
SPRINT project

Sustainable plant protection transition: a global health approach.

SPRINT STAKEHOLDER WORKSHOP

Transition Pathways

»Prehod na trajnostno varstvo rastlin v kmetijstvu – dobre prakse«

CSS Slovenia

26. January 2024, 10:00-13:00, Ljubljana

Matjaž Glavan



1. Introduction

The Case Study Site stakeholder workshop for Year 4 (2023 to 2024) investigated two visions for transition pathways for sustainable plant protection. This was to provide material for WP7, Deliverable 7.2. The two visions are: "incremental" and "synthetic pesticide-free".

The workshops included generating ideas on

- what management at the farm level would look like under each of the two visions, and
- the building blocks for a transition towards achieving these two visions (using the backcasting method)

Outline of meeting(s)

- 26. January 2024, 10:00-13:00, Biotechnical Faculty, Jamnikarjeva 101, Ljubljana, face-to-face workshop
- Single workshop
 - for all stakeholder groups (farmers, agricultural advisors, Ministry for agriculture, PPP producers, researchers)

Organising Team

Name of facilitator and other SPRINT contributors (from CSS, from other WPs)

Dr. Ana Frelj-Larsen, Ecologic, facilitator, WP 7 leader
Assist. Prof. Dr. Matjaž Glavan, UL, facilitator, CS leader
Luka Žvokelj, UL, technical support



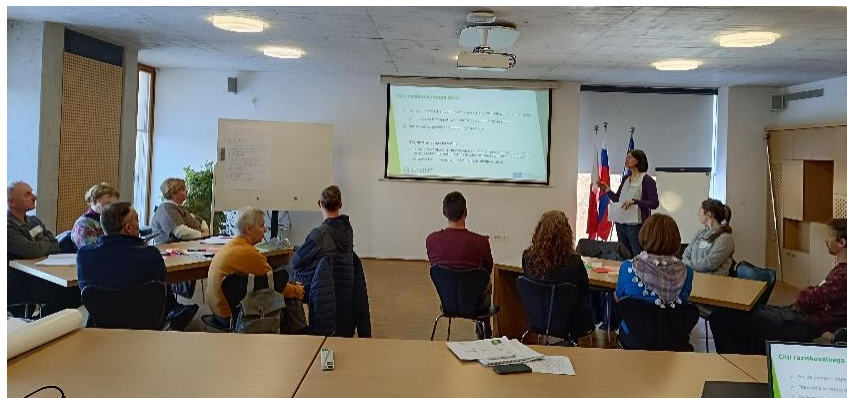
2. Stakeholders

List of the stakeholders present at the workshop.

Nr.	Name	Gender	Organization/affiliation	Farming approach (most involved with) (Conventional, Regenerative, Organic, All, NA)	Type of Stakeholder (role in the food supply chain) (Government, Regulator, NGO, Supplier, e.g. seed company, plant breeder, Producer, e.g. Land Manager, Processing, Distribution, Retail, Consumer, Researcher, Other)
1		Female	University of Maribor		Research
2		Female	University of Maribor		Research
3		Female	UVHVVR - Ministry of Agriculture		Government/Regulator
4		Female	UVHVVR - Ministry of Agriculture		Government/Regulator
5		Female	KGZS- KGZ Kranj - Chamber of Agriculture		NGO
6		Female	EIT Climate-KIC		NGO
7		Female	Umanotera		NGO
8		Male	Lidl/Aldi Slovenija		Retail
9		Male	Metrob d.o.o.		Distribution/Producer PPP
10		Male	Family farm	Regenerative	Farmer
11		Male	Family farm	Regenerative	Farmer
12		Female	Family farm	Organic	Farmer
13		Male	Family farm	Organic	Farmer
14		Male	Family farm	Conventional	Farmer

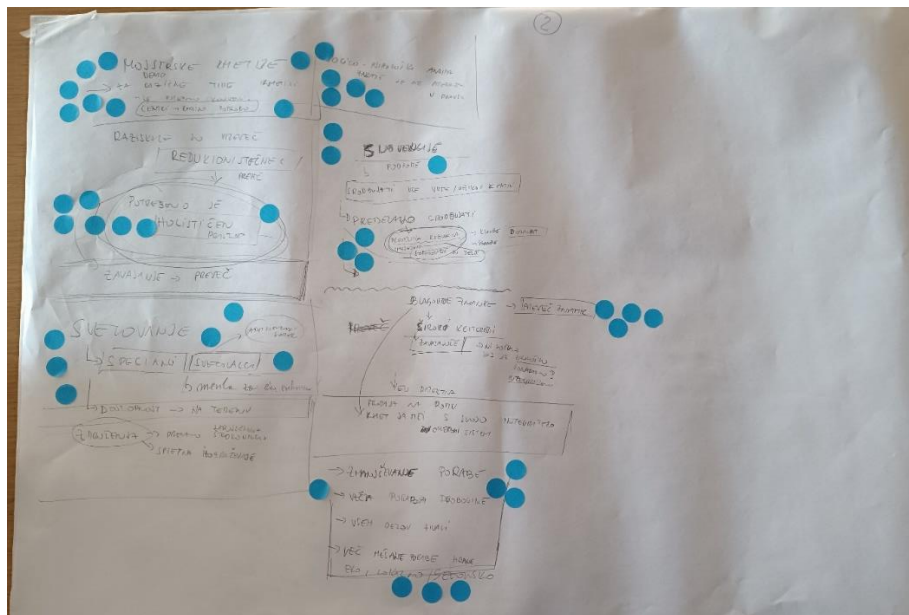
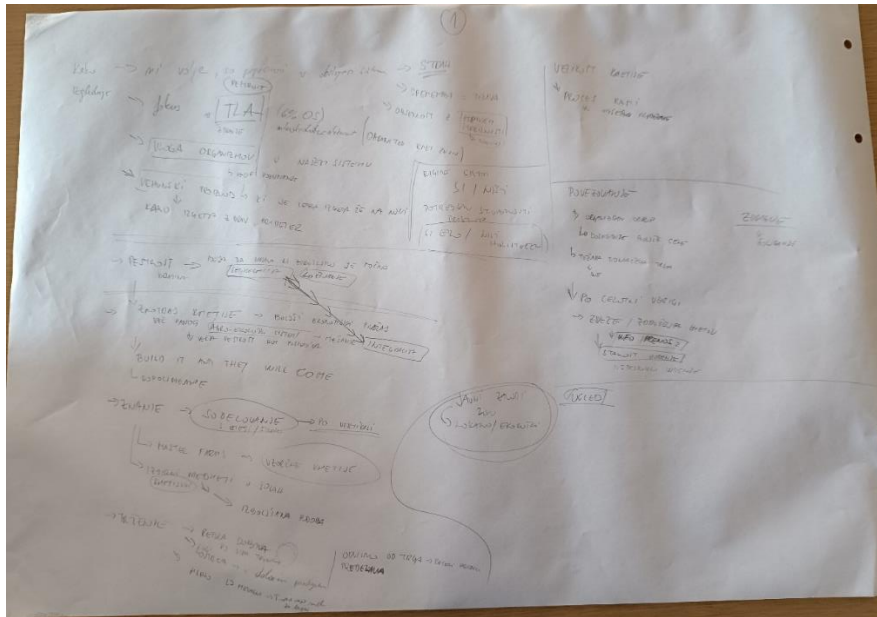
Photographs

- Workshop



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GROUP 2

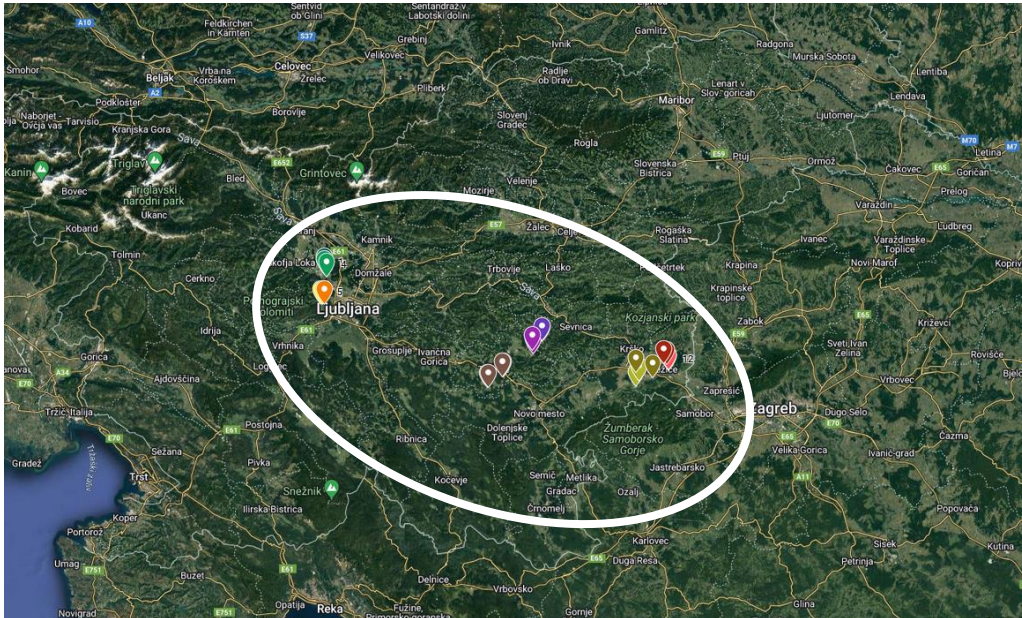


The Slovenia CSS

Area: Central Slovenia (Ljubljana, Trebnje, Brežice)

Farming system: Beef and Dairy cow production (6 conventional and 6 organic farms)

Crop: Silage maize



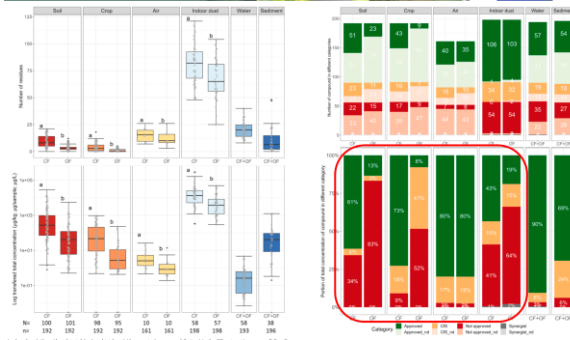
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3. Summary of SPRINT presentations to stakeholders

- Summary of the most relevant results from CSS
- A special part was dedicated to the economic analysis of herbicide/pesticide use habits of farmers in Slovenia.

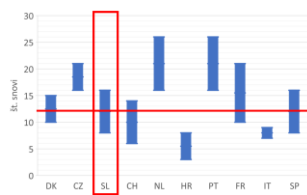


doc. dr. Matjaž Glavan, Biotehniška fakulteta, Univerza v Ljubljani
 E-pošta: Matjaz.glavan@bf.uni-lj.si
 Vera SILVA, Wageningen University, Scientific project manager SPRINT
 E-pošta: Vera.felixdagracasilva@wur.nl

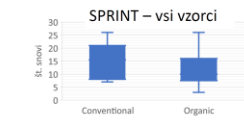


Delci v zraku – veter - TIEM

- 2 vzorčni mesti (postavljeni na njah)
- 17 snovi zaznanih/160 testiranih
- SLO: Konv - 21 snovi; Eko: 16 snovi
- SPRINT: Konv: 6-26; Eko: 3-26



compound	Methode	Brezilce
	Konvencionalno	Ekološko
	ng/sampler	ng/sampler
1 Terbuthalazine_deethyl	21.5	15.8
2 Terbuthalazine	22.4	23.9
3 Prosoflocarb	23.3	23.3
4 Fenoxycarb	32.1	87.4
5 Folpet	36.1	188
6 Glyphosate	43.3	25
7 Folpet_2nd	77.5	92.2
8 Metolachlor_S	209.2	176.2
9 atraz	-	9.4
10 Spirometamat	-	12.3
11 Tetrachlorazole	-	1.8
12 Metolachlor_M	-	14.6
13 Cyprodinil	-	23.4
14 Tetrachlorazole	-	24.2
15 Fenpropimorph	-	28.9
16 Fenitrothion	-	33.7
17 Prothioconazole_destro	-	44.6



Slovenija

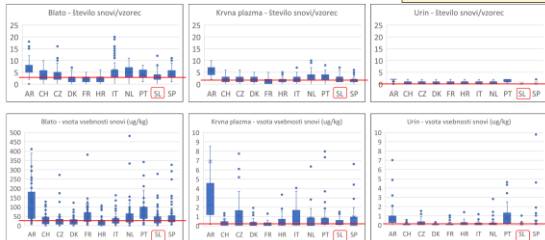
Uporabljene aktivne spojine za CSS-7 (Slovenija) – koruzna polja 2021
 In če so bile te aktivne spojine odkrite v različnih izmerjenih matrikah.
 Zaznano = "+", Ni zaznano = "-"

C	Active compound applied	Type of product	Detected in soil	Detected in surface water	Detected in sediment	Detected in outdoor dust	Detected in Human - Urine	Detected in Human - Faeces	Detected in Human - Breast milk
S	Metolachlor (S)	Herbicide	+	+	+	+	+	+	+
S	Propanil	Herbicide	-	-	-	-	-	-	-
S	2,4-D (free)	Herbicide	-	-	-	-	-	-	-
S	Tosylflutolanil	Herbicide	-	-	-	-	-	-	-

Človeški vzorci – SPRINT

Blato, Krvna plazma, Urin

vsii sodelujoči (715) (kmeti, sosedi, potrošniki)



Ekonomska analiza

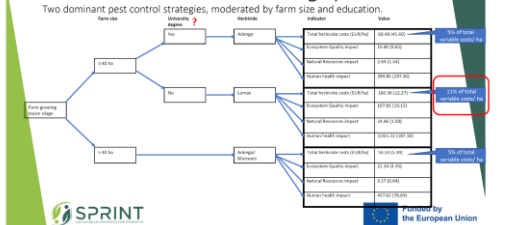
T6.3: CSS Slovenia – maize silage production

Ranking of farm activities with respect to toxicity, crop rotation and profit.

Organic	Maize	Lignans	Crop/Herbicide	Herbicide	High/low	Var./assessm	Hum./constr	Yield/ha	Profit/ha	Farm_size	Ust degree
no	2	1	2	ADENGO	0	157.25	16.25	25	249.25	65	3
no	1	2	1	ADENGO	0	169.25	16.25	25	199.75	30	1
no	1	1	2	ADENGO	0	191.25	16.25	25	148.25	40	0
no	2	1	1	ADENGO	0	112.25	16.25	25	75.25	0	0
no	2	2	1	ADENGO	0	128.25	16.25	25	71.25	55	0
no	1	1	0	ADENGO	0	11.4	15	20	118	25	1
no	2	1	0	ADENGO	0	180.7	16	45	97	10	0
no	3	1	7	ADENGO	0	177.08	124.34	50	536.81	41	1
no	3	2	7	ADENGO	0	240.0	55	50	270	39	1
no	1	0	9	MONSOON	0	166	51	30	276	80	0
no	1	0	9	ADENGO	0	118.2	54	25	148	86	1
no	2	1	1	ADENGO	0	118.2	184	11.5	18	21	1
no	2	2	1	LUMAX	1	116.2	181	50	119	89	0
no	2	2	1	LUMAX	1	208.25	181	40	64.8	22	0
no	3	2	5	LUMAX	1	1524.88	185.08	55	543.12	22	0
no	2	1	5	LUMAX	1	180	138	50	101.7	30	0
no	2	1	5	LUMAX	1	222	138	39	119	75	0
no	2	1	9	LUMAX/ADENGO	1	177.08	175.10	20	277.08	80	0

Ekonomska analiza

T6.3: CSS Slovenia – maize silage production



Ekonomska analiza

- Na podlagi podatkov, ki smo jih zbrali na spletnem mestu študije primera:
- Različne prakse zatiranja škodljivcev na majhnih (<=40ha) in velikih kmetijah (>40ha), kar vodi do znatno višjih stopeni toksičnosti in višjih stroškov herbicidov na majhnih kmetijah.
 - **VELIKE KMETIJE:**
 - vsi nosilci uporabljajo herbicide Adengo ali Monsoon (z eno izjemo, ki uporablja Lumax). Uporabljene količine so približno enake.
 - **MALE KMETIJE**
 - 50 % nosilcev uporablja herbicid Lumax, z bistveno višjimi stopnjami toksičnosti in stroški izdelka. Uporabljene količine so približno enake. Nižje od njih nima visokoškolske izobrazbe.
 - 50 % nosilcev uporablja Adengo. Uporabljene količine so približno enake. Vsi imajo visokoškolsko izobrazbo.
 - Različne prakse zatiranja škodljivcev ne vplivajo bistveno na druge variabilne stroške (t), stroške za osebe, stroje, gnojila).
 - Velike kmetije imajo bistveno večjo likvidnost kot male kmetije zaradi višjih skupnih subvencij, ki jih prejema. Subvencije se ne razlikujejo glede na prakso zatiranja škodljivcev (Opomba: Subvencije so bile navedene za celotno kmetijo, ne posebej za proizvodnjo koruzne silaze).

- Locks-ins Barriers and Solutions particularly relevant to your CSS], Details of success stories used in a workshop

26.01.2024, 10:00-13:00 CET

Prehod k trajnostnem varstvu rastlin v kmetijstvu

Dr. Ana Frelth Larsen, Ecologic Institute

Funded by the European Union

Cilji raziskovalnega dela

1. Poti za prehod k trajnostnem varstvu rastlin v različnih pridelovalnih sistemih
2. Priporočila za razvoj potrebnih politik za spodbujanje prehoda
3. Raziskovalna agenda za spodbujanje prehoda

Trajnostno varstvo rastlin:

- je rezultat oblikovanja pridelovalnih sistemov na tak način, da se čimbolj zmanjša uporaba sintetičnih pesticidov oziroma da ti niso več potrebni
- prispeva k cilju ohranjanja zdravja ljudi, okolja in živali

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Raziskovalna vprašanja

1. Kje so ovire za prehod k (večji) neodvisnosti od sintetičnih pesticidov?
2. Kje so priložnosti in kaj se lahko naučimo iz že obstoječih primerov, kjer so prehod naredili oziroma uspešno spodbudili?
3. Kaj je potrebno, da omogočimo prehod k (večji) neodvisnosti od sintetičnih pesticidov?

DIMENZIJA	MEHANIZEM UJETOSTI	OVIRE
Agromorska & raziskovalna	Pretrpan poudarek letnemu donosu kot merilo uspeha Pomanjkanje raziskovanj za podporo prehodu k manjši rabi FFS Ekonomski modeli in tržni pogaji	Neukladnost s trenutno prakso in pogaji Kompleksnost agrokologije in IPM Negativne učinkovitosti alternativ
Ekonomika	Pomanjkanje priložnosti za trženje alternativnih pridelkov Krajskočasno razmišljanje s poudarilom na stabilnosti Ekonomska negotovost + slaba generacijska obnova	Potencialni negativni učinki na zdravje tal Razpoložljivost in dostop do Shtajtnja, sort, mehanizacij in opreme Povečan tveganje za proizvodnjo in finančni uspeh
Znanje	Podcenjevanje vrednosti narave / ekosistemskih storitev za kmetijstvo Kmetijsko izobraževanje ne proučuje alternativni uporabi FFS Pomanjkanje neodvisnega svetovanja in demonstracijskih projektov	Premalo finančnih spodbud in podpore kmetijam Standardi in pogaji za odstop pridelkov Pomanjkanje znanja in izkušenj za uporaba alternativ
Politike	Razvoj politik prehoda ločeno in premalo usklajeno, da bi zadostno podpirale sistemski prehod (ne razmišljanje kmetijstva in okoljsko-pridelovalne politike)	Slabe izvajanje obstoječih zakonodaj, začasnje podpora/dodatki Parselne odločitve v kmetijsko-prehranski politiki
Regulacija	Razmislje moči v proučevanju in razvoju kmetijske politike Prehranska varnost kot argument proti zmanjšanju uporabe FFS Kompleksni in dolgotrajni postopki za avtorizacija in registracija novih FFS produktov (uključno z biološkimi produkti)	Omejena razpoložljivost in dostop do alternativnih FFS produktov Standardizacija in pogaji, ki omogočajo možnosti za prehod stran od FFS
Kognitivne dimenzije	Prilagoditve potrošnikov: popolni videi sadja in zelenjave Omejena pripravljenost za preizkušanje in eksperimentiranje z novimi pristopi	Premajhna ozaveščenost o negativnih učinki rabe FFS na zdravje tal in okolja

Funded by the European Union

Ujetost kmetijsko-prehranskega sistema

- Sovpadanje in medsebojna krepitev mehanizmov in ovir, ki stabilizirajo trenutno stanje in omejujejo spremembe:
 - Intenzifikacija na vnosu FFS, mehanizacije, specializacije in vertikalne integracije
 - Globalizacija, koncentracija moči, kmetijska politika in izobraževanje
 - Pretirana poraba mesa, predelane hrane, zavržena hrana
- Trenutno stanje je dojeto kot neizbežno in prehod k alternativam predrag in pretežek

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Analiza dobrih praks v različnih sistemih pridelave in podpornih okoljih

https://ipmworks.net/

https://www.lbmabiocon.troisaccess.org/case/

Seneno

PESTRÁ KRAJINA

Campo de Cartagena - Biološki nadzor nad škodljivci ("Traps") paprike v rastlinjaki

PESCAR (Pesticide control and reduction) PROJEKT PREKROGANIČNE SURADNJE HR-BIH-MNE DOPRINOS USTVAPLJANJU SUSTAVA PROGNOSTI ŠTETNIH ORGANIZMAMA U REPUBLICI HRVATSKOJ

Funded by the European Union

Varstvo rastlin brez sintetičnih pesticidov

Digitalna in kmetijsko oprema

Analiza rizika, spremljanje, zgodnje obveščanje

Tzibanje kultur in sort, pestrost posevkov (kolobni, vmesni posevki...), noč in gnojilja, namakanje, vrzovanje organske snovi, oblika dreves, obdelava tal

Pestrosti znotraj kmetijskih površin in v krajini

Funded by the European Union

Stopnje prehoda v trajnosten kmetijsko-prehranski sistem

Kmetija 1, Kmetija 2, Kmetija 3, Kmetija 4, Kmetija 5

Uvajanje agraroloških praks namreč konvencionalnih

Večje učinkovitost rabe in smiselne uporaba bioloških vnosov

Inkrementalne spremembe, napačne rešitve

Sistem priklonen za nove ekološke procese

Bolj direktne povezave med pridelovalci in potrošniki

Trženje in pridelava kmetijsko-prehranskega sistema

Odpornost, pestrost pridelave, kroženje in samozdrava z vladnimi sredstvi, dodana vrednost

Podnebni cilji, biotska pestrost

Funded by the European Union

Ključni elementi prehoda

Tech fix → Celostno

- Spremembe v načinu prehranjevanja & manj zavržene hrane
- Celostna podpora ekološkega kmetijstva in trga s poudarkom na mešani in rastlinski pridelavi
- Uvajanje agroekoloških praks na konvencionalnih kmetijah
- Raziskave: Razvoj in testiranje praks in sistemov
- Znanje: izobraževanje in svetovanje
- Diverzifikacija ekonomskih modelov & položaj pridelovalcev v prehranskem sistemu (trženje/povezovanje)
- Generacijska obnova & spoštovanje poklica
- Dolgoročna vizija za razvoj politik

Funded by the European Union

Pogled na prihodnost: Sistem(i) pridelave na osnovi ekoloških procesov (brez sintetičnih pesticidov) so vzpostavljeni

Kako izgleda(jo) pridelovalni sistem(i), kjer ni uporabe sintetičnih pesticidov?

Kakšna je pestrost (kulture, sorte, krajinski elementi...)?

Kakšna je potrebna mehanizacija in druga oprema?

Kakšna je uporaba bioloških sredstev? Drugih praks? ...

Kakšno znanje je na voljo?

Kako kmetija trži? Kako se določa cena pridelkov?

Kako so kmetije organizirane / povezane med seboj? Kakšna je vloga zadrug?

Kakšna je struktura kmetij? Kakšen je ugled kmetij?

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4. Validating the two visions for plant protection: discussion and results

Summarize outcomes from the time travel imagination exercise:

- 1) What would management in your specific cropping system look like in terms of the three basic stages of transition – which options fall under each category
 - a. efficiency
 - b. substitution
 - c. **system re-design (both (1, 2) groups decide for this option)**

1. Synthetic pesticide-free vision

What does farm management that does not rely at all on synthetic pesticides look like? This will most likely rely on system re-design and substitution.

THE PRODUCTION SYSTEM OF THE FUTURE - FOR A MIXED AGRICULTURAL-LIVESTOCK FARM

The starting point is how the farm looked 50-60 years ago and the farm's self-sufficiency - without dependence on input resources.

The farm has a considerable amount of voluminous forage: hay, corn, cereals, legumes (alfalfa), legumes (forage peas, soybeans), millet as a second crop for greening, buckwheat as a second crop for greening (it is perfect for preventing weed germination), fodder beet (challenging to grow, no workforce).

In addition to fodder production, bread grains and legumes (beans/chickpeas as legumes, potatoes) are also produced. Forage is also produced as a reserve. The farm produces milk and meat.

Livestock is a source of nutrients for fertilization; we need less fertilizers for grasses, and legumes do not need fertilization. Fertilizers are mainly for cereals.

A smaller amount of livestock means less animal husbandry, and there is a smaller source of nutrients, so it is necessary to take care of fertility and fertilization for cereals differently. The crops are like fertilizer – green manure, which means a lower yield; animal husbandry is an added value.

Livestock units per hectare are somewhere around 1 LU per hectare. (70LU/90ha)

Shallow soil cultivation at the right time; it is essential to have a well-developed root system and enough organic matter.

Tools - machines: as light as possible and as efficient as possible, towed (not powered), but suitable for larger areas. Cultivators, planters, mechanical weeders.

Independence from feed imports. In years when there is a surplus, grains can be put on the market. When it is not enough, are kept for farm use.

Belts of fruit trees: cherries, significant distances, shade does not harm. Walnuts – grass does not grow under them - if the distance is large enough, it is ok. Fruit trees: for juice, if you do not need it, leave it. Windbreaks hedges, flowering belts (greening, crops), biodiversity, honey belts.

The selection of varieties is essential: varieties are chosen based on resistance to diseases or insects, less on fertility, and also resistance to drought. Taste is important.

Size from 5 to 20 - up to 100ha.

Use a broader range of nutrient sources - food residues on agricultural land, as well as other sources.



When the climate changes (it can also be an opportunity), the time of sowing, varieties, irrigation, and vegetation periods change.

Irrigation is vital so that the plant can carry out photosynthesis and is not constantly under stress. However, it can then also produce protein and lipids... which allow it to be healthier and more productive.

The adapted ration in the market (consumption habits) should be based on what is available on the farm – seasonality.

Conditions: farm size, workforce, tools/machines, economic feasibility, acceptance by farmers.

The problem: land fragmentation (can be solved gradually); ownership structure (the importance of agricultural policy – binding land leasing; land policy: the national agricultural fund leases land to large companies, sometimes even at half the price comparison to a farmer).

Marketing: Cooperatives - they are not pure trade/retail/wholesale, but they also do buy from farmers. However, so far, hardly any.

Knowledge: agronomy, economy, environment, and social aspects, as well as society (social expectations must be understood); the attitude towards food from kindergarten onwards is more positive. The number of hours they study the importance of agriculture production is not enough.

Marketing: affiliate marketing for a known client, risk sharing, organized consumers, consumer awareness of where food comes from, that good is not cheap.

One participant told the farmer not to let the tractor stop. The food is self-evident and always at your disposal. It is necessary to maintain the production potential of land.

2. Incremental change – 50% reduction:

What are the required changes at the farm level for achieving a 50% reduction: would efficiency be sufficient, or do we need substitution and or do we also need system re-design to achieve even a 50% reduction? Are there any management options that enable a 50% reduction but lead the farm in the wrong direction (lock-in) in such a way that, down the road, it cannot achieve a future without synthetic pesticides? (E.g. investments in technologies for spraying or precision farming).

THE PRODUCTION SYSTEM OF THE FUTURE - FOR A HOLISTIC FARM REGARDLESS OF THE BREEDING OR PRODUCTION SYSTEM

PRE-CALL

- there is no will for change on the part of most stakeholders - but there is fear because changes are equated with problems
- the problem is society's "obsession" with health and the sterility of cultivation, which is not achievable - this leads to a great over-norming of production systems

THE SYSTEM

- focus on the soil (higher health)
- increase the role/knowledge of soil organisms in our agricultural system
- to provide a top-quality product with a beautiful/healthy appearance already in the field, regardless of the type of system
- variety of soil and landscape; integration combining nature and agriculture; instead of separation (segregation), inclusion/integration is needed
- there should be several types of farm systems within the farm - agro-ecological system, lower risks and better economic position of farms; more incredible biodiversity will occur as a result - build it, and they will come - complementing/upgrading
- necessary multi-level system of approach/upgrading (5 levels, where the farm gradually transitions to pesticide-free reality) (e.g. at the moment, it is either you are in organic or you are not – stiff systemic rigidity)



- the size of the farm is not so important; let the farms grow in the process, and together with it, the volume of production

KNOWLEDGE - for system deployment

- necessary cooperation with farmers and professionals - across the entire vertical
- master farms → model farms
- agricultural electives subjects in schools - to improve the image of agriculture

MARKETING

- Support local/organic/seasonal
- Regular delivery to all stores in the market/shop network
- Local produce in local shops
- The market determines which crops or products are sold
- A sufficiently large volume of production must be ensured to ensure the possibility of marketing (5 million litres of milk must be provided for the organic milk line (Ljubljanske mlekarne) - this goal has not yet been achieved in Slovenia)
- Encouraging purchases through public institutions (public procurement)

NETWORKING

- Organized cooperation between farmers to achieve a better price on the market
- Improve coupling/prevent soloing throughout the value chain
- The operation of federations and associations of farmers is strengthened for a better transfer of information and knowledge, constant professional management



5. Discussion on how visions might be achieved

[Provide a **detailed record** of the discussion on the two different visions. Key points to include are:

- What would have needed to happen to get to each vision?
- Discussion on the different dimensions
- Highlight dominant solutions and novel ideas
- Summarise key themes
- See [details set out in the workshop guidance provided by WP7](#)

1. Synthetic Pesticide Free Vision

FOR A MIXED AGRICULTURAL-LIVESTOCK FARM

Information and knowledge

Knowledge / Science: Plant Health Triangle, Basic Research on Plant Nutritional Needs, Different Soils, Factors - Independent Research. Non-competitive - independent.

The key triangle is research/faculties, advisory services, and farmers (contact with practice).

EIPs are a very positive story - study groups farms.

For the experimental centre (Jablje) and demonstration farms, we need to have better contact with practice and useful knowledge for practice.

Consultants – bureaucracy vs the practice (professional role) → reorganization is needed and increase the importance of the work – the question of financing for public advisory work (now farmers pay something themselves), the advisory services are trapped in bureaucracy wheels, if professional work is not provided, farmers hire COMPANIES to provide professional consultancy.

Groups for education - the professionals are currently technologically behind - should become the driver of development.

We also need to work with local communities. Municipalities. Protection of agricultural land. Agriculture should be recognized as an essential industry. Agricultural land is valued - protection of agricultural land.

Cooperatives - farmers must reform the system. Consensus will come soon; the more organic farmers and the younger farmers on the cooperative executive boards (regeneration), the more educated and organic farmers there will be, the faster the process will be. Adding value to agricultural products. Example Tolminska zadruga - it has a processing plant and organic slaughterhouse - far from the capital city, it is an excellent example in terms of ideas and novelty. Part of the agricultural policy funds should go to the infrastructure of cooperatives.

Politics must listen to the professionals - a long-term policy is needed.

How to achieve good politics - regulation of lobbying.

Educating people and the importance of active citizenship.

The first step is - organizing the conversation, spreading ideas, building awareness, identifying key problems, ranking and how to tackle it - we need a strategy, and it is necessary to win back the support of society - to develop a policy in the public interest, it is necessary to look 20 years ahead.



A meeting with the minister (that would be great). Interlocutor for farms who will monitor the process. Organized communication information sharing. The Council for Organic Agriculture exists, but it would be necessary to look more closely at the detail topics.

We need a national council that will prepare a long-term agricultural policy - where there are experts, where possibilities for long-term goals are explored, social consensus, what long-term goals we want, and what measures we need. It is up to us - civil society, farmers, and professionals must participate.

For farmers to become 'the solution to the problem' - some formalized form is needed. A team that has been working for 5 years or something. Who would organize this (like at the firefighters association - 1/3 young, 1/3 older).

The state can draw its guidelines from someone - now they are looking for 'who will prepare it for them' - consensus, integration and dissemination of information.

The links between the Researchers who do the essential research - the consultants - and the farmer - these links are not good enough (there are open days but no visits). This is the importance of master/demonstration farms - to show what works. Farms are rewarded as partners in research - one part of the farm- and funding can support data collection. Experimental centres - agricultural schools - can also do something in their system - connection, integration - interdepartmental cooperation and listening.

Nutrition in the school system - children educate their parents - improved educational program - textbooks, science days in the curriculum, where they go to the farm (perception that agriculture profession interferes too much with school work), the agriculture advisor takes the school to the farm, they gathered food and then cooked. Build respect for food - food is essential for health, as well as how it is produced (e.g. porridge/millet for breakfast).

Systemic views in textbooks - school food organizers can also have a teaching function, and there can also be a strong story behind it.

2. Incremental Vision

FOR A HOLISTIC FARM, REGARDLESS OF THE BREEDING OR PRODUCTION SYSTEM

MASTER FARMS

- Centres - Demo farms of various types of cultivation, including conventional ones.
- Provide adequate support (financial and professional).

RESEARCH

- The current studies are too reductionist, focused only on individual elements in the soil or crops.
- There is much deception with the display of data.
- A holistic approach to research is needed. When we research animal health, we see that it is related to feed. Feed is grown on soil, and soil has a chemical, physical and microbiological composition; how favourable it is depends on the relationships between them,...
- Carry out a social-psychological analysis of why state-funded research is not translated into practice; where the limitations are in the system.

ADVISOR SERVICES

- Special expert advisors are necessary who demonstrate their knowledge in the field in such a way that they meet the professional criteria set by the interest association.
- The administrative knowledge they have is also welcome, but there are many problems in practice on the farm, and this knowledge is missing.
- Increase the availability of advisors in the field.
- To provide farmers' associations with professionally qualified personnel who will be able to guide development.



- On-line education courses are very welcome.

DIRECT PAYMENTS / GRANTS

- Promote all types and sizes of farms.
- Encourage processing on the farm; reduce regulation, as it limits a larger volume of processing.
- Encourage cooperation between farms.

BRAND

- Reduce/limit the number of brands/quality marks.
- The criteria for entering the brand should be narrower (e.g. Selected quality - Slovenia has too broad criteria; we do not know whether it is organic, natural, or integrated).
- If it is a sale at home, the trademark is the farmer and his good name - he guarantees the quality.

FOOD/EATING HABITS

- Encourage consumption reduction.
- Encourage the use of all parts of plants and parts of animals for as little food waste as possible.
- Encourage greater consumption of offal.
- More mixed diet.
- The organic, local, and seasonal.



6. Options Ranking

In this section, we provide a more detailed description of the transition solution, as covered above.

Participants were asked to vote on specific criteria that need to be implemented so that a solution can be achieved.

Ranking	Transition Solution (No. of votes)	Notes /comments
1. Synthetic Pesticide Free Vision		
FOR A MIXED AGRICULTURAL-LIVESTOCK FARM		
1	Protection of agricultural land (9x)	
2	Long-term agricultural policies/strategy (8x)	
3	Eating habits and agricultural production are more present in the school curriculum system (5x)	
4	Knowledge/Science (4x)	
5	Connection with practice in the field (3x)	
6	Master farms (3x)	
7	Cooperatives (2x)	
8	Intersectoral cooperation(2x)	
9	Farmers must act as Civil society (1x)	
10	Partnership farms for direct contact (1x)	
2. Incremental Vision		
FOR A HOLISTIC FARM, REGARDLESS OF THE BREEDING OR PRODUCTION SYSTEM		
1	Master farms (7x)	
2	A holistic approach to research is needed (7x).	
	Special expert advisors are necessary, who demonstrate their knowledge in the field in such a way that they meet the professional criteria (6x)	
3	Carry out a social-psychological analysis of why state-funded research is not translated into practice, where are the limitations in the system (5x)	
4	Promote all types and sizes of farms (3x)	
5	Encourage greater consumption of offal (3x)	
6	Organic, local, seasonal (3x)	
7	Encourage consumption reduction (1x)	



7. Reflections on the Workshop

Type of stakeholders who attended. Were any key stakeholders missing?

We covered all the important stakeholders (farmers, the Ministry, advisors, pesticide producers, food retail companies, and researchers) well.

What was the general level of interest?

All of them were very active in contributing to the workshop results. In on-line events, we have more participants, but activity is lower.

Were there any stakeholders that dominated the discussion?

Yes, some of the farmers and advisors were more active. This is because they are more connected with practice and have a better understanding of how farms work and how transition impacts their production system.

What went well, e.g., broke the ice between stakeholders, generated good discussion, and drew out interesting points.

All parts of the workshop were evenly well accepted and executed.

Did stakeholders embrace the idea of back casting, was it useful for generating ideas?

In the beginning, we had to put some energy into it as it was difficult for the participants to foresee a no-pesticide future.

Were there any problems with the discussions, and issues that surprised you?

No.

Any other impressions that you think convey something about the content of the workshop not already covered above.

No.

Highlight the key issues which came out of the workshop, especially any that you think are particularly important for SPRINT to consider?

No.

