Luomuketjun haasteista tulevaisuuden innovaatioihin

SOLID –hankkeen tuloksia sosioekonomisesta työpaketista

Terhi Latvala, Luonnonvarakeskus

Luomuinstituutin luentosarja
– tutkittua tietoa luomusta

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Mikkeli

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Esityksen sisältö

- Tulokset SOLID projektista, Sustainable Organic and Low Input Dairying, www.solidairy.eu, EU FP7
- Tulokset hankkeen sosio-ekonomisesta työpaketista
- Päivän aiheena on tuottajien kokemat haasteet luomumaidon tuotannossa ja ratkaisuehdotukset sekä innovaatioiden hyväksyttävyys luomumaitoketjussa (tuottajat, vähittäiskauppa, kuluttajat)
- Esitetään kaksi menetelmää: tulevaisuustyöpaja ja Q-metodologia

SOLID
Future Workshop

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SOLID- Future Dairy Workshop

May 2014, Finland

- **Nordic (Sweden, Finland)**
- **Eastern Europe (Estonia, Romania)**
- **Western Europe (Italy, UK)**

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Future Workshop - aim and methodology

Aim:

Identify optimal Supply Chain Management strategies, adapting the organic and low-input production systems to geographical and cultural diversity and improve their competitiveness.

Methodology:

Participatory interaction in a Future Workshop

Outcome:

Proposal of optimal strategies for the adoption of the innovative production systems in organic and low-input dairy supply chains.

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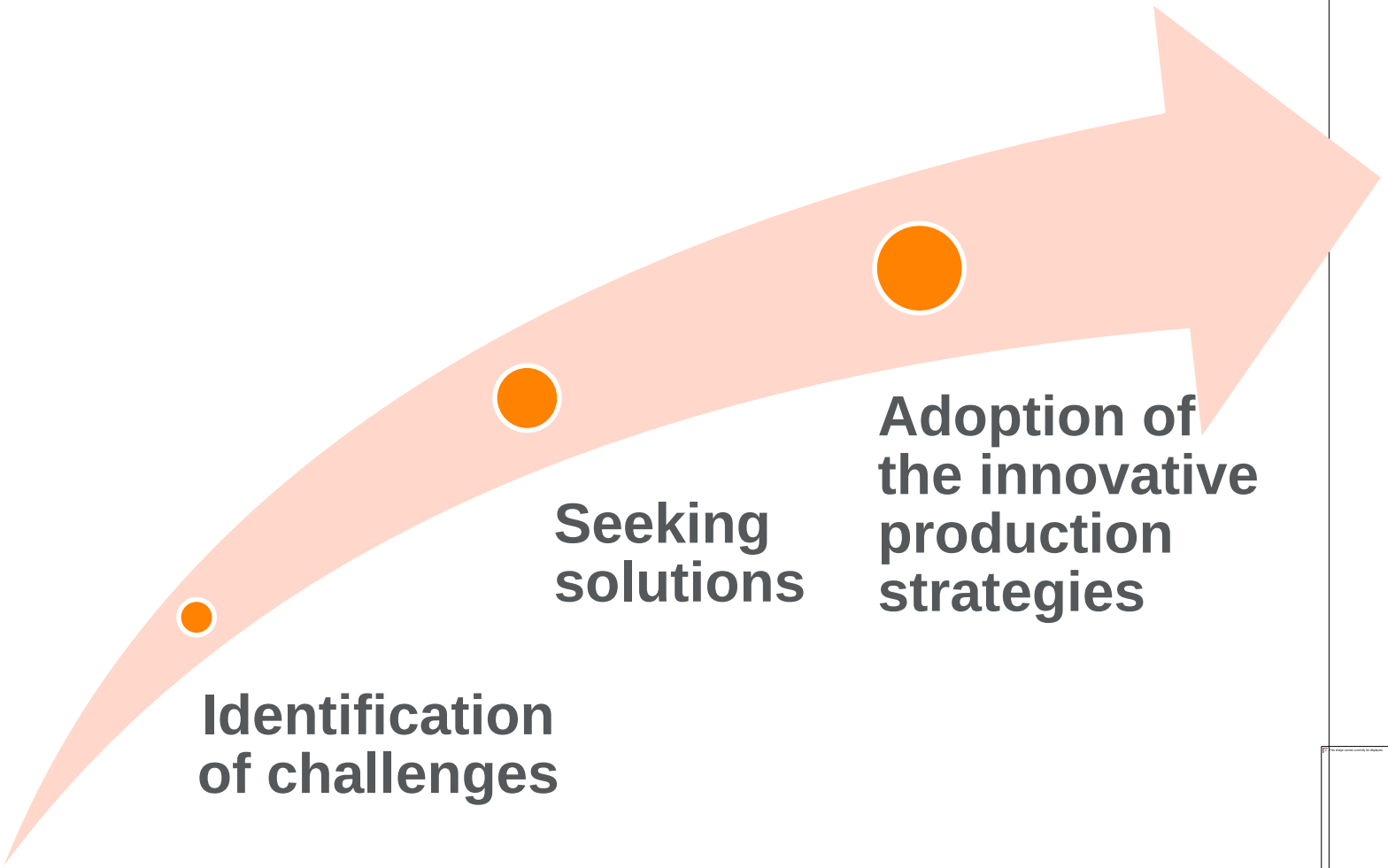
Vision for the future



Future Workshop structure

Day 1: Task 1.1
Individual brainwriting

- What are the main problems in dairy supply chains?
- What could be improved to enhance competitiveness and sustainability in the dairy sector?
- What hampers your competitiveness?
- What is not sustainable?

Day 1: Task 1.2
Presentation of challenges and discussion

Day 1: TASK 2.1
From existing challenges to ideal future

Day 1: TASK 2.2
Novel strategies from SOLID project

Day 1: TASK 3.1
Optimal strategies/ actions are voted in terms of practicality and perceived supply chain acceptability

Day 1: TASK 3.2
Steps to implement created innovations and solution planned by themes (in groups)

- What are the further steps to implement suggested innovations/solutions?
- What policy would be recommended?
- What are the roles of actors and stakeholders in the supply chain?

Day 2: Brainstorming on transferability

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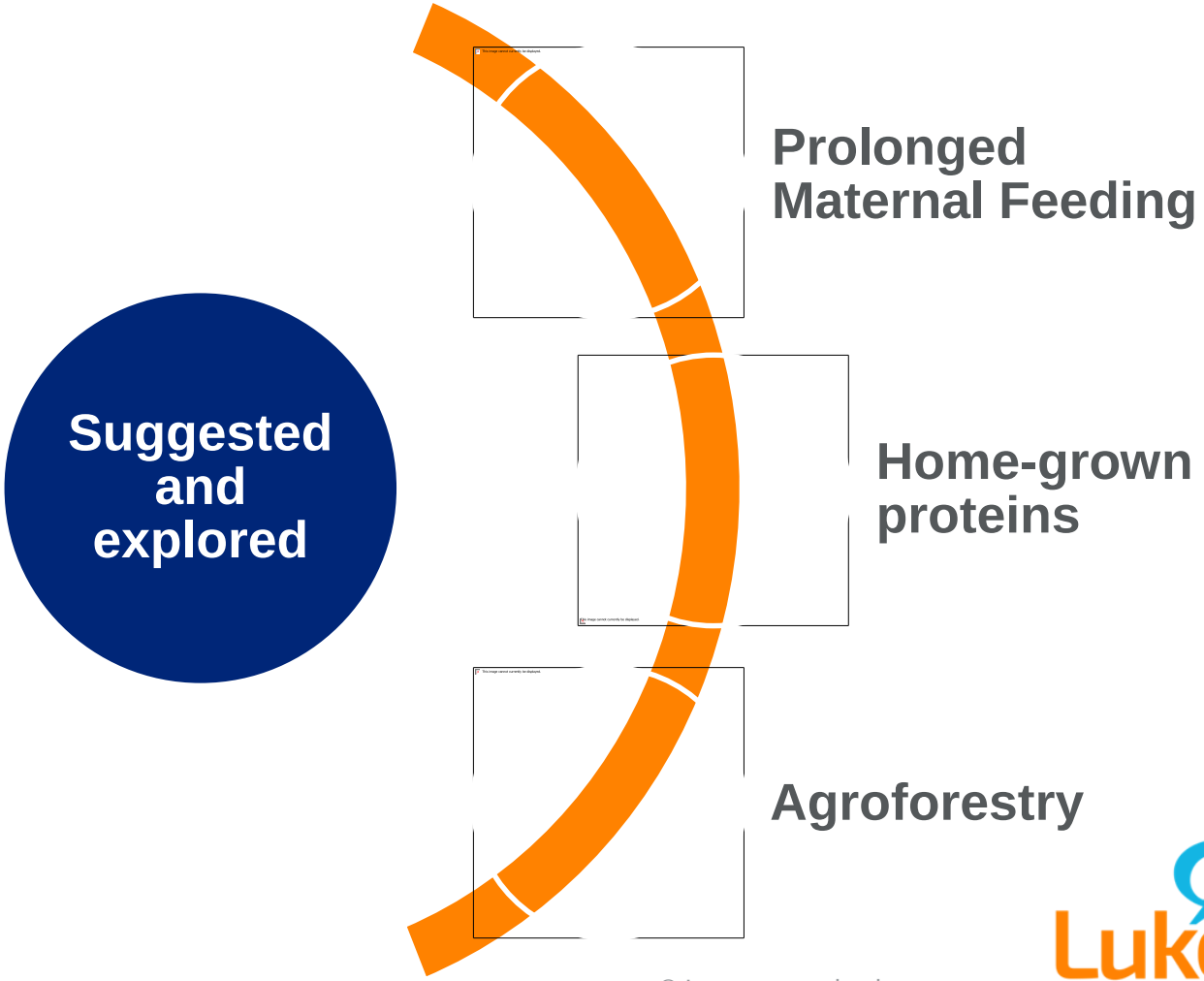
Three possible novel strategies



Summary of actions and futher recommendations

✓ **ACTION POINT 1: INCREASING CULTIVATION OF PROTEIN CROPS**

❖ Development of new varieties of protein crops
❖ Independent knowledge centres for novel feeds and use of by-products
❖ Establishment of better technology and knowledge transfer between extension services, advisers, dairy farmer, breeding companies and research
❖ Agricultural policy should support integration of crop production and animal husbandry production

✓ACTION POINT 2: IMPROVING COMPETITIVENESS OF DAIRY FARM

- ❖ Shift towards grass-based systems
- ❖ Exploring consumer needs and expectations from organic production and developing highly differentiated products
- ❖ Better communication of value added properties of organic milk to consumers
- ❖ At milk processing level, developing more innovative branding strategies

✓ACTION POINT 3: IMPROVING TRANSPARENCY OF MILK SUPPLY CHAIN

- ❖ Showing price structure to consumers (fair price for farmers)
- ❖ Setting minimum price for organic milk
- ❖ Increasing bargaining power of farmers with respect to processors
- ❖ More collaboration between producer organisations and inter-branch organisations

✓ACTION POINT 4: DELIVERING CORE VALUES OF ORGANIC MILK

- Adding more value to organic products by informing consumers about the effect of the grass feeding and health benefits of organic milk
- Increasing consumer knowledge about more broader social sustainability issues
- Delivering organic raw milk using vending machines
- Avoiding waste by reusing milk to make special cheese or drinking yoghurt
- Increasing transparency by allowing consumers to check the steps of organic milk

Innovation acceptance in the supply chain

Research Objectives

- to identify the broad range of expectations for innovation in management practices and adapted breeds;
- to assess the acceptability of novel strategies along the whole supply chain;
- to identify optimal strategies in dairy low-input and organic supply chains in order to introduce acceptable innovations enhancing competitiveness and sustainability

Q Methodology

… was applied to compare the viewpoints of the different stakeholders. This method is an effective mean of understanding conflicts and consensus of respondents.

Steps in Q study
(1) definition of the discussion around the research topic;
(2) development of the sample (consumers, producers, retailer & dairy industry);
(3) selection of the statements used in the study (finally 34 statements were selected);
(4) Q-sorting procedure done in the different stakeholder focus groups;
(5) analysis and interpretation.

Score sheet for ranking statements

Consumer Focus Group

– individual statement ranking & group discussion

Advantages of Q Methodology

Every respondent reacts the same set of statements

Given the controversial nature of many innovations, Q methodology is an effective mean of understanding conflicts and consensus of respondents.

Method that utilises qualitative and quantitative approach, but…

Stephenson, 1953

Limitations of the study

Not intended to lead to conclusions about the population as a whole

However, Q methodology allows us to analyse people's different viewpoints which - in studying innovation - is quite important.

Q-Methodology

- Performing a Q study involves five steps:
  - Definition of the “concourse”
  - Development of the Q-sample
  - Selection of the P-set
  - Q-sorting procedure
  - Analysis and interpretation

Brown 1993

Concourse

- exploration of the discourse surrounding that topic = concourse
- included materials on innovation across the broad range of dairy farming systems (i.e. organic through to intensive)
- 200 statements on innovations in dairy sector

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Q-Sample (selection of statements)

- Representative statements derived from the concourse - presented to respondents for ranking
- Statements were systematically selected – key innovation themes in SOLID project
  - Breeds
  - Feeds
  - Management and Practice on Farm
  - Management and Practice in the Supply Chain
- Necessary for the statements to have the same conceptual meaning in each country – pilots and back-translation
- 34 statements in final Q-sample

P-Set (focus groups)

- Group who will carry out the sorting exercise
- Consumers
  - Recruitment questionnaire
  - Quotas for sex, age, employment category
- Producers
  - via SME partners in SOLID
  - Low input and organic
- Processors and retailers

P-Set – number of respondents

	Consumers	Producers	Processors/ Retailers	Total
Belgium	9	5	7	21
Finland	9	11	8	28
Italy	8	9	7	24
United Kingdom	10	8	8	26
Total				99

Q-Sorting Procedure

- Individual ranking, based on his or her own viewpoints and opinions, the 34 Q-sample statements
- Standard Likert scale running from ‘strongly like’ to ‘strongly dislike’
- Ranking followed by discussion – recorded and transcribe to aid interpretation of results

Q-Sort sheet

Strongly Dislike

Strongly Like

+1	+2	+3	+4	+5	+6	+7	+8	+9
+1	+2	+3	+4	+5	+6	+7	+8	+9
+1	+2	+3	+4	+5	+6	+7	+8	+9
	+2	+3	+4	+5	+6	+7	+8	
		+3	+4	+5	+6	+7		
			+4	+5	+6			
				+5				

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Analysis

- PQMethod (Schmolck, 2002)
- Q sorts of each group were analysed using factor analysis with varimax rotation
- Number of factors was determined by selecting the factors with correlations between Q sorts that were statistically significant at the 0.01 level
- In all categories only 2 Factors significant

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Supply chain analysis

	Consensus Statements	Factor 1	Factor 2
Consumers	+ 3 - 18, 26, 28, 29, 32, 33	Animal Welfare Supporters + 16,12, 13	Quality Connoisseurs + 7, 6, 14, 4, 15, 31
Producers	+19 - 18, 26, 28, 33, 34	Customer Oriented + 31, 15, 16, 6	Farm Managers + 23, 25
Retailers and Processors	+16, 13 - 18, 26, 28, 32, 33, 34	Low input forerunners + 6, 12, 8, 22	Forage Advocates + 5, 4, 7, 19, 23

Supply chain summary

- GM or transgenic innovations were rejected - possible presence of unacceptable uncertainty or unknown risks
- + Quality of feed and new forage varieties
  - Consumers and Retailer/processors interested in impact on product quality/health
  - Farmers interested in home grown feed

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Supply chain summary

- Consumers tended to favour animal welfare innovations.
- Farmers and Retailers/Processors
  - feed quality, efficiency and soil management
  - Welfare still important
- Polarisation – consumers vs producers
  - Statement 12: Increase animal welfare by prolonging maternal feeding in an efficient way.

EU country analysis

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Country analysis summary

- No country differences on dislike of GM and transgenic
- Polarising Statement 34 – welfare improvements in 100% housing
  - Neutral in Finland
  - Strongly against in UK
  - Belgium consumers strongly liked
- Animal welfare and forage quality consistently liked across countries
- Italy only country interested in supply chain innovations

Conclusions

- Q study cannot be enlarged to the population
- However viewpoints provide a statistically rigorous picture of the possible different supply-chain perspectives
- Contribute to identification of opportunities for innovations to be introduced into low input and organic dairy systems.
- Clear EU agenda for innovations in the dairy sector expressed by the different stakeholders on low-input and sustainable dairy systems
- Forage quality, soil management and animal welfare improvements

Finnish results

Distinguishing Statements

Factor 1	Factor 2
Innovation in Farm and Soil Management	Animal Welfare
No. 4 Develop techniques to improve soil biodiversity to increase the feed value of forage No. 5 Develop new forage varieties specific for low input and organic farming No. 19 Minimise the use of purchased feed through efficient use of home grown feed No. 23 Advances in crop and soil management to improve on farm recycling of nitrogen from slurry and manure	No. 2 Identify adapted breeds for organic and low input production systems No. 6 Develop the use of herbs in pastures for their medicinal properties to reduce animal health problems No. 12 Increase animal welfare by prolonging maternal feeding in an efficient way No. 13 Develop organic dairy production systems free of antibiotics

Consensus Statements

(+) agree
(-) disagree

No. 16 Innovation in housing aimed at improving animal welfare (+)

No. 18 Improve forage quality and yields in low-input dairy systems by GM plant breeding techniques (-)

No. 26 Develop designer dairy food from transgenic animals (-)

No. 28 Acceleration of genetic selection including recombination in vitro (-)

No. 33 Innovations to speed up calf development from birth to maturity so that they can breed earlier (-)

FIN Conclusions

✓ Results indicate that in consumer discussion there appeared to be a strong positive emphasis amongst the consumers towards high animal welfare and low levels of what is perceived to be interference with nature (genetic manipulation, treatment of feeds, speeding up animal maturity).

✓ In the producer group overall animal welfare and feeding/new forage varieties seemed to be the most important issues for the both producer groups.

✓ GMO technologies were commonly disliked by most of participants.

✓ Animal welfare issues also seem to be highlighted in each group.

References

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Luke LUONNONVARAKESKUS

Innovaatiot erityisesti suomalaiseen elintarvikeketjuun liittyen

Innovaatiot liittyen erityisesti suomalaiseen elintarvikeketjuun - tuottajat

- Maidon hinnoittelu ja sopimukset
- Maidon keräilyn logistiikka
- Maidon jakelua ja suoramyyntiä koskevat innovaatiot
- Vaihtoehtoiset jakelukanavat
- Reilun kaupan edistäminen
- Myös kauppaan ’low input’ ajatusta valtavien hallien sijaan

Innovaatio liittyen erityisesti suomalaiseen elintarvikeketjuun – jalostus ja kauppa

- Tuottajille yrittäjäasenne, pitää osata myydä omaa tuotettaan
- Monimuotoisuuden tunnistaminen ketjussa, mm. raakamaidon tarjonta tiloilta
- Maidon hinnoittelun avaaminen
- Innovaatiot maidon jakeluun
- Pakkausinnovaatiot

Innovaatio liittyen erityisesti suomalaiseen elintarvikeketjuun – kuluttajat

- Maidon hinnoittelun avaaminen kuluttajille –mikä luomussa maksaa?
- Maidon tuotannon ja jalostuksen yhteisprosessoinnin kehittäminen tilojen välillä
- Jakelutapojen kehittäminen lähiruoan ja luomuruoan kehittäminen
- Innovaatiot luomuruoan hinnan kohtuullistamiseksi
- Tietoisuus ja markkinointi luomun terveysvaikutuksista
- Tuottajan jaksamisen tukeminen ja lomitussysteemin parantaminen

Julkaisuja

Latvala, T., Sajeva, M., Nicholas, P., Padel, S., & Zanoli, R. 2015. Scenarios and Optimal supply Chain Management (SCM) Strategies. SOLID project Deliverable D5.4. 41 p.

Latvala, T. 2015. Eurooppalaisen maidontuotannon merkittävimmät haasteet tuottajien näkökulmasta. Luomulehti 1/2015. pp: 30-31 (Article intended for professional communities)

Latvala, T & Rinne, M. 2015. Lisää valkuaista lehmille ja euroja luomumaidon lypsäjälle, Maaseudun tiede. (Article intended for professional communities)

Latvala, T., Sajeva, M., Padel, S., Nicholas, P., & Zanoli, R. 2014. Identifying future challenges of the organic milk supply chain in Europe. Oral presentation in Scientific Seminar on Organic Food, 5-7 November 2014, Mikkeli, Finland

Kiitokset

Professor Raffaele Zanoli, Università Politecnica delle Marche, Italy

Dr Pip Nicholas, Aberystwyth University, United Kingdom

Dr. Susan Padel, Organic Research Center, United Kingdom

Dr. Ellen van Loo, University of Ghent, Belgium

Associate professor Simona Naspetti, Università Politecnica delle Marche, Italy

Serena Mandolesi, University Del Marche, Italy

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Kiitos!

Terhi Latvala

terhi.latvala@luke.fi

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