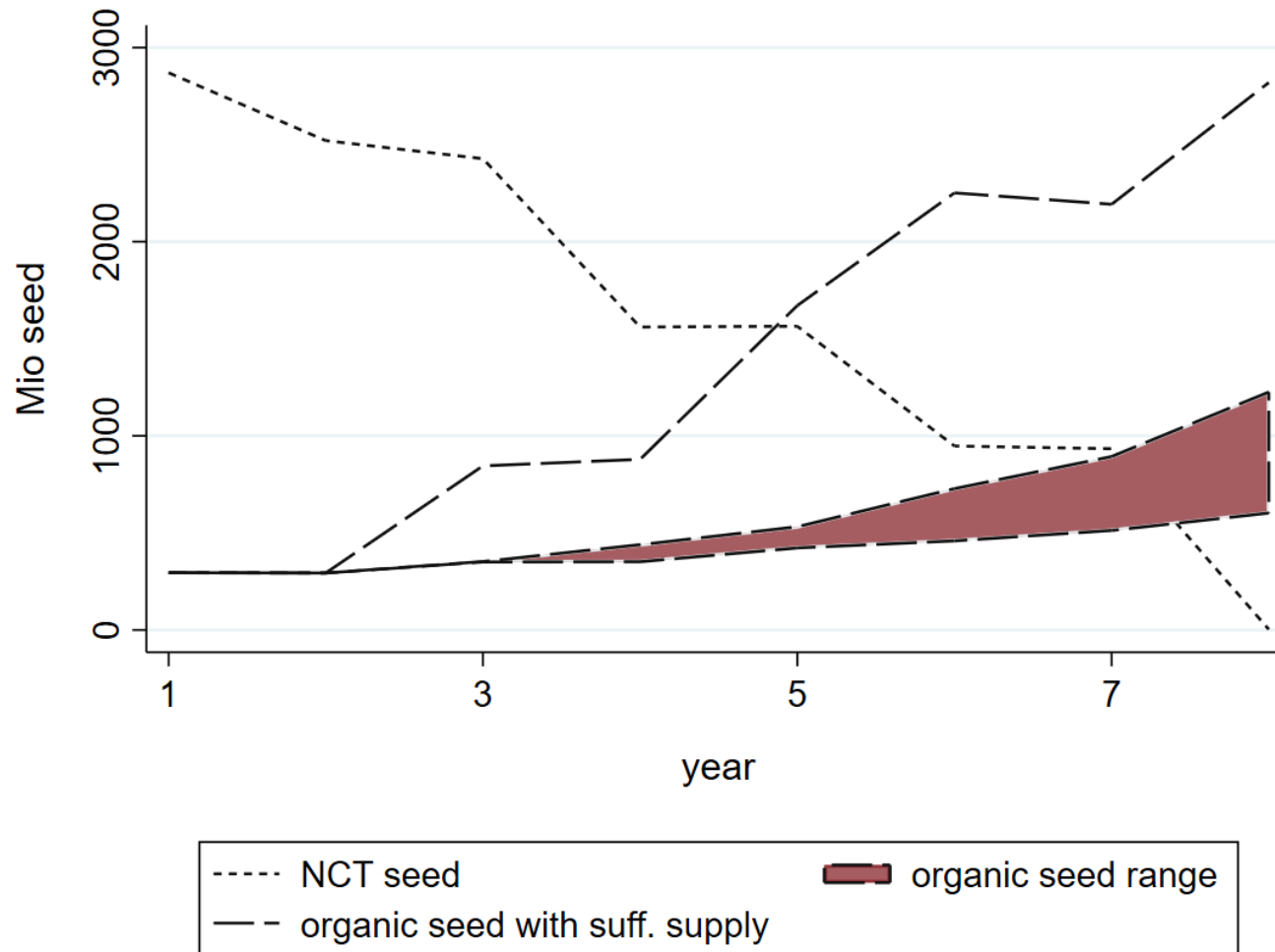
Organic seed supply



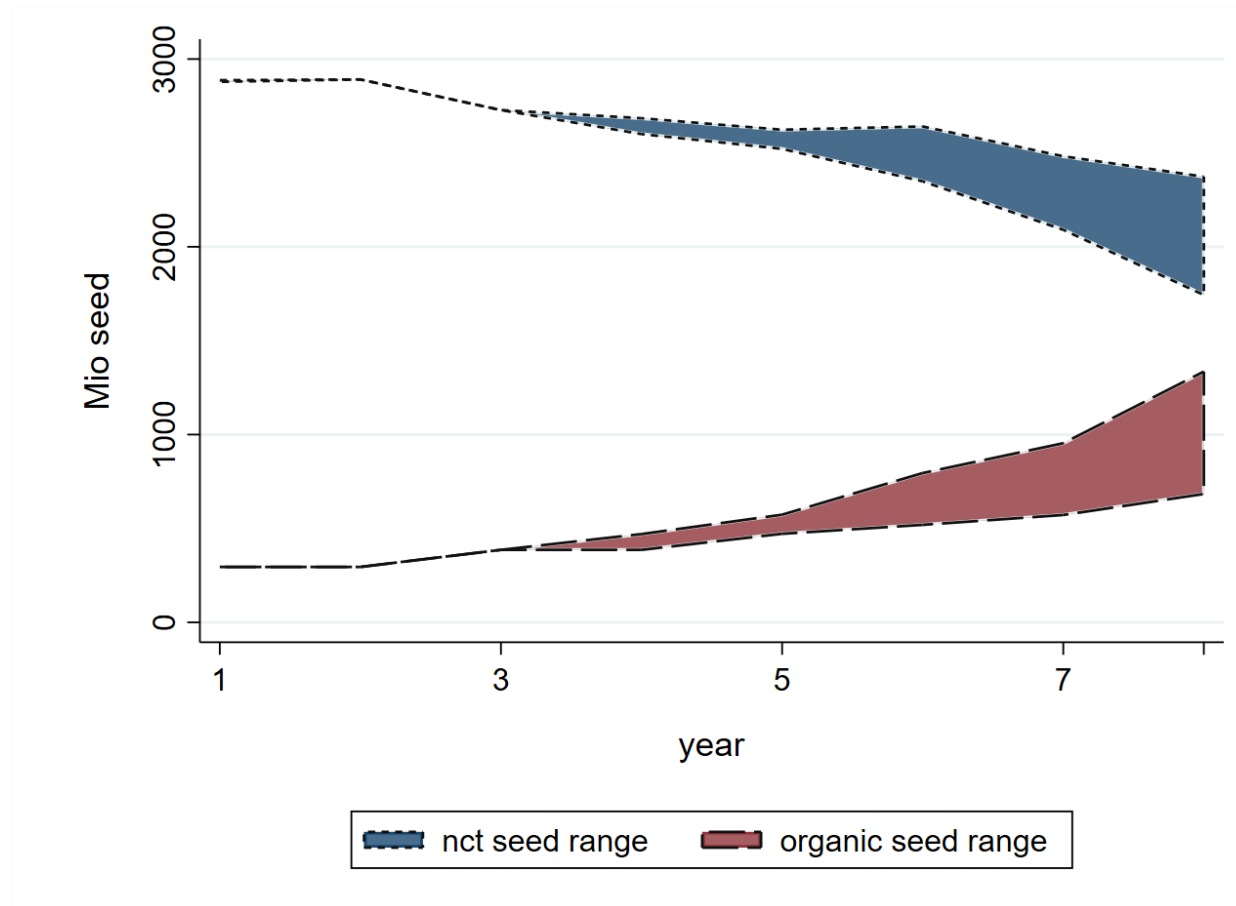
- Challenges in organic carrot seed production:
 - Lygus bug infestation
 - Finding farmers willing to produce organic carrot seed (technically challenging and not as profitable as other enterprises)
 - Low germination rates
- Uncertainty about technical advancement: 3 scenarios, slower, faster and sufficient seed production development, based on demand and ability to increase production capacities



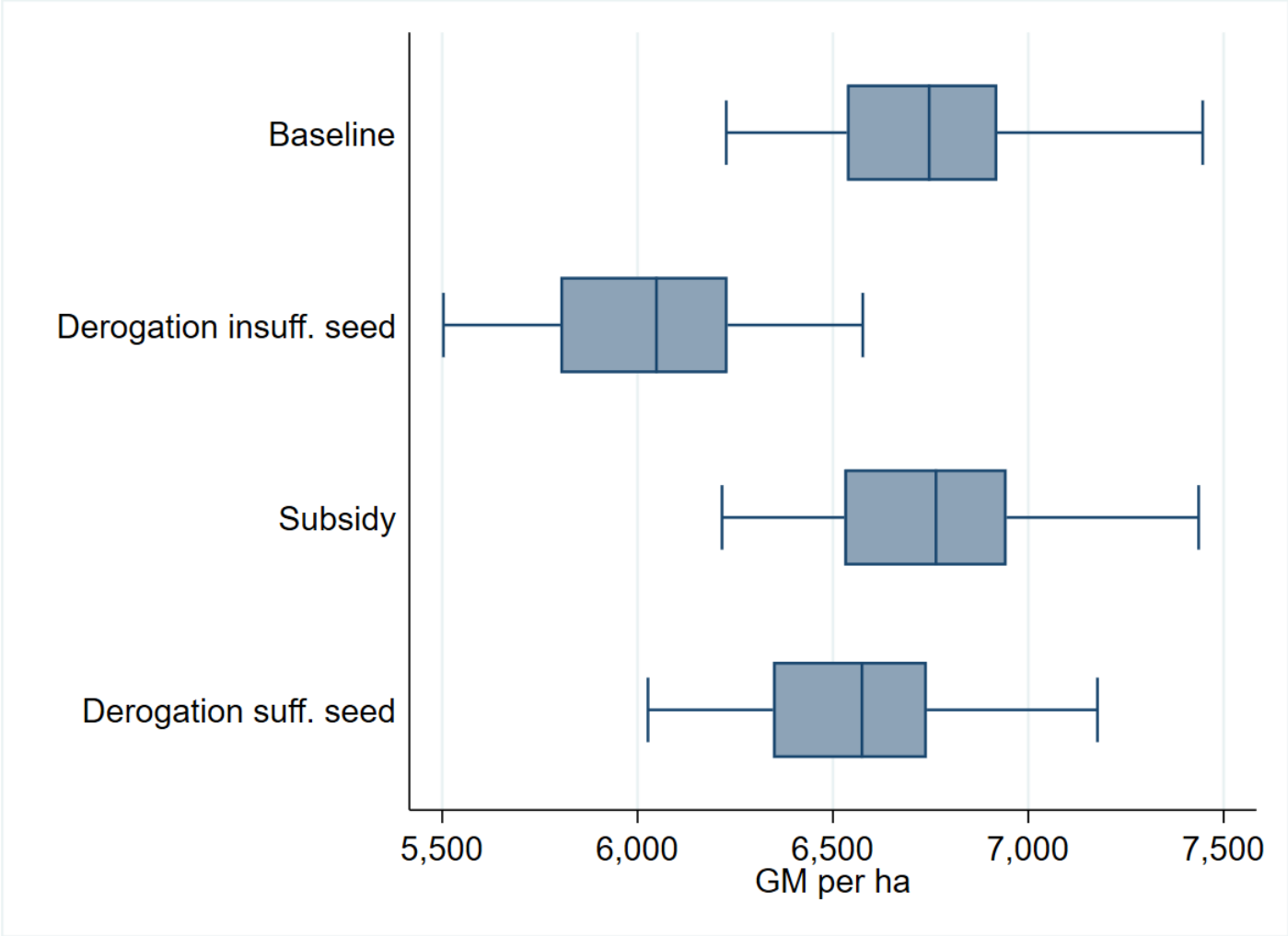
Phasing out of derogations for organic carrots, organic seed uptake



Effects of Hectare bound subsidy 500 Euro per ha or higher product price of 15 Euro



Gross margins per scenario



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Summary of preliminary results



- Technical difficulties in multiplication are the main challenge
- If derogations are phased out too rapidly, there may be a shortage of seed for organic carrot production
- There would be an average change over the 8 modelled years in gross margin at farm enterprise level of -10%
- With enough organic seed supply, -3%
- A subsidy at organic carrot area level of around 500 €/ha
- Higher product price: 15 Euro/ton
- For other cases, such as early carrots in Germany or durum wheat in Italy, organic seed production could easily match demand in a phasing out situation
- It's crop and region-specific if organic seed can be sufficiently produced
- Two other cases are being studied in detail, report due in January 2021



Question

Control and command measures (i.e. phasing out of derogation) *versus* voluntary incentives (e.g. RDP subsidy)?



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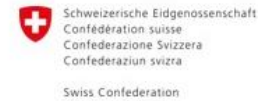
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Questions

1. What factors explain the difference in organic seed use between the crop sectors?
2. How to communicate use of organic seed to consumers?
3. Control and command measures (i.e. phasing out of derogation) versus voluntary incentives (e.g. RDP subsidy)?