Second round of Practice Abstracts produced and available in the EIP AGRI platform

Deliverable D6.5

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An EU-wide farm network demonstrating and promoting cost-effective IPM strategies

Coordination and Support Action (CSA)

01 October 2020 – 31 March 2025 (54 months)

Deliverable D6.5

Second round of Practice Abstracts produced and available in the EIP AGRI platform

Due date (as planned in DoA): Month 50, 30 November 2024

Actual submission date: 03/04/2025

Work package: WP6 – Dissemination, Communication and Training

Work package leader: CONSULAI

Work package co-leader: IAMZ-CIHEAM

Deliverable leader: ACTA

Author List: Philippe Delval (ACTA)

Reviewed by Leader and/or Co-leader of Work Package: Marta Mendes (CONSULAI)

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Dissemination Level

☒	**PU**	Public
☐	**CO**	Confidential, only for members of the consortium (including the Commission Services)

Abstract

22 booklets, entitled "IPM adoption in my hub", were produced by hub coaches. The aim of these booklets was to describe the coach's hub, the challenges regarding pest management, the facilitation approach, highlighting one specific facilitation action and the results in term of IPM adoption and pesticide use.

Each booklet consists of 4 pages:

1. description of the hub
2. IPM challenges and results
3. facilitation approaches
4. IPM adoption and pesticide use.

Support has been provided by ACTA and other partners, through a template for the booklet and a practical guide.

All the booklets are available on the IPM Resource Toolbox platform in English and local language.

Each booklet is summarised in one Practice Abstract. Information has been selected from booklets and summarised into "practice abstracts" format for posting on the EIP AGRI platform.

Practice Abstracts contain the same information as the summary of booklets displayed on the IPM Resource Toolbox:

- the hub,
- motivations of the farmers – drivers- barriers,
- IPM challenges
- key conlusions
- facilitation approach with conclusions and tips

A link to access to all booklets on the IPM Resource Toolbox is also provided.

Contents

1. IPMWORKS: Summary

IPM*WORKS*: Summary

Integrated Pest Management (IPM) is based on a diversity of pest management measures (prevention, non-chemical control, best practices for optimizing pesticide efficiency, etc.). These are combined at the farm level to enable reduced reliance on pesticides, and therefore a decrease in the exposure of the environment and people to pesticides. Pioneer farmers throughout Europe are testing such IPM strategies and are succeeding in achieving good outcomes with low pesticide inputs. However the majority of European farmers still rely heavily on pesticides, with major environmental and societal impacts, because most of them have not adopted a comprehensive, farm-level and holistic IPM strategy so far.

The objective of IPMWORKS is to promote the adoption of IPM strategies, based on an EU-wide demonstration network of farmers, who both progress further in the adoption of IPM – through peer-to-peer learning, and joint efforts – and demonstrate to other farmers that holistic IPM "works"; i.e. allows a low reliance on pesticides with better pest control, reduced costs and enhanced profitability. IPMWORKS coordinates existing networks promoting IPM and launch new hubs of farms in regions or sectors where IPM pioneers are not yet engaged in a relevant network. Advisors coordinating hubs have a major role in facilitating knowledge sharing, coaching farmers to find their own IPM solutions, and organizing local demonstration activities. IPMWORKS stimulates access to the 'IPM Decisions' platform and provide information on the IPM methods. It collects data for comparing IPM strategies, and shares results and dissemination material through channels widely used by farmers, broadcasting IPM success stories. It is organising training, and produced training material, targeting both farmers outside the network and advisory services, in order to prepare for the future dissemination of the peer-to-peer learning approach and the general adoption of IPM throughout the EU.

The demonstration of cost-efficiency of IPM is based on data describing the details of cropping systems and pest management in farms involved in the network. IPMWORKS also produces a range of data of various nature for dissemination and communication purpose videos of farmers' testimonies, videos of demonstration events, leaflets describing cost-effective IPM-based strategies, etc.).

Project Acronym	IPMWORKS
Project title	An EU-wide farm network demonstrating and promoting cost-effective IPM strategies
Grant agreement No.	101000339
Project coordination	Dr Nicolas Munier-Jolain, INRAE, Dijon
Email	nicolas.munier-jolain@inrae.fr

2. Design of the booklet template and guidelines

2.1. Objectives and content

Each booklet is to be prepared by the hub coach, and is intended to describe a practical example of collective functioning of the group and the progress made during the course of the project.

The aim of these booklets is to describe the hub, its challenges regarding pest management, the facilitation approach, highlighting one specific facilitation action and the results in term of IPM adoption and pesticide use.

Each booklet is summarised in one Practice Abstract. Selected information from each booklet was formatted in the "practice abstract" format for posting on the EIP-AGRI platform.

2.2. Working method

ACTA produced a first version of the booklet template, during summer 2023. This template was discussed with WP6 partners (communication and dissemination) and the project coordinator, to produce a second version following the format designed by CIHEAM Zaragoza for the first booklet.

This "IPM adoption in my hub" template consists of 4 pages:

1. description of the hub
2. IPM challenges and results
3. facilitation approaches
4. IPM adoption and pesticide use.

It was produced along with a guide [annex 1] setting out the template and expectations for each page and each section.

The booklet template, the guideline, and the overall method were presented and discussed at the annual meeting held in Almeria in November 2023, during parallel sessions.

They were disseminated to hub coaches and sector leaders by e-mails, and uploaded on the project's collaborative SharePoint workspace.

Hub coaches were expected to produce two versions for each booklet, one in local language and one in English.

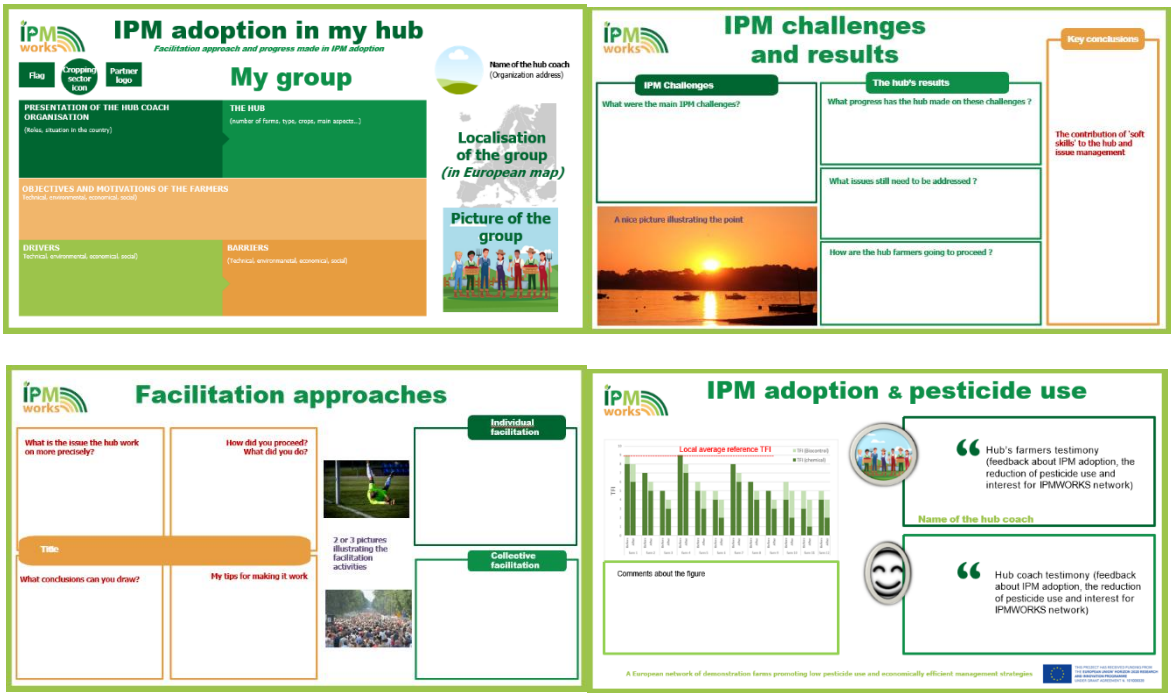


Fig.1. The 4 pages of the booklet template

A space was also created on the SharePoint to store the ppt versions and pdf versions of booklets when finalised by hub coaches:

- Link to pdf versions
- Link to ppt versions

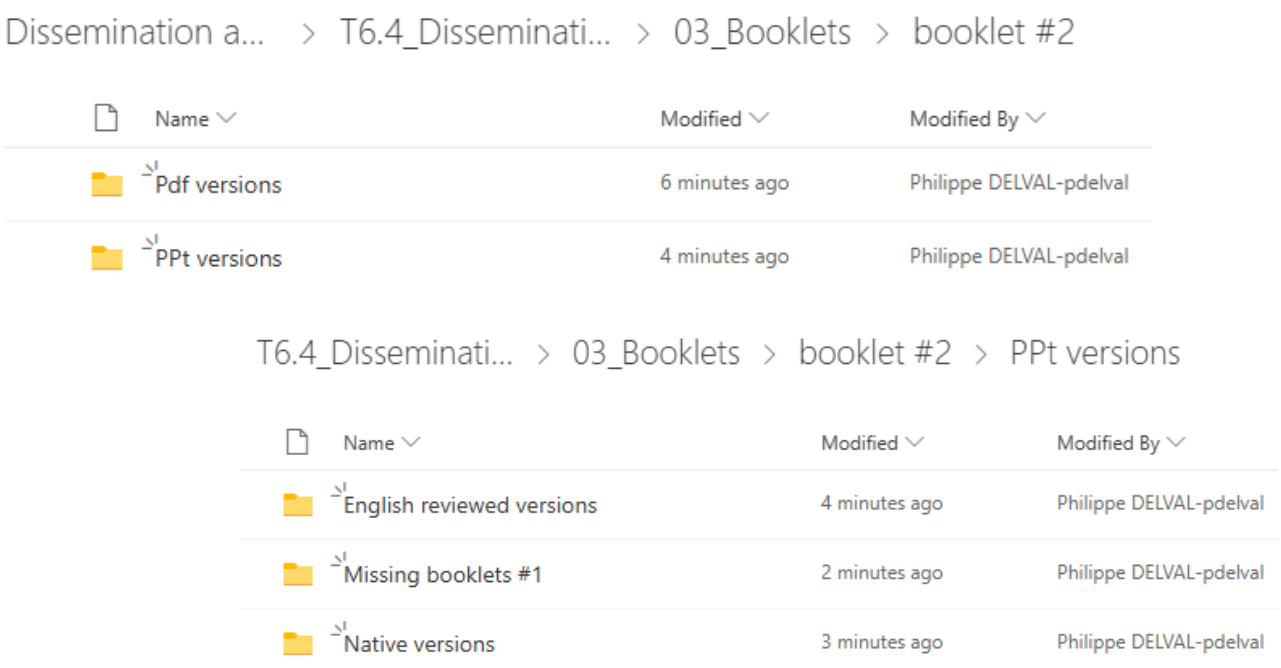


Fig.2. Collaborative workspace – *« booklet » section*

3. Collecting the booklets

3.1. Working method

Hub coaches were able to work on booklets and finalise them (both in local language and English) during spring and summer 2024.

With the help of WP2 (newsletters, e-mails) and of sector leaders (reminders during sector meetings), ACTA had to recall frequently hub coaches to remind them about this task.

The first versions of the booklets were checked by ACTA. Clarifications and additional information had often to be requested before finalising booklets with two .pdf versions, one in English and one in local language.

The booklets were sent to Leaf (Megan Whatty & Dan Mitchell) to review the English version.

3.2. Modification of deadlines

The request for a 6-month extension of the project was motivated by some delays in Hub Coaches tasks, including the production of this second booklet. Consistently with the 6-month extension, the date of delivery of booklets has been postponed to November 2024.

3.3. Posting on the IPM toolbox

All the booklets were then uploaded to the IPM Resource Toolbox, so that they could be promoted. A selection of key elements in English and in the local language was used to present each booklet: the hub, the objectives and motivations of the farmers and the existing drivers and barriers in the hub; IPM challenges, key conclusions and facilitation approaches completes the document.

Booklets can be accessed by selecting 'IPMWORKS hub resources' under 'Resource types'.

Fig.3. Selection of the "IPM toolbox" search engine

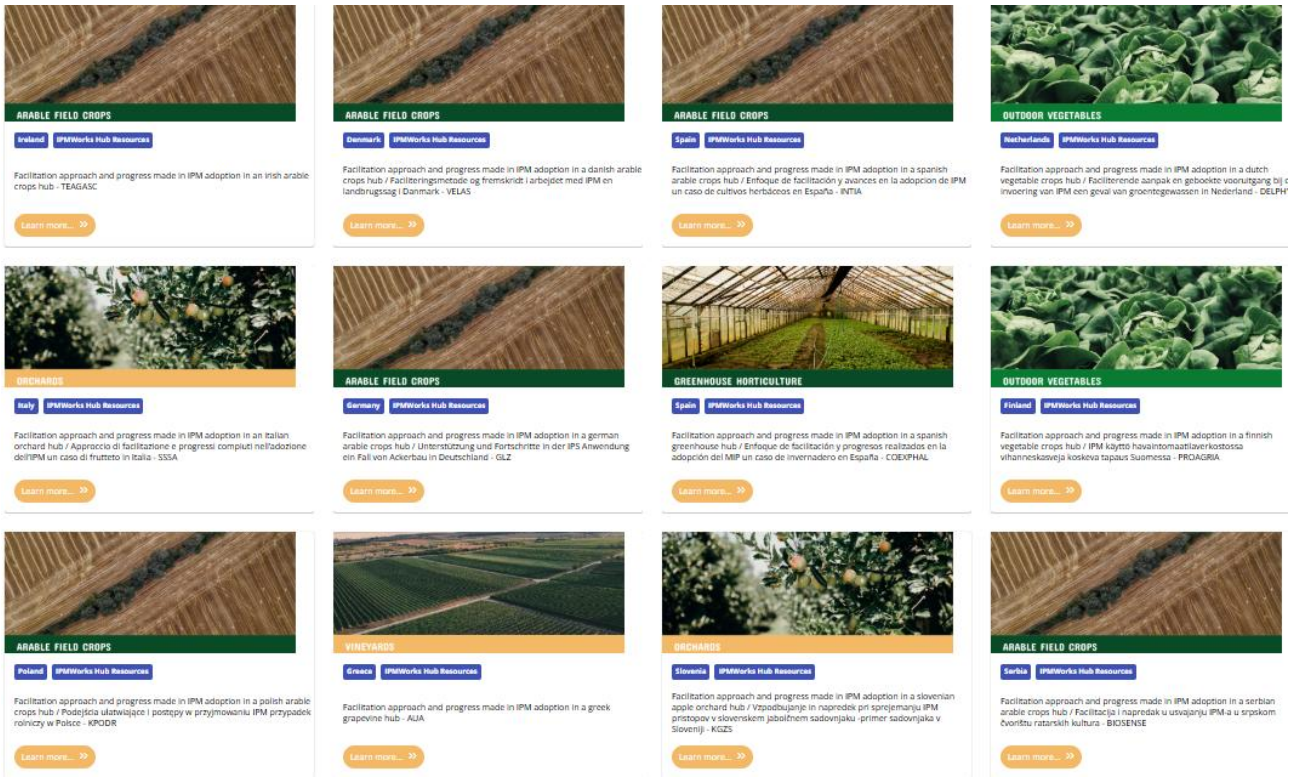


Fig.4. Access to booklets on the IPM toolbox

All booklets are available following the links on the following tables (tables 1 & 2)

Table 1. Links to booklets on the IPM toolbox, for Arable Field Crops

Country	PA number	Cropping sector	Partner	Booklet on IPM toolbox
Arable field crops	1		JKI Julius Kühn-Institut	link
	2		grünland zentrum NIEDERSACHSEN | BREMEN	link
	3		velas	link
	4		DJURSLAND LANDBOFORENING | Planteavl	link
	5		eagasc	link
	6		Sant'Anna Scuola Universitaria Superiore Pisa	link
	7		KUJAWSKO-POMORSKI OŚRODEK DORADZTWA ROLNICZEGO w Minikowie	link
	8		INTIA	link
	9			link
	10		The James Hutton Institute Science connecting land and people	link
	11		WAGENINGEN UNIVERSITY & RESEARCH	link

Table 2. Links to booklets on the IPM toolbox, for the other Sectors

Cropping sector	PA number	Country	Partner	Booklet on IPM toolbox
Open-air vegetables, soft fruits & ornamentals	12		inagro	link
	13		ProAgria	link
	14			link
	15		Delphy	link
Vineyards	16			link
	17		Agricultural University of Athens	link
	18		feuga fundación empresa universidad gallega	link
Orchards	19		Sant'Anna Scuola Universitaria Superiore Pisa	link
	20		Kmetijsko gozdarska zbornica Slovenije Kmetijski gozdarski zavod Maribor	link
Greenhouse horticulture	21		inagro	link
	22		COEXPHAL unidos exportando Futuro	link

3.1. Missing booklets #1

Two booklets were missing when deliverable D 6.3 « First round of Practice Abstracts produced and available in the EIP AGRI platform" was published.

These two booklets have therefore been added to the second round of pf practice abstracts and to the toolbox.

Table 3. Links to the missing booklets #1 on the IPM toolbox

Country	PA number	Cropping sector	Partner	Booklet on IPM toolbox
Arable field crops	23		grünland zentrum Niedersachsen | Bremen	link
Vineyards	24		Agricultural University of Athens	link

4. Preparing the practice abstracts

4.1. Working method

A "practice abstracts" Excel file was compiled from the booklets received, I.e. 22 booklets#2 (second round of booklets), to which have been added the 2 missing booklets#1 (First round of booklets). The "practice abstracts" contain the same information as the summary for the IPM Resource Toolbox, as well as the link to access the complete booklet on the IPM Resource Toolbox.

The Practice Abstracts file was sent to EIP-AGRI by the project coordinator.

4.2. Example

Below is an example of a booklet produced by the Danish Velas hub coach on Arable crops and its "practice abstract" version.

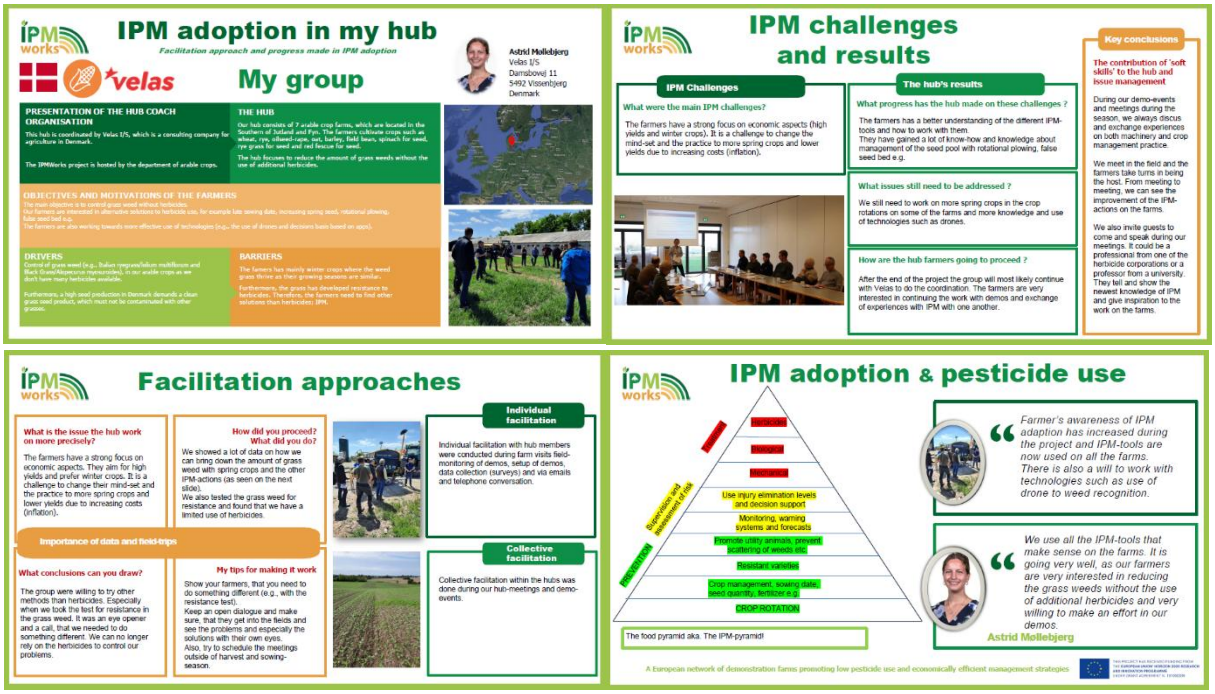


Fig.5. Example of one booklet (#3 – Arable hub in Denmark)

Practice "abstract" 3:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a danish arable crops hub VELAS**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** Our hub consists of 7 arable crop farms, which are located in the Southern of Jutland and Fyn. The farmers cultivate crops such as wheat, rye, oilseed-rape, oat, barley, field bean, spinach for seed, rye grass for seed and red fescue for seed. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** The main objective is to control grass weed without herbicides. Our farmers are interested in alternative solutions to herbicide use, for example late sowing date, increasing spring seed, rotational ploughing, false seed bed etc. The farmers are also working towards more effective use of technologies (e.g., the use of drones and decisions basis based on apps). **DRIVERS** Control of grass weeds (e.g., Italian ryegrass/Lolium multiflorum and Black Grass/Alopecurus myosuroides), in our arable crops as we don't have many herbicides available. Furthermore, a high seed production in Denmark demands a clean grass seed product, which must not be contaminated with other grasses. **BARRIERS** The farmers mainly have winter crops where the weed grass thrive as their growing seasons are similar. Furthermore, the grass has developed resistance to herbicides. Therefore, the farmers need to find other solutions than herbicides; IPM. **IPM Challenges** The farmers have a strong focus on economic aspects (high yields and winter crops). It is a challenge to change the mind-set and the practice to more spring crops and lower yields due to increasing costs (inflation). **Key conclusions** During our demo-events and meetings during the season, we always discuss and exchange experiences on both machinery and crop management practice. We meet in the field and the farmers take turns being the host. From meeting to meeting, we can see the improvement of the IPM-actions on the farms. We also invite guests to come and speak during our meetings. It could be a professional from one of the herbicide corporations or a professor from a university. They tell and show the most up-to date knowledge of IPM and give inspiration to the farmers. **Facilitation approaches : Importance of data and field-trips** What conclusions can you draw? The group were willing to try other methods than herbicides. Especially when we took the test for resistance in the grass weed. It was an eye opener and a call, that we needed to do something different. We can no longer rely on the herbicides to control our problems. Tips for making it work -Show your farmers that you need to do something different (e.g., with the resistance test). -Keep an open dialogue and make sure that they get into the fields and see the problems and especially the solutions with their own eyes. -Also, try to schedule the meetings outside of harvest and sowing-season.
Short title in native	**Faciliteringsmetode og fremskridt i arbejdet med IPM - VELAS**
Short summary for practitioners in native language	**GRUPPEN** Gruppen består af 7 ejendomme med konventionel planteavl, som er lokaliseret I Sønderjylland og på Fyn. Landmændene dyrker hvede, rug, raps, havre, byg, hestebønner, hestebønner, spinat til frø, rajgræs og rødsvingel til frø. Gruppen fokuserer på at reducere mængden af græsukrudt uden at bruge yderligere kemi. **LANDMÆNDENES MÅL OG MOTIVATIONER** Hovedformålet er at bekæmpe græsukrudt uden herbicider. Vores landmænd er interesserede i alternative løsninger til kemi, for eksempel sen såning, mere vårsæd, rotationspløjning, falsk såbed o.l.. De arbejder også henimod en mere effektiv brug af teknologi (f.eks. droner og apps til beslutningsstøtte). **MOTIVATION** Bekæmpelse af græsukrudt (f.eks. italiensk rajgræs og agerrævehale) i vores afgrøder, da vi ikke har særlig mange pesticider til rådighed. Derudover er der en stor produktion af græsfrø I Danmark, som kræver et rent græsfrøprodukt, der ikke må forurenes af andre græsser. **BARRIERER** Landmændene har hovedsageligt vinterafgrøder og her trives græsset, da vinterafgrøderne og græssets vækstsæsoner ligner hinanden. Desuden har græsset udviklet resistens overfor flere herbicer. Landmændene er derfor nødt til at finde andre løsninger end kemien; IPM. **IPM udfordringer** Landmændene har et stort fokus på det økonomiske aspekt (høje udbytter og dermed vinterafgrøder). Det er en udfordring at ændre indstillingen til sædskiftet og praktisere flere vårafgrøder og dermed lavere udbytter holdt op mod stigende omkostninger (inflation). **Nøgle konklusioner** Når vi har mødtes til demo-events og andre møder gennem sæsonen, diskuterer og erfartingsudveksler vi altid de forskellige erfaringer med både maskiner og praktiske ting. Vi mødes I marken og landmændene skiftes til at være vært. Fra møde til møde kan vi se forbedringerne I marken, som kommer fra IPM-tiltagene. Vi inviterer også gæster til at komme og fortælle om spændende emner til vores møder. Det kunne være en fagperson fra et kemi-firma eller en professor fra universitetet. De fortæller og viser den nyeste viden indenfor IPM og giver inspiration til det videre arbejde. **Faciliteringsmetode : Vigtigheden af data og markbesøg** Hvilke konklusioner kan du drage? Gruppen var villig til at prøve andre metoder end kemi. Især da vi tog testen for resistens i græsukrudtet. Det var en øjenåbner og en klar opfordring til at vi skulle gøre noget anderledes. Vi kan ikke længere læne os tilbage, og stole på at kemien kan kontrollere vores ukrudt. Mine tips til at få det til at fungere Vis dine landmænd, at du skal gøre noget anderledes (f.eks. med resistenstesten). Hold en åben dialog og sørg for, at de kommer i marken og ser problemerne og især løsningerne med egne øjne. Prøv også at planlægge møderne udenfor høst- og såsæsonen

Fig.6. Example of the practice abstracts (#3 – Arable hub in Denmark)

Annex 1. A GUIDE TO HELP YOU TO PROVIDE THE 2nd BOOKLET

Philippe DELVAL

Objective

Booklets are one deliverable of WP6 (Dissemination – Communication). The booklet is provided in **local language** to facilitate the dissemination at the country level but also in **English** to transfer results of the project at the European level. National Focal Points could translate other booklets in his own language if they find interest of it.

In the DoA, it is precised that each hub coach must provide two booklets:

- One on implementation of IPM in one farmer of the hub [at the end of winter – February – March 2023]
- One on the collective functioning of the group and the progress made [at the end of winter – February – March 2024]

Process

Please provide a draft of the complete booklet of the hub's work. Template is available on the internal Sharepoint.

Philippe DELVAL is available to help you to achieve this objective. Don't hesitate to contact him philippe.delval@acta.asso.fr

Sector leaders and national focal points can provide help, as well.

Send it the Powerpoint file but also all pictures, maps separately in jpg or png files in high resolution (300 dpi or more) to Philippe.

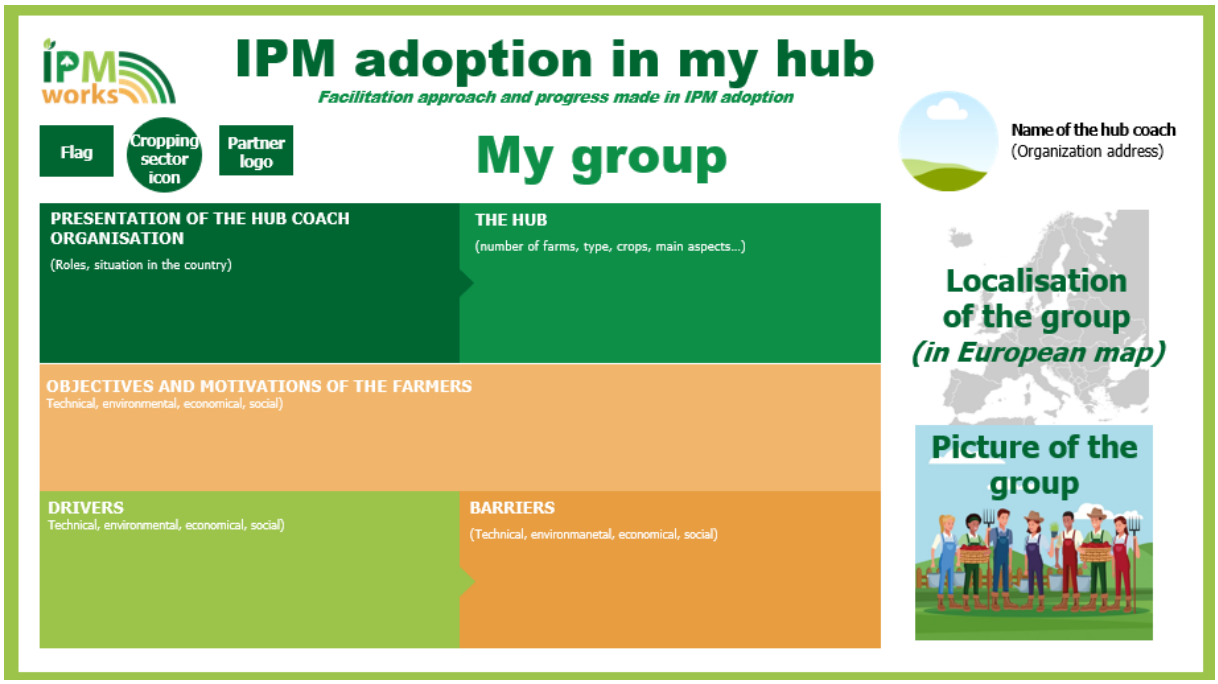
Content

This second booklet is a presentation of one hub, his challenges regarding pest management, the facilitation approach, highlighting one specific facilitation action and the results in term of IPM adoption and pesticide use.

The booklet includes four pages, and each page is a content section.

"MY GROUP" SECTION

The first page is a quick description of the hub, motivations, drivers and barriers with the farmers of the hub to adopt holistic IPM globally:



- Presentation of the hub coach organisation

- Name and localisation
- Main missions of the Hub coach's organisation

- The hub :

- Number of farms
- Type of farms
- Main common crops and rotations
- Main common pests, diseases and weeds

- Objectives and motivations of the farmers

- Common goals on technical, environmental, social, and economical issues

- Location of the group on an European map

- Picture of the group = hub members

- Drivers and barriers

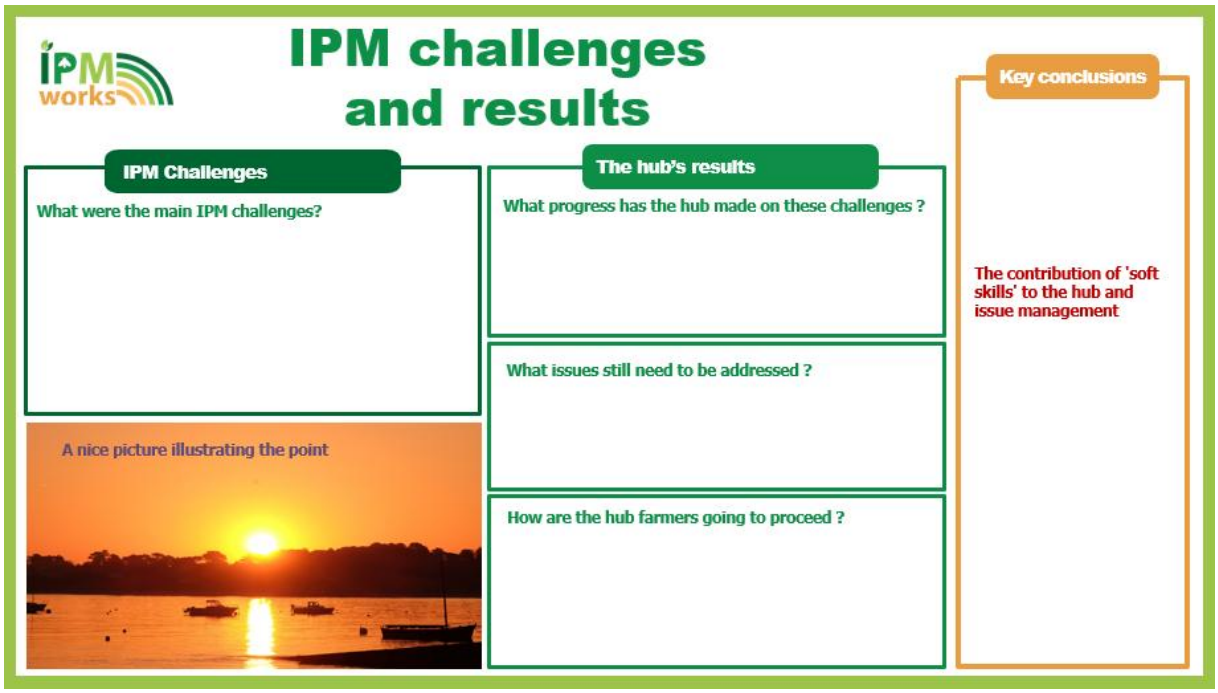
Describe the main drivers and barriers for the farmers composing the hub. You can make a list of the main issues. The following table gives you examples to help you, but you are free to choose others.

	Examples of drivers	**Examples of barriers**
Technical issues	o Strong willingness to reduce the use of plant protection products o Reduction in the number of approved products. o Interest in a technical subject o Understand the development of pests and diseases in a system to manage them better o To compare your technical problems with those of your farming colleagues o Wanting to improve production techniques o Testing new practices o Awareness of the hazard of products o Awareness of the weakness of their cropping systems o Presence of leaders in the group carrying out trials or in organic farming production o Awareness that chemicals have their limits (resistance, risk factors) when it comes to certain problems	o Difficult control of pests on some crops o The knowledge required for the implementation and sustainability of this practice o The rapid appearance of damage in the event of non-control by beneficials o The irreversibility of damage to some crops o A complexity of diversified systems o The complexity of climatic conditions for the success of interventions o Question of availability of material for new technic o Emerging pests, without known predators o Existing technical obstacles
Social issues	o Presence of Organic farmers in the hub o Group dynamics and common interests o Farmers driving change and innovation o Willingness to exchange ideas with others to make progress o Positive image of the farmer o Societal pressure o The farmer's pride and well-being o Individual follow-up enhanced by group meetings o Presence of very curious farmers o Need for reassurance from the group o Farmers aware of social issues	o Complicate the organization of work o Psychologically, pesticides represent a safe solution to problems o Often heavy workloads which do not allow certain alternative work to be added to the necessary periods o Fields with distant geographical distribution o The diversity of profiles within the group
Economical issues	o The need to secure production o Economic crisis o Average potential, leading to reductions in inputs o Investment aid (subsidies) o Fluctuating and uncertain sales prices o Increasing self-sufficiency on farms	o The fear of not succeeding, of losing your yield (risk taking) o Crops with very high added value (textile flax, potatoes, etc.) with complicated technical management to develop (social pressure, marketing contract, etc.) o Additional investments

	o Awareness of the economic difficulties of conventional systems o Need to optimise inputs o Need to meet commercial demands	o Sales prices which do not encourage taking the risk of losing a few quintals o Possible negative economic consequences following the implementation of certain agronomic technics o Little economic room for manoeuvre and the weight of specifications that are sometimes unavoidable o Lack of official acknowledgement of the IPM (label, specifications) o Customers demanding visual quality o Prices vary depending on production periods and subject to foreign competition o Few varietal choices suited to the shipping and industrial market o The risk of crop loss and the impact of a pest over several years o Cash-flow of farms and limits the possibilities of investment and employment of labor
Environmental issues	o Awareness of the impact on the environment and their health o A willingness to produce differently o Climate change with an impact on production	o More abundant precipitation, accentuated by climate change, and numerous thunderstorms o The interest of the development of biodiversity is not well known within the farms o Pedo-climatic contexts not always favorable to change

"IPM CHALLENGES AND RESULTS" SECTION

The second page is to present IPM challenges faced by farmers. It will be the opportunity to describe what soft skills were used to try to meet the challenges, but also those that remain to be addressed and the upcoming prospects.



LEFT: IPM challenges

- What were the main IPM challenges? List the main challenges the hub was facing during the project from a technical, economic and social point of view;

PICTURE

Choose a nice picture of the group during the process

RIGHT: our results

- What progress has the hub made on these challenges? Positive and negative impacts the hub's farmers discovered during the process.

- What issues still need to be addressed? Explain the points that you feel have not been or partially, at the hub level or individually, achieved? Describe the difficulties that have arisen during the project.

- How are the hub farmers going to proceed?

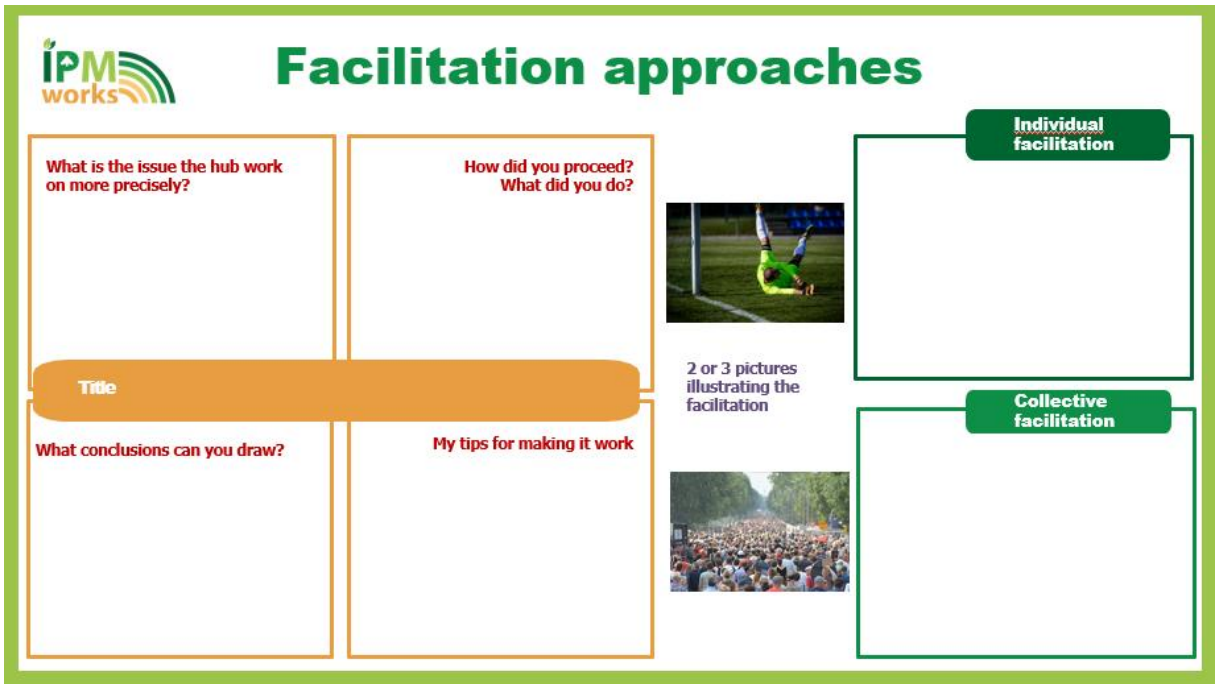
Describe the next step you want to work with the farmers to tackle the barriers expressed by the farmers.

KEY CONCLUSIONS

Describe the contribution of 'soft skills' the work in the hub and the issue management and how your involvement as a hub coach has contributed to the development/change.

"FACILITATION APPROACHES" SECTION

This slide should present a specific problem/challenge the hub has focussed on with practical details and how the hub farmers have worked on this individually and collectively



Choose one particular action you implemented that you want to highlight. The list below can help you…

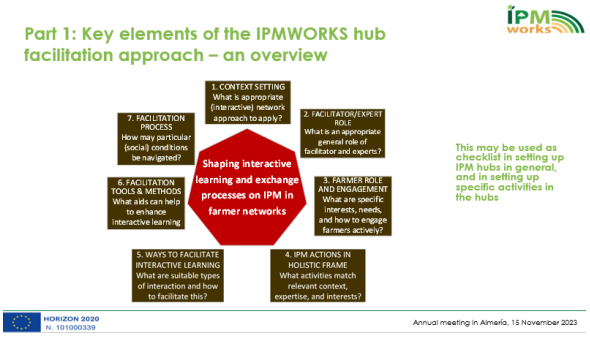
Examples of actions
- Cropping season review
- Pre-harvest tour
- Pre-harvest field trip for the cropping season review
- Setting up and monitoring a trial
- Webinar on agroecology
- Discussions on strategies for tackling a special pest
- Presentation of the regional protection guide to farmers
- Individual pre-harvest visits
- Redesign of a production
- Evaluation of a special technic
- A "field trip" to one of the group's farmers
- Weed management without using herbicides
- Hosting a study trip for cross-visits
- Training on crop beneficials
- Co-construction of a low-herbicide cropping system
- Visit a farm outside the group that makes sense

- Title: the title is a summary of the issue you wanted to solve in your hub with the farmers;
Examples of title used in the Dephy network:
- How can we help farmers to move away from short rotations by looking at their overall systems?
- Helping farmers to make independent decisions: the example of reducing the use of fungicides on cereals;
- How can we help winegrowers to manage the fight against mildew?)

- What is the issue the hub work on more precisely (referring to the title)? Describe more precisely the issue. What was the starting point of this issue? Explain where this concern coming from and why do you want to solve it collectively.

- How did you proceed? What did you do? present how you implemented the action from a collective point of view. Referring to **Seerp's presentation (S'P)*** *during the Almeria annual meeting*, present the group's approach you drive during the period, notably the ways you interact with your hub (S'P slide 8).

- What conclusions can you draw? demonstrate the complementary nature of individual and collective actions. What was your facilitator / expert role and the farmer role and engagement? (S'P slides 4 & 5).



- My tips to make it working: describe the tricks implemented to facilitate group work notably facilitation tools, methods and processes (S'P slides 10 & 11)

- Individual and collective actions implemented in your hub

Do a list of actions / ways to facilitate interactive learning. Some examples below and in Seerp's presentation - slide 8:

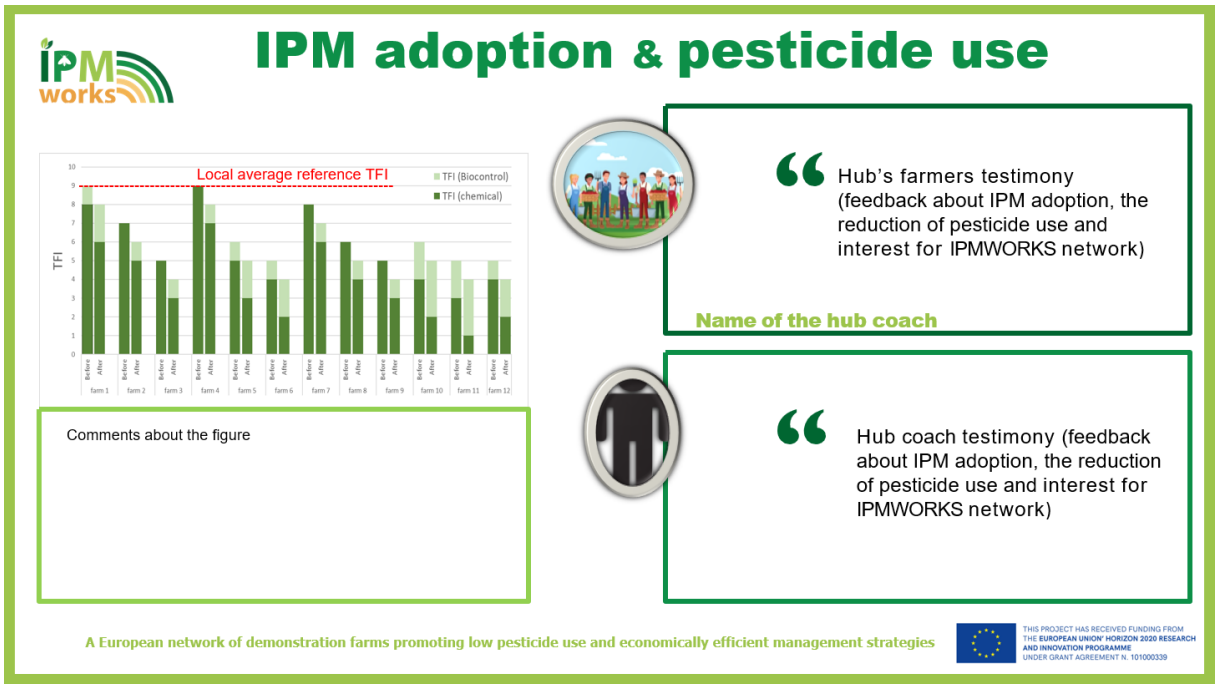
	Examples of individual actions	**Examples of collective actions**
Technical approach	o Study of the functional biodiversity of one site o Setting up a balanced production system in a farm o Do test to validate with a farmer	o Improving farmers' equipment spray quality o Demo & equipment adjustment o Co-construction of cropping systems
Economical approach		o Margin and economic analysis at hub level o Meeting on margins and mechanisation costs
Analysis of actions	o Individual crop cycle assessment o Individual interview during winter, post-harvest o Individual follow-up o On-the-spot diagnosis o End-of-crop period analysis o Field visits in one farm	o Annual group meeting o Meeting with a working group o Initial meeting - Determining production priorities o Cropping season review o Headland meetings o Field tours with the group o Farmer testimonial in front of the group

		o Feedback meeting with the group
Experimentation	o Trial follow-up	o Special relationship with the experimentation station (exchanges, visits)
Training		o Technical and economic training

** Seerp's presentation is available on the collaborative workspace link*

"IPM ADOPTION & PESTICIDE USE" SECTION

The fourth and last page presents the farmers' and hub coach's testimonies and illustrates the potential for to development in the coming years. Farmer's and hub coach's photos are welcome. Write the farmer's and hub coach's names under the pictures.



What progress has the hub made on these challenges

LEFT = Figures

Insert = an illustration with quantified results (reduction of pesticides, TFI graph, illustration with crop rotation and IPM tactics used, technical graph, action plan, , diagram - work on facilitating discussion time)

Add comments to help the reader understand the visuals.

RIGHT = Testimonies

Farmers testimony = a testimony from the farmers on their progression and the evolution of their practices, the triggering events that prompt this evolution, successes that have been achieved and what difficulties were encountered

Hub coach testimony = a testimonial from the hub coach providing an outside perspective on these developments and more generally the positive points of the group of farmers

Pictures of the group and the hub coach

PRACTICE ABSTRACT

Philippe DELVAL established the practice abstract from the information given in the booklet, using the EIP-AGRI template for this.

He added a link to the complete booklet that will be available on the IPMWORKS website – IPM toolbox.

He sent all the practice abstracts to EIP-AGRI.

Annex 2. The Practice Abstracts

See excel file "IPMWORKS_WP6_EIPAGRI_Practice_Abstracts_2024-11-30"

THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION' HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT N. 101000339

EIP-AGRI practice abstracts (First round)

Document Summary

EIP-AGRI practice abstracts (First wave)

Version: **1**

Milestone Lead: **ACTA**

Related Work package:

WP6 Author(s): **Philippe DELVAL**

Contributor(s): **Hub Coaches**

Communication level:

PU Public

Project Number: 101000339

Grant Agreement Number: **101000339**

Programme: **IPMWORKS**

Start date of Project: 01/10/2020

Duration: **4 years**

Project coordinator: **Nicolas MUNIER-JOLAIN - INRAE**

Abstract

The objective of IPMWORKS is to promote the adoption of IPM strategies, based on a EU-wide network of farmers, who will both progress further in the adoption of IPM – through peer-to-peer learning and joint efforts – and demonstrate to other farmers that holistic IPM "works"; i.e. allows a low reliance on pesticides with better pest control, reduced costs and enhanced profitability.

Table of contents

Introduction

What is the EIP-AGRI Practice Abstract?

The agricultural European Innovation Partnership (EIP-AGRI) works to foster competitive and sustainable farming and forestry. Through the EIP-AGRI's website, users can share innovative project ideas and practices, information about research and innovation projects, including projects' results. Various EIP-AGRI-related publications are available for download on the website.

The EIP-AGRI common format facilitates knowledge flows on innovative and practice-oriented projects from the start till the end of the project. The use of this format also enables farmers, advisors, researchers and all other actors across the EU to contact each other.

Summary

Sharing good practices resulting from the implementation of the IPMWORKS project

The present document is intended to describe the activities for developing the practice abstracts of the IPMWORKS project. A first set of 18 Practice Abstracts are intended to communicate a short summary of some practical information or recommendation that has been observed or developed during the lifetime of the IPMWORKS project. They mainly focus on issues which are relevant and attractive for farmers, farm advisers and other related practitioners, but at the same time they also aim to be interesting, accessible and understandable to a broader audience too.

Under the project IPMWORKS, existing IPM networks in five European countries (FR, DE, NL, CH and UK) will be pursued and new hubs (new demo farm groups) in 14 European countries will be established. Hubs are groups of typically 10- 15 farms in the same agricultural sector and the same region, where farmers can interact, meet frequently to exchange knowledge and experience on IPM strategies, and have specific activities for in-farm design of IPM-based strategies. All farmers with their "hub coaches" are ready to support demonstration events, communicate, and provide requested information to describe their IPM strategy and evaluate their farm performance.

In line with the H2020 policy on multi-actor research projects involving the agricultural community and interlinking EIP-AGRI and H2020, IPMWORKS contributes to sharing measures to to enhance knowledge exchanges, cross fertilisation among actors and efficient innovation uptake in the farming sector through peer-to-peer demonstration of techniques.

Annex 1: Set of 20 Practice Abstracts

Project identification

Please indicate whether the information refers to a multi-actor project or a thematic network	Multi-actor project	*Mandatory*

Project Information

Project identifier (see INSTRUCTIONS)	H2020-SFS-2020-1_101000339_IPMWORKS
Title of the project in native language	IPMWORKS - An EU-wide farm network demonstrating and promoting cost-effective IPM strategies
Title of the project in English	IPMWORKS - An EU-wide farm network demonstrating and promoting cost-effective IPM strategies

Geographical location

Country (*of the coordinator*)	FR
Main geographical location (NUTS3) (of coordinator - *for geolocalisation on map*)	FR101 - Paris

Editor of the text: person/organisation responsible for delivering the text	Agricultural Advisory Center

Project coordinator (lead-partner) according to the cooperation/consortium agreement:

Name	INRAE
Address	INRAE, rue de l'Université 149, 75007 Paris, France
E-mail	nicolas.munier-jolain@inrae.fr
Telephone	+33 0(3) 80 69 30 35

Project period:

start year (YYYY)	2020
end year (YYYY)	2024

Project status: ongoing (after selection of the project) or completed (after final payment)	ongoing
Main **funding source**	H2020
Total budget of the project (total costs - in euros)	6 000 005,00

Objective of the project in English: what problems/opportunities does the project address that are relevant for the practitioner/end-user, and how will they be solved?

The objective of IPMWORKS is to promote the adoption of IPM strategies, based on a EU-wide network of farmers, who will both progress further in the adoption of IPM – through peer-to-peer learning and joint efforts – and demonstrate to other farmers that holistic IPM "works"; i.e. allows a low reliance on pesticides with better pest control, reduced costs and enhanced profitability.

IPMWORKS will coordinate existing networks promoting IPM and launch new hubs of farms in regions or sectors where IPM pioneers are not yet engaged in a relevant network

Objective of the project in native language	L'objectif d'IPMWORKS est de promouvoir l'adoption de stratégies de protection intégrée (PIC) contre les bioagresseurs, en s'appuyant sur un réseau européen d'agriculteurs qui progresseront dans l'adoption des principes de la PIC - grâce à l'apprentissage entre pairs et aux efforts conjoints - et démontreront aux autres agriculteurs que la PIC "fonctionne", c'est-à-dire qu'elle permet une faible dépendance à l'égard des pesticides, une meilleure maîtrise des bioagresseurs, une réduction des coûts et une amélioration de la rentabilité. IPMWORKS coordonnera les réseaux existants et lancera de nouveaux groupes dans les régions ou les secteurs.
Description of project activities in English.	Under the project IPMWORKS, existing IPM networks in five European countries (FR, DE, NL, CH and UK) will be pursued and new hubs (new demo farm groups) in 14 European countries will be established. Hubs are groups of typically 10-15 farms in the same agricultural sector and the same region, where farmers can interact, meet frequently to exchange knowledge and experience on IPM strategies, and have specific activities for in-farm design of IPM-based strategies. All farmers with their "hub coaches" are ready to support demonstration events, communicate, and provide requested information to describe their IPM strategy and evaluate their farm performance.
Description of project activities in native language.	Dans le cadre du projet IPMWORKS, les réseaux existants dans cinq pays européens seront poursuivis et de nouveaux hubs (nouveaux groupes de fermes de démonstration) seront établis dans 14 pays européens. Les "hubs" sont des groupes de 10 à 15 exploitations agricoles, où les agriculteurs peuvent interagir, se rencontrer fréquemment pour échanger des connaissances et des expériences et avoir des activités spécifiques pour la conception de stratégies. Tous les agriculteurs et leurs "accompagnateurs" sont prêts à soutenir les événements de démonstration, à communiquer et à fournir les informations requises pour décrire leur stratégie et évaluer les performances de leur exploitation.

Description of the context of the project in English	The reliance of European agriculture on pesticides is high. Across most European farms (excluding organic), the protection of crops from pests (insect pests, diseases, weeds, and others) to avoid crop yield losses relies mainly (and even sometimes exclusively) on pesticides. This high pesticide use has led to increasing concerns about their impact on the environment and on human health and can cause long term technical problems as resistance. Conforming to Directive 2009/128/EC on the Sustainable Use of Pesticides (SUD), EU Member States have established national action plans, some of which explicitly target the decrease in reliance on pesticides. Reducing pesticide use is considered as the best way to minimise exposure of the environment, animals and human beings, and therefore decrease negative impacts. The SUD promotes Integrated Pest Management, i.e. a combination of alternative approaches and techniques contributing to regulating pests to keep the use of plant protection products to levels that minimize risks to human health and the environment. According to this directive, compliance with IPM principles is mandatory for all professional users of pesticides throughout EU Member States and has been since January 2014. Despite the SUD and national action plans, the overall use of pesticides in the EU has not decreased since 2011. One major problem for the promotion and monitoring of IPM adoption is that IPM is a flexible concept. The big challenge for European

Additional information on the project in English	Dans la plupart des exploitations agricoles européennes à l'exception des biologiques, la protection des cultures contre les bioagresseurs reste très dépendante des pesticides afin d'éviter les pertes de rendement. Cela a suscité des inquiétudes croissantes quant à l'impact sur l'environnement et la santé humaine et peut entraîner des problèmes techniques à long terme tels que la résistance. Conformément à la directive 2009/128/CE sur l'utilisation durable des pesticides (SUD), les États membres de l'UE ont établi des plans d'action nationaux, dont certains visent à réduire la dépendance à l'égard des pesticides. La réduction de l'utilisation des pesticides est considérée comme le meilleur moyen de minimiser l'exposition et donc de diminuer les impacts négatifs. La SUD encourage la protection intégrée des cultures (PIC), c'est-à- dire une combinaison d'approches et de techniques alternatives contribuant à réguler les bioagresseurs afin de maintenir l'utilisation de pesticides à des niveaux qui minimisent les risques. Néanmoins, l'utilisation globale des pesticides dans l'UE n'a pas diminué 12 ans. Un problème majeur pour la promotion et le suivi de l'adoption de la PIC est que la celle-ci est un concept flexible. Des agriculteurs pionniers à travers l'Europe testent et mettent en œuvre avec succès des stratégies avancées en obtenant de bons résultats avec une faible dépendance à l'égard des pesticides. Le grand défi est d'élargir ce groupe et de promouvoir l'adoption plus générale
Additional comments (in English)	

Project partners (mandatory information) - *N.B. : "Name" can be that of an organisation - "Address" should include the country*

	Name	Address	E-mail	Telephone	Type of partner
project coordinator (lead partner) *from PROJECT INFORMATION*	INRAE	INRAE, rue de l'Université 149, 75007 Paris, France	nicolas.munier-jolain@inrae.fr	+33 0(3) 80 69 30 35	research institute
project partner	INRAE Transfert (IT)	France			
project partner	EIGEN VERMOGEN VAN HET INSTITUUT VOOR LANDBOUW- EN VISSERIJONDERZOEK (EVILVO)	Belgium			
project partner	ASSEMBLEE PERMANENTE DES CHAMBRES D'AGRICULTURE (APCA)	France			
project partner	DELPHY BV (DELPHY)	Netherlands			
project partner	RSK ADAS LIMITED (ADAS)	UK			
project partner	CONSULAI, CONSULTORIA AGROINDUSTRIAL LDA (CONSULAI)	Portugal			
project partner	Mediterranean Agronomic Institute of Zaragoza / International Centre for Advanced Mediterranean Agronomic Studies (IAMZ-CIHEAM)	Spain			
project partner	STICHTING WAGENINGEN RESEARCH (WR)	Netherlands			
project partner	AARHUS UNIVERSITET (AU)	Denmark			
project partner	KUJAWSKO-POMORSKI OSRODEK DORADZTWA ROLNICZEGO W MINIKOWIE (KPODR)	Poland			
project partner	UNIVERSITA CATTOLICA DEL SACRO CUORE (UCSC)	Italy			
project partner	THE JAMES HUTTON INSTITUTE (JHI)	UK			
project partner	Association de Coordination Technique Agricole (ACTA)	France			
project partner	LINKING ENVIRONMENT AND FARMING LBG (LEAF)	UK			
project partner	INSTITUTO NAVARRO DE TECNOLOGIAS E INFRAESTRUCTURAS AGROALIMENTARIAS SA (INTIA)	Spain			
project partner	INAGRO, PROVINCIAAL EXTERN VERZELFSTANDIGD AGENTSCHAP IN PRIVAATRECHTELIJKE VORM VZW (INAGRO)	Belgium			
project partner	KMETIJSKO GOZDARSKA ZBORNICA SLOVENIJE KMETIJSKO GOZDARSKI ZAVOD MARIBOR (KGZS MB)	Slovenia			
project partner	FUNDACION EMPRESA UNIVERSIDAD GALLEGA (FEUGA)	Spain			
project partner	DJURSLAND LANDBOFORENING (DL)	Denmark			
project partner	VELAS I/S (VELAS)	Denmark			
project partner	PROAGRIA ETELA-SUOMI RY (PROAGRIA)	Finland			
project partner	TEAGASC - AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY (TEAGASC)	Ireland			
project partner	GRUENLANDZENTRUM NIEDERSACHEN/BREMEN E.V. (GLZ)	Germany			
project partner	ASOCIACION DE ORGANIZACIONES DE PRODUCTORES DE FRUTAS Y HORTALIZAS DE ALMERIA (COEXPHAL)	Spain			
project partner	INTERNATIONAL FEDERATION OF ORGANIC AGRICULTURE MOVEMENTS EUROPEAN UNION REGIONAL GROUP (IFOAM)	Sweden			
project partner	JULIUS KUHN-INSTITUT BUNDESFORSCHUNGSINSTITUT FUR KULTURPFLANZEN (JKI)	Germany			
project partner	SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO S ANNA (SSSA)	Italy			
project partner	GEOPONIKO PANEPISTIMION ATHINON (AUA)	Greece			
project partner	EIDGENOESSISCHES DEPARTEMENT FUER WIRTSCHAFT, BILDUNG UND FORSCHUNG (AGROSCOPE)	Switzerland			
project partner	BIOSENSE INSTITUTE - RESEARCH AND DEVELOPMENT INSTITUTE FOR INFORMATION TECHNOLOGIES IN BIOSYSTEMS (BIOSENSE)	Serbia			

Keyword - category

Keyword - category 1	Agricultural production system
Keyword - category 2	Farming practice
Keyword - category 3	Plant production and horticulture

Audiovisual material which is useful and attractive for practitioners (e.g. YouTube link, videos, other dissemination material)

Title/description (in English)	URL
#IPMWORKSInterviews | Virginia Bagnoni & Dimitri Zietti from Italy	https://www.youtube.com/watch?v=22f0Oi2CZm8
#IPMWORKSInterviews | Alice Caselli from Italy | Participatory Monitoring	https://www.youtube.com/watch?v=lDebt9z2KrQ
#IPMWORKSInterviews | Alice Caselli from Italy	https://www.youtube.com/watch?v=wOdjl1t4s1k
#IPMWORKSInterviews | Giovanni Pecchioni & Simone Bensi from Italy | H2020 Project	https://www.youtube.com/watch?v=IwavA6Mzk44
#IPMWORKSInterviews | Bartlomiej Piskorski from Poland | H2020 Project	https://www.youtube.com/watch?v=eg1QO_vOSGk
#IPMWORKSInterviews | Wim Mahieu from Belgium | H2020 Project	https://www.youtube.com/watch?v=6mKNplWHlBQ
#IPMWORKSInterviews | Matti Uotila and Marika Lehtinenom from Finland | H2020 Project	https://www.youtube.com/watch?v=uUTmEbeHCoc
#IPMWORKSInterviews | Florian Farkaš from Serbia | H2020 Project	https://www.youtube.com/watch?v=aK__jiLYJus
#IPMWORKSInterviews | Tom from East of Scotland | H2020 Project	https://www.youtube.com/watch?v=LRMfMZDC9ws
#H2020IPMWORKS | Second Demo-Event of the Portuguese Horticulture Hub	https://www.youtube.com/watch?v=3OYvbz93yLI
#IPMWORKSInterviews | Sergio Hernández from Spain | H2020 Project	https://www.youtube.com/watch?v=u0USQf45BCI
#IPMWORKSInterviews | José Nieto & Esther Molina from Spain | H2020 Project	https://www.youtube.com/watch?v=2YAIsKf-YHc
Hub from Germany | Arable field crops | IPMWORKS	https://www.youtube.com/watch?v=ZnTahhlFCiE
IPMWORKS in a minute: Calypso Picaud | H2020 Project | RCA Occitania in France	https://www.youtube.com/watch?v=zrs1DK0uxHA
IPMWORKS in a minute: David Lafond | H2020 Project | French Wine and Vine Institute	https://www.youtube.com/watch?v=mWEgo2kPF_Y
IPMWORKS in a minute: Per Kudsk | H2020 Project | Aarhus University	https://www.youtube.com/watch?v=l4F-4E62uKY
IPMWORKS in a minute: Eduardo Crisol | H2020 Project | COEXPHAL	https://www.youtube.com/watch?v=k2TXQPCspdM
IPMWORKS in a minute: Nicolas Munier-Jolain | H2020 Project | INRAE	https://www.youtube.com/watch?v=H4Ng-N5tM0Q
IPMWORKS Resource Toolbox | How to use it?	https://www.youtube.com/watch?v=edjtbSN3RBs
IPMWORKS Resource Toolbox | Quick Presentation	https://www.youtube.com/watch?v=MtrPx0XivhQ&t=1s
Hub from Spain | Arable field crops | IPMWORKS	https://www.youtube.com/watch?v=E9y2dW5aYl0
Hub from Netherlands | Outdoor vegetables and arable | IPMWORKS	https://www.youtube.com/watch?v=T0vzb0zBuVM
Hub from Denmark | Arable field crops | IPMWORKS	https://www.youtube.com/watch?v=mAO_0P_KyMA
Hub from Slovenia | Arable field crops, Vineyards & Orchards | IPMWORKS	https://www.youtube.com/watch?v=PV0QARZ5jzI
Hub from Finland | Outdoor vegetables, soft fruits and ornamentals | IPMWORKS	https://www.youtube.com/watch?v=vc4nLkebwM4
Hub from Serbia| Outdoor vegetables, soft fruits and ornamentals | IPMWORKS	https://www.youtube.com/watch?v=sD1w5NnOb7A&t=1s
Hub from United Kingdom | Arable field crops | IPMWORKS	https://www.youtube.com/watch?v=9XZRT4a6bUA
Hub from Italy | Orchards | IPMWORKS	https://www.youtube.com/watch?v=2WXoYkJggU8&t=2s
Capacity building event | IPMWORKS H2020 project	https://www.youtube.com/watch?v=uSQK-D14JP0
Hub from Portugal | Vineyards & Outdoor vegetables, soft fruits and ornamentals | IPMWOR	https://www.youtube.com/watch?v=prPaMXdkxRA
Hub from Spain | Vineyards | IPMWORKS	https://www.youtube.com/watch?v=PjapvAX_9hw
Hub from Spain | Greenhouse Horticulture | IPMWORKS	https://www.youtube.com/watch?v=UgENwbbyYA4
Hub from Italy | Arable field crops | IPMWORKS	https://www.youtube.com/watch?v=G-F7tqxGavI
Hub from Ireland | Arable field crops | IPMWORKS	https://www.youtube.com/watch?v=wTMMEfle5Qg
Hub from Greece | Vineyards | IPMWORKS	https://www.youtube.com/watch?v=hfhZg9QFQF8
Hub from Germany | Arable field crops | IPMWORKS	https://www.youtube.com/watch?v=mhITHn-36zE&t=1s
Hub from Belgium | Outdoor vegetables, soft fruits and ornamentals | IPMWORKS	https://www.youtube.com/watch?v=rAAK6iBUsE4
Hub from Belgium | Greenhouse Horticulture | IPMWORKS	https://www.youtube.com/watch?v=HFLqtxG_o98
The role of Hub Coach | IPMWORKS	https://www.youtube.com/watch?v=7zLqcKrjD7U
#H2020IPMWORKS | First Demo-Event of the Portuguese Viticulture Hub	https://www.youtube.com/watch?v=-CH7y-S7Riw
#H2020IPMWORKS | First Demo-Event of the Portuguese Horticulture Hub	https://www.youtube.com/watch?v=C4-cCd-mruA
#H2020IPMWORKS | Short Presentation	https://www.youtube.com/watch?v=ozNtgqOpcuM
H2020 IMPWORKS at #EUGreenWeek 2021	https://www.youtube.com/watch?v=xv3HinSBgxA

Official website of the project

Title/description	URL
	https://www.ipmworks.net/

Links to other website(s) hosting information on the project (results) that are available after the project has ended, by preference using the existing local/regional/national communication channels that practitioners most often use.

Title/description	URL
IPMWORKS project's platform	https://www.ipmworks.net/
IPMWORKS project's Twitter account	https://twitter.com/H2020IPMWorks
IPMWORKS project's Youtube account	https://www.youtube.com/@ipmworks8141
IPMWORKS project's LinkedIn account	https://fr.linkedin.com/company/h2020ipmworks
IPMWORKS project's Toolbox	https://www.ipmworks.net/toolbox/en/#/

Practice "abstract" 1:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a german arable crops hub - JKI**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** Our hub consists of 10 arable crop farms, which are located inthe federal states of Saxony-Anhalt and Thuringia. The farmers cultivate crops such as: wheat, oilseed-rape, barley, durum, potatoes and sugar beet. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** Our farmers are interested in alternative solutions to herbicide use, for example using modern machinery for mechanical weeding. The farmers are also working towards more effective use of agro-chemicals (e.g. due to modern spray equipment). A positive public attitude on local agriculture is also a motivation for farmers to apply IPM. **DRIVERS** The farmers are concerned about future political decisions, which restrict the use of plant protection products by law. They are interested in a healthy environment and care about associated public concerns. **BARRIERS** The farmers are concerned about extra costs and risks, associated with IPM. A lack of labour led to farmers rejecting certain IPM practices. Farmers are not able to apply certain IPM practices due to dry spring months. A mentality of clean fields is common and hinders a tolerance to negligible crop damages. **IPM Challenges** Strong focus on economic aspects (high yields) by several farmers. Difficult to change mind-set in times of increasing costs (inflation). We tried to make farmers apply more mechanical methods for weeding but high fuel costs and lack of labour made this difficult. Efficient modern machinery (e.g. for mechanical weeding, spraying) requires investment –farmers look for financial support. **Key conclusions** We organized a demo-event on the topic of mechanical weeding where farmers had the opportunity to exchange their experiences on associated machinery and its utilization. A range of modern harrows and hoes were explained and demonstrated in the field. The discussion with arable crop farmers has shown that there are several circumstances which hinder the shift from herbicide use towards mechanical weeding. Mechanical weeding requires more effort in terms of labor and higher costs for machinery and diesel. Moreover the efficiency of the mechanical weed control strongly depends on climate and soil conditions. **Facilitation approaches : Importance of geographical distance among farms** What conclusions can you draw? The large distance between the demo farms is the main issue of our hub, which makes exchange and facilitation difficult. Tips for making it work -Farms need to be selected in close proximity. -The best would be not more than 30 Km distance between the hub members. -Only highly motivated farmers should join the hub. This is crucial for efficient facilitation

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672c6ddf23b65b5b5bf5e8fd

Short title in native	**Unterstützung und Fortschritte in der IPS Anwendung ein Fall von Ackerbau in Deutschland – JKI**
Short summary for practitioners in native language	**DER BETRIEBSVERBUND** Unser Betriebsverbund besteht aus insgesamt 10 Ackerbaubetrieben, in den Bundesländern Sachsen-Anhalt und Thüringen. Die Landwirte bauen zum Beispiel Weizen, Raps, Gerste, Hartweizen, Kartoffeln und Zuckerrüben an. Mit Blick auf den integrierten Pflanzenschutz liegt der Fokus auf der mechanischen Unkrautregulierung. Ziele und Motivationen der Landwirte Unsere Landwirte sind an Alternativen zum Herbizideinsatz interessiert – zum Beispiel modernen Maschinen zur mechanischen Unkrautregulierung. Zudem erhoffen sich die Landwirte einen effektiveren Einsatz von Pflanzenschutzmitteln (z.B. durch moderne Spritztechnik). Eine positive Sicht der Gesellschaft auf die lokale Landwirtschaft ist auch ein Motiv für die Landwirte vermehrt IPS anzuwenden. **ANTRIEB** Die Landwirte sind besorgt über zukünftige politische Entscheidungen, die den Einsatz von Pflanzenschutzmitteln gesetzlich beschränken. Die Landwirte sind an einer intakten Umwelt und gesunden Lebensmitteln interessiert. Sie sorgen sich über entsprechende Bedenken der Gesellschaft. **HINDERNISSE** Die Landwirte fürchten zusätzliche Kosten und Risiken durch die Anwendung von integriertem Pflanzenschutz. Auch der Mangel an Arbeitskräften führt dazu, dass die Landwirte einige IPS Methoden nicht anwenden. Aufgrund von Frühjahrestrockenheit scheuen die Landwirte bestimmte IPS Methoden. Eine Mentalität der sauberen Felder ist weit verbreitet und behindert die Toleranz von nicht gewinnschmälernden Kulturschäden. **IPS Herausforderungen** Einige Landwirte fokussieren sehr stark auf ökonomische Aspekte (hohe Erträge). In Zeiten stark steigender Kosten (Inflation) ist es besonders schwierig diese Einstellung der Landwirte zu ändern. Wir haben versucht die Landwirte dazu zu bewegen mehr mechanische Maßnahmen in der Unkrautregulierung anzuwenden aber hohe Dieselpreise und Arbeitskräftemangel erschwerten es. Effiziente moderne Maschinen (z.B. für die Unkrautregulierung) sind teuer – Landwirte suchen nach finanzieller Unterstützung. **Schlussfolgerung** Wir haben einen Feldtag zum Thema mechanische Unkrautregulierung durchgeführt, bei dem Landwirte die Möglichkeit hatten ihre Erfahrungen über entsprechende Maschinen und deren Einsatz auszutauschen. Eine Vielzahl an moderner Hack- und Striegeltechnik wurde vorgestellt und im Feld getestet. Die Diskussion unter den Landwirten hat gezeigt, dass es einige Faktoren gibt, die es den Landwirten erschweren die Unkräuter vermehrt mechanisch zu regulieren. Mechanische Unkrautregulierung erfordert einen größeren Arbeitszeitbedarf und höhere Mechanisierungskosten. Zudem hängt die Effektivität der Maßnahmen sehr vom Wetter und Zustand des Bodens ab. **Ansätze zur Unterstützung : Bedeutung von räumlicher Distanz zwischen den Betrieben** Unsere Schlussfolgerung Die weiten Distanzen zwischen den Landwirten innerhalb unseres Betriebsverbundes sind das Hauptproblem. Es erschwert Erfahrungsaustausch und beratende Unterstützung. Unsere Verbesserungsvorschläge Betriebe eines Verbundes sollten nicht zu weit voneinander entfernt liegen. Bis zu etwa 30 Kilometer Entfernung untereinander wäre optimal. Es sollten nur hochmotivierte Landwirte dem Betriebsverbund beitreten. Das ist entscheidend für eine effiziente Zusammenarbeit

Practice "abstract" 2:	
Short title	**Facilitation approach and progress made in IPM adoption in a german arable crops hub - GLZ**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** Our farm network consists of a total of 10 grassland farms that also practise arable farming. They are located in East Frisia, a coastal region in north-west Germany characterised by peat- and marshland. In addition to the cultivated permanent grasslands and dairy farming, the farms also grow fodder. With regard to integrated pest management, the focus is on mechanical weed control and preventative PPPs. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** Our farmers are very open to new technical and ecological developments and field-experiments. This includes both mechanical methods, such as rotary hoes or strip-till, and innovative spot spray technology for targeted weed control, as well as interactive, weather-based forecasting models for predicting pests and periods of high infestation pressure. Knowledge generation in relation to IPM also plays a major role, for example in groundwater protection areas. In East Frisia, where sea, marsh and geest meet, groundwater-friendly agriculture is important in order to maintain good groundwater quality. This also applies to information about PPPs and their degradation products in groundwater. **DRIVERS** At European, national and local level, there are constant adjustments and innovations in the area of PPPs. The farmers involved are very interested in the current political framework conditions. Another driver is that sustainable management and, thus, the preservation of agricultural land for future generations is strongly rooted in the farmers' tradition and identification. **BARRIERS+B7** Innovations or associated changes are often associated with high (cost) expenditures. In addition, the current political situation in the agricultural sector is causing a great deal of uncertainty, which is also reflected in current farmer-protests. It is, therefore, not the willingness to change that is an obstacle, but rather the uncertainty associated with operational decisions. **IPM Challenges** Compared to arable farming, only small quantities of PPPs are applied to permanent grassland, if at all. However, certain weeds, such as rumex, pose challenges for farmers. Suitable technical innovations are becoming more and more effective, but are also associated with acquisition costs. **Key conclusions** The farm demos in particular offered discussion and training platforms. Here, peer-to-peer learning has been applied. The invited experts were able to communicate even complicated issues in an understandable way. The simultaneous practical presentations of new technologies increased the learning effect. The network was able to show the participating farms that even though they operate in different locations, they face very similar challenges. This connects to the potential that was communicated to the farmers as part of this project. They have also encouraged each other to test innovations. **Facilitation approaches : Participation formats - realisation of events** What conclusions can you draw? Farmers have a big interest in large machines that can serve as an incentive to take part in an event. A balance between technical and practical content is a prerequisite for keeping the network motivated. Tips for making it work -Start the online event with a teaser. Live-surveys (mentimeter) and similar activating formats are also beneficial. -You can't expect appointments to be confirmed for the long term.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672cb9df23b65b5b5bf5e953

Short title	**Unterstützung und Fortschritte in der IPS Anwendung - GLZ**
Short summary for practitioners in native language	**Der Betriebsverbund** Unser Betriebsverbund besteht aus insgesamt zehn Grünlandbetrieben, die auch Ackerbau betreiben. Sie liegen in Ostfriesland, eine durch Moor- und Marschböden geprägte Küstenregion im Nordwesten Deutschlands. Neben dem bewirtschafteten Dauergrünland und der Milchviehwirtschaft bauen die Betriebe Futtermittel an. Mit Blick auf den integrierten Pflanzenschutz liegt der Fokus auf mechanischer Unkrautregulierung und vorbeugenden PSM. **Ziele und Motivation der Landwirte** Unsere Landwirte sind neuen technischen und ökologischen Entwicklungen und ihrer Erprobung im Feld gegenüber sehr aufgeschlossen. Dies schließt sowohl mechanische Verfahren, wie Rollhacken oder Strip-Till, wie innovative Spot Spray Technik zur gezielten Unkrautbekämpfung, als auch interaktive, wetterbasierte Prognosemodelle zur Vorhersage von Schaderregern und Perioden mit hohem Befallsdruck ein. Zudem spielt auch die Wissengenerierung in Bezug auf IPS eine große Rolle, dies bspw. in Grundwasserschutzgebieten. In Ostfriesland, wo Meer, Marsch und Geest aufeinandertreffen, ist eine grundwasserschonende Landwirtschaft wichtig, um die gute Grundwasserqualität zu erhalten. Dies betrifft auch Aufklärung über PSM und ihre Abbauprodukte im Grundwasser. **ANTRIEB** Auf europäischer, nationaler und kommunaler Ebene gibt es immer wieder Anpassungen und Neuerungen im Bereich PSM. Die beteiligten Landwirte interessieren sich sehr für die aktuellen politischen Rahmenbedingungen. Darüber hinaus besteht ein weiterer Antrieb der Landwirte darin, nachhaltig zu Wirtschaften, um damit den Erhalt der landwirtschaftlichen Flächen für die kommenden Generationen zu sichern. **HINDERNISSE** Innovationen oder damit verbundene Veränderungen sind oftmals mit einem hohen (Kosten-)Aufwand verbunden. Hinzu kommt, dass die momentane politische Lage im landwirtschaftlichen Bereich für viel Unsicherheiten sorgt, die sich auch in den Bauernprotesten widerspiegelt. Somit ist nicht der Wille zur Veränderung ein Hindernis, sondern vielmehr die Unsicherheit, die mit betrieblichen Entscheidungen zusammenhängt. **IPS Herausforderungen** Mit Bezug auf das Dauergrünland werden im Vergleich zum Ackerbau, wenn überhaupt, nur geringe Mengen PSM ausgebracht. Bestimmte Unkräuter, wie der Ampfer, stellen die Landwirte aber vor Herausforderungen. Geeignete technische Innovationen werden immer zielführender, verbinden sich aber auch mit Anschaffungskosten. **Ansätze zur Unterstützung : Beteiligungsformate – Durchführung von Veranstaltungen** Unsere Schlussfolgerung Landwirte haben ein starkes Interesse an großen, landwirtschaftlichen Maschinen. Sie können als Anreiz dienen, an einer Veranstaltung teilzunehmen.

Practice "abstract" 3:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a danish arable crops hub VELAS**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** Our hub consists of 7 arable crop farms, which are located in the Southern of Jutland and Fyn. The farmers cultivate crops such as wheat, rye, oilseed-rape, oat, barley, field bean, spinach for seed, rye grass for seed and red fescue for seed. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** The main objective is to control grass weed without herbicides. Our farmers are interested in alternative solutions to herbicide use, for example late sowing date, increasing spring seed, rotational ploughing, false seed bed etc. The farmers are also working towards more effective use of technologies (e.g., the use of drones and decisions basis based on apps). **DRIVERS** Control of grass weeds (e.g., Italian ryegrass/Lolium multiflorum and Black Grass/Alopecurus myosuroides), in our arable crops as we don't have many herbicides available. Furthermore, a high seed production in Denmark demands a clean grass seed product, which must not be contaminated with other grasses. **BARRIERS** The farmers mainly have winter crops where the weed grass thrive as their growing seasons are similar. Furthermore, the grass has developed resistance to herbicides. Therefore, the farmers need to find other solutions than herbicides; IPM. **IPM Challenges** The farmers have a strong focus on economic aspects (high yields and winter crops). It is a challenge to change the mind-set and the practice to more spring crops and lower yields due to increasing costs (inflation). **Key conclusions** During our demo-events and meetings during the season, we always discuss and exchange experiences on both machinery and crop management practice. We meet in the field and the farmers take turns being the host. From meeting to meeting, we can see the improvement of the IPM-actions on the farms. We also invite guests to come and speak during our meetings. It could be a professional from one of the herbicide corporations or a professor from a university. They tell and show the most up-to date knowledge of IPM and give inspiration to the farmers. **Facilitation approaches : Importance of data and field-trips** What conclusions can you draw? The group were willing to try other methods than herbicides. Especially when we took the test for resistance in the grass weed. It was an eye opener and a call, that we needed to do something different. We can no longer rely on the herbicides to control our problems. Tips for making it work -Show your farmers that you need to do something different (e.g., with the resistance test). -Keep an open dialogue and make sure that they get into the fields and see the problems and especially the solutions with their own eyes. -Also, try to schedule the meetings outside of harvest and sowing-season.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672c7b8523b65b5b5bf5e924

Short title in native	**Faciliteringsmetode og fremskridt i arbejdet med IPM - VELAS**
Short summary for practitioners in native language	**GRUPPEN** Gruppen består af 7 ejendomme med konventionel planteavl, som er lokaliseret I Sønderjylland og på Fyn. Landmændene dyrker hvede, rug, raps, havre, byg, hestebønner, hestebønner, spinat til frø, rajgræs og rødsvingel til frø. Gruppen fokuserer på at reducere mængden af græsukrudt uden at bruge yderligere kemi. **LANDMÆNDENES MÅL OG MOTIVATIONER** Hovedformålet er at bekæmpe græsukrudt uden herbicider. Vores landmænd er interesserede i alternative løsninger til kemi, for eksempel sen såning, mere vårsæd, rotationspløjning, falsk såbed o.l.. De arbejder også henimod en mere effektiv brug af teknologi (f.eks. droner og apps til beslutningsstøtte). **MOTIVATION** Bekæmpelse af græsukrudt (f.eks. italiensk rajgræs og agerrævehale) i vores afgrøder, da vi ikke har særlig mange pesticider til rådighed. Derudover er der en stor produktion af græsfrø I Danmark, som kræver et rent græsfrøprodukt, der ikke må forurenes af andre græsser. **BARRIERER** Landmændene har hovedsageligt vinterafgrøder og her trives græsset, da vinterafgrøderne og græssets vækstsæsoner ligner hinanden. Desuden har græsset udviklet resistens overfor flere herbicer. Landmændene er derfor nødt til at finde andre løsninger end kemien; IPM. **IPM udfordringer** Landmændene har et stort fokus på det økonomiske aspekt (høje udbytter og dermed vinterafgrøder). Det er en udfordring at ændre indstillingen til sædskiftet og praktisere flere vårafgrøder og dermed lavere udbytter holdt op mod stigende omkostninger (inflation). **Nøgle konklusioner** Når vi har mødtes til demo-events og andre møder gennem sæsonen, diskuterer og erfartingsudveksler vi altid de forskellige erfaringer med både maskiner og praktiske ting. Vi mødes I marken og landmændene skiftes til at være vært. Fra møde til møde kan vi se forbedringerne I marken, som kommer fra IPM-tiltagene. Vi inviterer også gæster til at komme og fortælle om spændende emner til vores møder. Det kunne være en fagperson fra et kemi-firma eller en professor fra universitetet. De fortæller og viser den nyeste viden indenfor IPM og giver inspiration til det videre arbejde. **Faciliteringsmetode : Vigtigheden af data og markbesøg** Hvilke konklusioner kan du drage? Gruppen var villig til at prøve andre metoder end kemi. Især da vi tog testen for resistens i græsukrudtet. Det var en øjenåbner og en klar opfordring til at vi skulle gøre noget anderledes. Vi kan ikke længere læne os tilbage, og stole på at kemien kan kontrollere vores ukrudt. Mine tips til at få det til at fungere Vis dine landmænd, at du skal gøre noget anderledes (f.eks. med resistenstesten). Hold en åben dialog og sørg for, at de kommer i marken og ser problemerne og især løsningerne med egne øjne. Prøv også at planlægge møderne udenfor høst- og såsæsonen

Practice "abstract" 4:	
Short title in English	**Facilitation approach and progress made in IPM adoption in an arable danish hub - Djursland Landboforening**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The hub consists of eleven farmers with between 100 and 480 ha. The crop rotations include winter cereals (wheat, rye, barley, triticale), spring cereals (barley, oat), winter oilseed rape, potatoes and grass for seeds. The hub is located in an area with large populations of Italian ryegrass, and grass weed management is the focus of the hub. Most of the farms in the hub have resistant ryegrass issues and many of the farmers have previously participated in a national project on grass weed management. **OBJECTIVES AND MOTIVATIONS OF THE FA•short_sum1RMERS** The farmers are highly motivated to reduce pesticide use in order to reduce the financial expenses and environmental impact. **DRIVERS** Technical, environmental, economical. **BARRIERS** Funding for new technology. The weather can in some seasons be an obstacle of the best IPM approach. Farmers that are IPM reluctant can have a hard time seeing the direct and indirect benefit of the IPM approach, in relation to the finance of a quick fix. **IPM Challenges** Most of the farms in the hub have issues with resistance in ryegrass. IPM is already a well-known concept to the farmers and most of them use several tactics to manage ryegrass problems. The expectation of this project has been to optimize the strategies and increase the knowledge of the seed bank placement and management through soil tillage strategies, conservation agriculture and crop rotations that suppress grass weed emergence. Other tactics used are delayed sowing of winter wheat and competitive varieties. **Key conclusions** Long-term strategies, regarding crop rotation and plant protection. Quick-fix pesticides strategies won't last, you need long-term strategies with a broad perspective. **Facilitation approaches:** What conclusions can you draw? Establishing trust. Mutual respect between the farmer and advisors. Making jokes, and a relaxed atmosphere. Tips for making it work A friendly atmosphere is very important, to make room for all types of Q&A's, when we discuss the issues in the field. Interactive questions, or question polls to start a discussion. Hands-on learning.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/673b55d22893d834d85ea35d

Short title in native	**Facilitering, tilgang og fremgang med IPM tilapsninger en landbrugssag i Danmark [Djursland Landboforening]**
Short summary for practitioners in native language	**THE HUB** Hub'en består af 11 landmænd med mellem 100 og 480 ha jord. Sædskiftet bliver som udgangspunkt kørt med vintersædskorn (hvede, rug, byg og triticale), vårsædskorn (byg og havre), winterraps, kartofler og frøgræs. Hub'en er placeret i område med store populationer af Italiensk Rajgræs, og bekæmpelse af græsukrudt er I focus. De fleste af landmædene i hub'en har resistant Italiensk rajgræs på deres jorde, og mange af dem har tidligere deltaget i nationale bekæmpelsesprojekter mod græsukrudt. **FORMÅL OG MOTIVATION HOS LANDMÆNDENE** Landmændene er yderst motiveret for at reducere pesticidforbruget, de økonomiske omkostninger forbundet med ukrudtsbekæmpelse og miljøeffekten. **INCITAMENTER** Tekniske, miljømæssige og økonomiske. **BARRIERER** Financiering af ny teknologi. Vejret kan I nogle sæsoner være en forhindring til den bedste IPM tilgang. Landmænd, som tøver, kæ•B13n have svært ved at se de direkte og indirekte fordele ved IPM tilgangen, sammenlignet med et quick fix, i forhold til økonomien i det. **IPM Udfordringer** De fleste af landmændene I hub'en har resistent Italiensk rajgræs på deres jorde. IPM konceptet er allerede velkendt hos landmændene, og de bruger flere forskellige bekæmpelsesstrategier. Forventningen til projektet er at kunne være I stand til at optimere strategierne og øge viden omkring frøpuljen og behandling igennem jordbehandlingsstrategier, conservation agriculture principper og sædskifte, der hæmmer græsukrudtsspiring. Andre strategier, som bliver brugt, er sensåning af vinterhvede og konkurrencedygtige sorter. **Nøgle konklusioner** Langsigtede planer, I forhold til sædskifte og plantebeskyttelse. Brug af Quick-fix pesticide strategier vil ikke være holbart. Der er behov for en langsigtede plan, med et bredt perspektiv. **Facilitering** Hvilke konklusioner er der? Etablering af tillid. Gensidig respect mellem landmændene og planteavlsrådgivere. Rolig og humoristisk atmosfære. Mine forslag til at det lykkes: En uformel atmosfære er rigtig vigtig, for at gøre plads til alle typer af spørgsmål og svar, når der var diskussion in marken. Aktiv deltagelse eller spørgsmål til at state en diskussion. Hands-on praktik

Practice "abstract" 5:	
Short title in English	**Facilitation approach and progress made in IPM adoption in an irish arable crops hub - TEAGASC**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The hub consists of 7 farmers located from county Meath, just one hour north of Dublin, along the east coast in counties Kildare, Wexford and south in Tipperary and Cork. There are a variety of different systems in the hub including plough, min-till and direct drill as well as some regenerative systems. Crops grown include, winter wheat, winter barley, winter oats, spring barley, beans, peas winter oilseed rape and potatoes. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** The main objective of the group members has been to reduce the use of pesticides on farm and to try to protect the environment. **DRIVERS** Costs of crop production has increased dramatically in the last decade and one of the main drivers was to try to reduce costs while still maintaining profitability. **BARRIERS** There are a number of barriers including loss of key active ingredients, pest resistance, weather, lack of resistant varieties. **IPM Challenges** Being on the north west of Europe in a maritime climate fungal diseases such as septoria, rynchosporium and net blotch are a challenge to control. Grass weeds such as perennial ryegrass, blackgrass and bromes are also a challenge for Irish growers. Barley Yellow Dwarf Virus can be especially difficult to predict and control particularly in both winter and spring barley. **Key conclusions** A full IPM approach to controlling the key pests and diseases is needed. Chemical pesticides should be the last resort, where possible, to be used to control the various pests. **Facilitation approaches : Importance of data and field-trips** What conclusions can you draw? Farmers like to learn from the experiences of other farmers and are more likely to adopt technology when the see testaments from their peers. Tips for making it work -Be open -Be friendly -Be truthfull

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672c7a8223b65b5b5bf5e91d

Practice "abstract" 6:	
Short title in English	Facilitation approach and progress made in IPM adoption in an arable italian hub – SSSA
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The Hub includes 16 farms, with 2 more farms who joined it during the project, for a total of 18 farms of which 5 are organic farms. The main crop is durum wheat and other winter cereals, then sunflower followed by corn, soybean and chickpea. Forage crops are annual grasslands, Egyptian clover or alfalfa. The average farm size is 260 ha, with a majority of clay-loam soils. No livestock are present. Main concerns are weeds (e.g. resistent Lolium spp.), fungi pests on wheat and chickpea; Agriotes spp., Ostrinia nubilalis and Sesamia spp. on maize and chickpea. Wild fauna damages (wildboars and birds) are very relevant. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** The focus is on weed management, a major concern respect to other pests, especially how to manage resistant Lolium spp. populations in the area. Chemical weeding is showing its limits and is felt as a bis issue since there is a strong pressure from the supply chain to produce with low input/zero residues (e.g. glyphosate-free pasta). Pulses (chickpea, lentil, common bean) are very remunerative crops but a difficult weed management discourage farmers to grow them. Forage crops are a valuable option in rotation but the absence of livestock in the area limit a lot their rentability (and manure is not available for the farmers). Farmers are motivated to find new technical solution for tillage to address weeds, innovations in the durum wheat production affordable in the area to address weed management while keeping high quality standards (new varieties, intercropping, fungi pest control), better pest control to achieve higher quality standards (e.g. Ostrinia nubilalis control for maize), diversifying rotations with new crops to improve IPM and environmental standards. **DRIVERS** Reduction in the number of available products (very relevant on minor crops). Awareness of the limits of chemicals cont•B7•B7rol especially linked to the reliance on few active principles and the risk of resistance. Feeling the urge to innovate with cropping techniques. Awareness of the weakness of their cropping systems due to a too high reliance on durum wheat. Presence of organic farmers in the hub which lead the way to IPM. Awareness of the pressure from the society and from the supply chain. High cost of chemical control (PPPs and distribution). Fluctuating and uncertain sales prices recognized by the supply chain linked to high quality standards to be met. **BARRIERS** Difficulty controlling weeds or other pests, including wild fauna that limit crop choices in the rotations. The knowledge, time, resources and risk required for the implementation of new practices. Unpredictable climatic conditions that limit innovations' success or adoption. Alternatives to PPPs require a heavy workload. Limited rotations put a higher risk pressure on the crops. Low willingness to invest in equipment/knowledge on minor/new crops. **IPM Challenges** -How to lower herbicide use due to the high society and supply chain pressure -How to perform a good mechanical weeding -How to implement on-farm intercropping and cover crops -Find new wheat varieties for organic and conventional farming -Control Ostrinia nubilalis with non-chemical methods to achieve a better maize grain quality and price -Introduce new crops in rotation like fiber hemp -Introduce flower strips thanks to the Eco-scheme 5 paymentKey conclusions -Understand in detail the farmers' cropping systems to learn which barriers are difficult to overcome and where there is room for improvement. This helps to find the hottest topics and discard the others -Openly speak in meetings and demo events about the pros and cons of a certain technique, being honest about the cons -Let farmers who are experts in an IPM technique to explain it to other farmers in public events and give to it a great importance (a well guided peer-to peer learning) -Organise demo events where there is a mix of expert-led oral presentation and open discussion/round table with farmers (doubts have to be expressed) -Many farmers are eager to host field trials. Find time and resources to do it and be open to always look for new farms (rotate farmers) -Field trials and field visits are essential to build trust between the hub coach and the farmers (spend time to observe together and to listen) **Facilitation approaches: How to address weed control in a holistic way?** What conclusions can you draw? My role was mainly to bring together farmers and make a friendly environment to let farmers express themselves. Individual actions during field visits/field trials were to listen the problems and to suggest some solutions, leaving the final decision to the farmer. These actions helped in building trust between the hub coach and the farmers.short_sum_en1 Tips for making it work An important feature is to find the topics to address the issue in order to choose the most interesting demo events to be organized. The co-design with the hosting farmer is important get interesting results and practical insights from field trials. Listen and let farmers express their doubts and feelings on the topic also through voting anonymously (e.s. Mentimeter voting) can give non-biased opinions.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/674d9af22893d834d85ea422

Short summary for practitioners in native language	**LA RETE** La rete include 16 aziende, con 2 aziende che si sono unite nel corso del progetto, per un totale di 18 aziende delle quali 5 biologiche. La coltura principale è il frumento duro e altri cereali autunno-vernini, poi girasole seguito da mais, soia e cece. Le colture foraggere sono erbai annuali, trifoglio alessandrino o medica. La dimensione aziendale media è 260 ha, con una prevalenza di suoli di medio impasto-argillosi. Non sono presenti animali allevati. Le avversità principali sono le infestanti (es. Lolium spp. resistente), malattie fungine del frumento e del cece; Agriotes spp., Ostrinia nubilalis e Sesamia spp. su mais e cece. Danni importanti da fauna selvatica (cinghiali e uccelli). **OBIETTIVI E MOTIVAZIONI DEGLI AGRICOLTORI** L'attenzione principale è sulla gestione delle infestanti, specialmente come gestire le popolazioni di Loietto resistente (Lolium spp.) nella zona. Il diserbo chimico sta mostrando i suoi limiti ed è una grande preoccupazione dal momento che c'è una forte pressione da parte della filiera per produrre sostenibile o con residuo zero (es. pasta senza glifosate). I legumi da granella per il consumo umano (cece, lenticchia, fagiolo) sono molto remunerativi ma una difficile gestione delle infestanti scoraggia gli agricoltori. Le colture foraggere sono una buona opzione ma l'assenza di animali allevati limita la loro redditività (e le deiezioni non sono a disponibili). Gli agricoltori sono motivati a trovare nuove soluzioni tecniche per la lavorazione del terreno per controllare le infestanti, innovazioni nella coltivazione del frumento duro per contrastare le infestanti mantenendo alti standard di qualità (nuove varietà, consociazioni, controllo delle malattie fungine), migliore controllo dei parassiti per raggiungere standard di qualità più alti (es. controllo di Ostrinia nubilalis su mais), diversificare le rotazioni con colture nuove per migliorare l'IPM e i parametri ambientali. **OPPORTUNITA'** Riduzione nel numero di principi attivi disponibili (importante sulle colture minori). Consapevolezza dei limiti del controllo chimico collegato alla dipendenza da pochi principi attivi e al rischio di resistenze. Sentire il bisogno di innovare le tecniche colturali. Consapevolezza della debolezza dei sistemi colturali dovuta alla dipendenza dal frumento duro in rotazione. Presenza di agricoltori biologici nella rete, potenziali pionieri dell'IPM. Consapevolezza della pressione dalla società e dalla filiera. Alto costo del controllo chimico (acquisto formulati e loro distribuzione). Prezzi incerti riconosciuti dalla filiera collegati ad alti standard di qualità da raggiungere. **LIMITI** Difficile controllo delle infestanti e delle altre avversità inclusa la fauna selvatica che limita le scelte in rotazione. La conoscenza necessaria per mettere in pratica nuove tecniche (servono tempo e risorse, sono rischiose). Clima imprevedibile che limita il successo o l'adozione delle innovazioni. Le alternative ai mezzi chimici necessitano di un carico di lavoro troppo elevato. Rotazioni strette mettono più a rischio le colture. Bassa motivazione a investire in attrezzature/conoscenze su colture minori o nuove.

Sfide nell'IPM
-Come ridurre l'uso di erbicidi vista la forte pressione della società e della filiera
-Come eseguire un diserbo meccanico efficace
-Come mettere in pratica in azienda le consociazioni e le colture di copertura
-Trovare nuove varietà per l'agricoltura biologica e convenzionale
-Controllare Ostrinia nubilalis con metodi non chimici per raggiungere uno standard di qualità e un prezzo più alto
-Introdurre nuove colture in rotazione come la canapa da fibra
-Introdurre le strisce fiorite grazie al pagamento dell'Ecoschema 5.

Conclusioni chiave
-Comprendere nel dettaglio i sistemi colturali degli agricoltori per imparare quali sono i limiti difficili da superare e dove invece c'è spazio per migliorare. Questo aiuta a trovare i temi più caldi e scartare gli altri.
-Parlare apertamente in riunioni ed eventi dimostrativi dei pro e contro di una certa tecnica, rimanendo onesti sui contro.
-Permettere agli agricoltori che sono esperti in una tecnica IPM di spiegarla ad altri agricoltori in pubblico e dargli importanza (un apprendimento tra pari ben guidato)
-Organizzare eventi dimostrativi nei quali ci sia un mix di relazioni orali di esperti e discussioni aperte/tavole rotonde con gli agricoltori (i dubbi vanno espressi)
-Molti agricoltori desiderano ospitare prove in campo. Trovare il tempo e le risorse per farle ed essere aperti a trovare nuove aziende (ruotare gli agricoltori)
-Le prove in campo e le visite in campo sono essenziali per costruire fiducia reciproca tra il facilitatore (Hub Coach) e l'agricoltore (passare del tempo a osservare insieme e ad ascoltare).

Approcci di facilitazione : Come affrontare la gestione delle infestanti in maniera olistica?
Quali conclusion puoi trarre?
Il mio ruolo è stato principalmente di mettere assieme gli agricoltori e di creare un ambiente informale per fare esprimere liberamente gli agricoltori. Le azioni individuali durante le visite in campo/prove in campo erano di ascoltare i problemi e suggerire qualche soluzione, lasciando la decisione finale all'agricoltore. Queste azioni hanno aiutato a costruire fiducia tra il facilitatore (Hub Coach) e gli agricoltori.
I miei consigli per farlo funzionare
Una caratteristica importante è trovare gli argomenti in modo da scegliere gli eventi dimostrativi più interessanti da organizzare. La pianificazione condivisa con l'agricoltore ospitante è importante per avere risultati interessanti ed evidenze pratiche dalle prove in campo. Ascoltare e lasciare che gli agricoltori esprimano i loro dubbi e sensazioni anche con votazioni anonime (es. votazioni con Mentimeter) può dare opinioni non distorte.

Practice "abstract" 7:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a polish arable crops hub - KPODR**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** -15 farms in the Polish IPMWORKS network -2 organic farms, 13 conventional farms -mainly cereal crops (wheat, triticale, rye), maize, oilseed rape and legumes, sugar beet. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** -Reduction in the use of plant protection products, -Alternative methods of plant protection, -Reduction of production costs with unchanged yields, -Innovation, agriculture 4.0. **DRIVERS** -Desire to increase farm profits -Increasing the number of biotypes resistant to active substances -Social pressure to protect the environment -Increased social awareness of healthy food. **BARRIERS** -The need to use technically advanced machinery -Risk of crop failure -Low effectiveness of alternative plant protection products (technical, environmental, economic, social). **IPM Challenges** -Reduction of pesticides use -alternative methods in cultivation and plant protection -increase in profitability of production -doubts about the effectiveness of alternative methods. **Key conclusions** -Appropriate relationship building between farmers in the hub -Actively listening and obtaining information -Motivating farmers in the hub for IO activities -Organising work and managing time appropriately -Looking for new solutions -Organising meetings and demonstrations
	Facilitation approaches : Workshops and lectures to implement mechanica+BII weed control What conclusions can you draw? -mechanical weed control can be as effective as the use of herbicides -reduced use of pesticides . Tips for making it work -raising farmers' awareness of weed infestation in crops -demonstrations of non-chemical weed control on demonstration farms and in experimental plots.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672de08123b65b5b5bf5e97c

Short title in native	**Podejścia ułatwiające i postępy w przyjmowaniu IPM - KPODR**
Short summary for practitioners in native language	**HUB** -15 gospodarstw w sieci IPM WORKS -2 gospodarstwa ekologiczne, 13 gospodarstw konwencjonalnych -głównie uprawa zbóż (pszenica, pszenżyto, żyto), kukurydzy, rzepaku oraz roślin strączkowych, buraki cukrowe **CELE I MOTYWACJE ROLNIKÓW** -ograniczenie użycia sor, -alternatywne metody ochrony roślin, -obniżenie kosztów produkcji przy niezmiennym plonowaniu, -innowacyjność, rolnictwo 4.0 **PRZYCZYNY** -chęć zwiększenia zysków gospodarstwa -zwiększająca się liczba biotypów odpornych na substancje czynne -nacisk społeczeństwa na ochronę środowiska -większa świadomość społeczeństwa o zdrowej żywności **BARIERY** -konieczność użytkowania zaawansowanych technicznie maszyn -ryzyko niepowodzenia uprawy -niska skuteczność alternatywnych sor -(techniczne, środowiskowe, ekonomiczne, społeczne) **Wyzwania IPM** -zmniejszenie używania sor -metody alternatywne w uprawie i ochronie roślin -zwiększenie opłacalności produkcji -zwątpienie w skuteczność alternatywnych metod **Kluczowe wnioski** -odpowiednie budowanie relacji między rolnikami w hubie -aktywne słuchanie i zdobywanie informacji -motywowanie rolników w hubie do działań na rzecz IO -organizacja pracy i odpowiednie zarządzanie czasem -poszukiwanie nowych rozwiązań -organizowanie spotkań oraz demonstracji
	Podejścia ułatwiające : Niechemiczne metody zwalczania chwastów Jakie wnioski można wyciągnąć? -mechaniczne zwalczanie chwastów może być równie skuteczne jak stosowanie herbicydów -zmniejszenie zużycia sor Moje wskazówki, jak sprawić, by to zadziałało -zwiększenie świadomości rolników na temat zachwaszczenia w uprawach -pokazy nie chemicznego zwalczania chwastów w gospodarstwach demonstracyjnych i na poletkach doświadczalnych

Practice "abstract" 8:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a spanish arable crops hub / INTIA**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB+B6** Our hub consists of 10 arable crop farms, which are located in Valdorba, Navarra. The farms are conventional and cultivate crops such as: wheat, barley, oilseed- rape, vetch, grain beans and peas etc. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** Trying to reduce and optimize the use of pesticides but maintaining high productivity and profitability. **DRIVERS** Farmers are optimising the use of pesticides and improving the management of their farm every year. **BARRIERS** -Uncontrolled climate problem (Risk of crop loss) -Fear of not succeeding. **IPM Challenges** -Hub members learning to practice rotations with different soil management -To raise awareness of IPM techniques and the implication of these to people outside the field (e.g. reduction of pesticides and input optimization). **Key conclusions** We believe that the sharing of successes and failures in the application of different techniques is a key point within the hub. As well as field visits and each farmer's own experiences, they can serve to encourage others to apply more innovative methods. **Facilitation approaches : Conservation agriculture** What conclusions can you draw? The annual seeds of Lolium remain on the soil surface. If we manage not to sow them (no surface tillage), the seed bank will decrease. Tips for making it work -To explain and show the development of the technique -Periodic visits to plots to see the evolution

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672c7caf23b65b5b5bf5e931

Short title in native	**Enfoque de facilitación y avances en la adopcion de IPM - INTIA**
Short summary for practitioners in native language	**EL GRUPO / HUB** Nuestro centro está formado por 10 explotaciones de cultivos extensivos, situadas en la Valdorba, Navarra. Los agricultores trabajan en convencional y se dedican a cultivos como: trigo, cebada, colza, veza, judía y habas grano, etc. **OBEJTIVOS Y MOTIVACIONES DEL SECTOR** Intentar reducir y optimizar el uso de fitosanitarios pero manteniendo una productividad y rentabilidad elevadas **IMPULSOS** Los agricultores optimizan el uso de fitosanitarios y mejoran cada año la gestión de sus explotaciones **BARRERAS** Condiciones climáticas que no se pueden controlan que suponen una perdida de cosecha Miedo a probar nuevas técnicas y no tener éxito **Retos IPM** -Que los miembros del Hub aprendan a realizar rotaciones con diferentes manejos del suelo -Dar a conocer las técnicas de GIP y su implicación a personas ajenas al campo (por ejemplo, reducción de pesticidas y optimización de insumos) **Conclusiones clave** Creemos que la puesta en común de los éxitos y fracasos de la aplicación de distintas técnicas es un punto clave dentro del hub. Al igual que las visitas a campo y las experiencias propias de cada agricultor, ya que pueden servir para animar a otros a realizar métodos más novedosos **Enfoques de facilitación : Agricultura de conservación** ¿Qué conclusions se extraen? Las semillas anuales de Lolium permanecen en la superficie del suelo. Si conseguimos no sembrarlas (sin laboreo superficial), el banco de semillas disminuiría Mis consejos para hacer que funcione -Explicar y mostrar el desarrollo de la técnica. -Visitas periódicas a las parcelas para ver la evolución

Practice "abstract" 9:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a serbian arable crops hub // BIOSENSE**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The HUB consist of 10 farmers in the northern part of Serbia, producing potato and other vegetable crops mainly on sandy lands. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** Farmers are actively seeking ways to reduce the need for chemical pest control and are embracing Integrated Pest Management (IPM) practices with enthusiasm. Their efforts encompass a broad spectrum of strategies, including im•B8plementing specific pruning techniques, exploring mechanical solutions, managing landscapes and biodiversity, and adopting alternative natural products. This multifaceted approach underscores their strong commitment to sustainable and environmentally conscious farming practices. **DRIVERS** Farmers growing potatoes are also deeply committed to sustainable farming practices. Similar to tomato growers, they recognize the environmental challenges associated with heavy reliance on phytosanitary treatments. This includes potential environmental impacts, the development of pest resistance, and regulatory constraints. Therefore, potato farmers are actively exploring and adopting Integrated Pest Management (IPM) strategies. These strategies often include cultural practices, such as crop rotation and planting disease-resistant varieties, as well as biological controls and the use of natural products. **BARRIERS** Farmers are hesitant to explore more expensive methods due to fears of potential losses, especially in a region prone to frequent rainfall. With fungal diseases posing significant challenges, their cautious approach underscores a preference for established and dependable strategies. **I**PM Challenges The climate is ideal for cereal and potato diseases, with limited local trial data available on alternative control methods. There is a narrow timeframe for establishing cover crops, and grass weed issues are escalating in direct drill systems. **Key conclusions** Interpersonal skills cultivate strong relationships with stakeholders, promoting trust and cooperation essential for sustainable agricultural development. Overall, these soft skills enhance the hub's ability to manage issues effectively, fostering resilience and innovation in agricultural practices. Demonstrations focused on decision support systems (DSS) aim to ensure applications occur only when necessary, rather than following a fixed calendar. However, farmers express reluctance to fully trust these models, underscoring the difficulty of refraining from preventive measures when mildew poses a persistent threat with potential irreversible effects on plants. **Facilitation approaches : Difficulty in engaging farmers** What conclusions can you draw? Effective planning plays a critical role, especially when farmers need to quickly adjust to weather conditions, prompting changes in their schedules. Tips for making it work -Field walks are crucial for farmers to engage directly with crops, fostering hands-on learning and comparison beyond mere observation. -Building trust between farmers and advisors is pivotal, creating a collaborative environment where open communication and joint decision-making support sustainable farming practices and ongoing agricultural advancements.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/6731c0ed23b65b5b5bf5e99a

Short title in native	**Facilitacija i napredak u usvajanju IPM–a u srpskom čvorištu ratarskih kultura – BIOSENSE**
Short summary for practitioners in native language	**HUB** HUB se sastoji od 10 poljoprivrednika u severnom delu Srbije koji proizvode krompir i druge povrtarske kulture, uglavnom na peskovitim zemljištima. **CILJEVI I MOTIVACIJE** Poljoprivrednici aktivno traže načine da smanje potrebu za hemijskom kontrolom štetočina i sa entuzijazmom prihvataju prakse integralne zaštite bilje (IPM). Njihovi napori obuhvataju širok spektar strategija, uključujući implementaciju specifičnih tehnika orezivanja, istraživanje mehaničkih rešenja, upravljanje pejzažom i biodiverzitetom, i usvajanje alternativnih prirodnih proizvoda. Ovaj višestruki pristup naglašava njihovu snažnu posvećenost održivim i ekološki svesnim poljoprivrednim praksama. **POKRETAČI** Poljoprivrednici koji gaje krompir su duboko posvećeni održivim poljoprivrednim praksama. Slično uzgajivačima paradajza, oni prepoznaju ekološke izazove povezane sa velikim oslanjanjem na fitosanitarne tretmane. Ovo uključuje potencijalne ekološke rizike, razvoj otpornosti štetočina i regulatorna ograničenja. Stoga poljoprivrednici krompira aktivno istražuju i usvajaju strategije integralne zaštite bilja (IPM). Ove strategije često uključuju kulturne prakse kao što su rotacija useva i sadnja sorti otpornih na bolesti, kao i biološke kontrole i upotrebu prirodnih proizvoda za zaštitu. **PREPREKE** Poljoprivrednici su nevoljni da istražuju skuplje metode zbog straha od potencijalnih gubitaka, posebno u regionu sklonim čestim padavinama. S obzirom na to da gljivične bolesti predstavljaju značajne izazove, njihov oprezan pristup naglašava preferenciju za uspostavljene i pouzdane strategije. **Izazovi IPM-a** Klima je idealna za bolesti žitarica i krompira sa ograničenim lokalnim podacima o alternativnim metodama kontrole. Postoji uski vremenski okvir za uspostavljanje pokrovnih useva, a problemi sa korovima rastu u sistemima direktne setve. **Zaključci** Interpersonalne veštine razvijaju jake odnose sa zainteresovanim stranama, promovišući poverenje i saradnju koja je ključna za održivi razvoj poljoprivrede. Sveukupno, ove meke veštine poboljšavaju sposobnost hub-a da efikasno upravlja problemima, podstičući otpornost i inovacije u poljoprivrednim praksama. Demonstracije fokusirane na sisteme podrške u odlučivanju (DSS) imaju za cilj da osiguraju primenu samo kada je potrebno, a ne po fiksnom kalendaru. Međutim, poljoprivrednici izražavaju nevoljnost da potpuno veruju ovim modelima, naglašavajući teškoću uzdržavanja od preventivnih mera kada plamenjača predstavlja stalnu pretnju sa potencijalno nepovratnim efektima na biljke. **Facilitatie benaderingen : Teškoće u angažovanju poljoprivrednika** Kakve zaključke možete izvući? Efikasno planiranje igra ključnu ulogu, pogotovo kada poljoprivrednici brzo moraju da se prilagode vremenskim uslovima, što može dovesti do promena u njihovim rasporedima. Saveti za uspeh hub-a -Demo događaji su ključni za poljoprivrednike kako bi direktno učestvovali u radu sa usevima, podstičući praktično učenje i upoređivanje koje ide dalje od običnog posmatranja. -Izgradnja poverenja između poljoprivrednika i savetnika je ključna, stvarajući saradničko okruženje gde otvorena komunikacija i zajedničko donošenje odluka podržavaju održive poljoprivredne prakse i stalni napredak u poljoprivredi.

Practice "abstract" 10:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a scotish arable crops hub - JHI**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** -8 active members+ 4 associate members -Arable/Mixed farms Barley, Wheat, WOSR, Potatoes are main crops grown. **OBJECTIVES AND MOTIVAT+B7IONS OF THE FARMERS** -Reducing inputs whilst maintaining outputs -Viable business model for production providing multiple benefits -Alternative and novel technologies to improve efficiency or effectiveness. **DRIVERS** -Quality Assurance schemes pushing for greater justification of applications -Financial insecurity with fluctuating input and commodity prices -Aim to stabilise peak sand troughs by controlling costs -Reduced effective options for chemical control, look to new approaches/tech. **BARRIERS** -Maritime climate-short weather windows, long growing season -Limited market options and varietal choice-malting barley dominates -Risk associated with change -opportunity cost and capital investment -Any methods which reduce efficiency or require more labour are problematic. **IPM Challenges** Climate perfect for cereal and potato diseases Limited local trial data on alternative control options Short window for cover crop establishment Build up of grass weed problems in direct drill systems. **Key conclusions** Understanding context of each members' farming system is key to understanding where gains in efficiency can be made with an integrated management approach. The intricacies and nuances relative to each farm must be addressed in order to achieve the best outcomes. It is important to build trust between the hub coach and the farmer in order for uptake of new ideas. One to one meetings, surveys and in-field comparisons can help to bring these new ideas to life. An idea sparked from conversation can be tested as an in-field comparison providing on-farm validation, which informs the decision-making process. **Facilitation approaches : Importance of data and field-trips+B1** What conclusions can you draw? We have identified areas where gains can be made with benefit to farm profitability, biodiversity and lower reliance on PPP's, e.g. companion crops, biostimulants But other areas which seemed promising did not translate into a benefit, therefore justifying some traditional practices as best fit e.g. rotational ploughing. Tips for making it work - Field walks are great tools for farmers not just to 'see' a crop but to 'feel' a crop for comparison - Handouts and videos allow us to reach a wider audience beyond a single demo event - Trust between farmer and advisor is of paramount importance;

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672c6ecb23b65b5b5bf5e90a

Practice "abstract" 11:	
Short title in English	**Facilitation approach and progress made in IPM adoption in an arable dutch hub - WUR**
Short summary for practitioners in englich on the (final or expected) outcomes: (1000-1500 characters, word count - no spaces). *Do not complete if the summary below is completed in English*	**THE HUB** Approximately 20 farms participate in the hubs. Five from the central province of Flevoland (clay) and 15 from the southern province of Noord Brabant (sand). One of the participating farms combines organic and conventional cultivation. All other participating farms are conventional. In the Netherlands, IPMWorks cooperates with NPPL, a national project on precision agriculture to the benefit both projects. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** The participating farmers are forerunners. They are intrinsically motivated to help develop more durable forms of arable production, economically, environmentally and socially. Introduction of IPM in arable production was started already many years ago. Both arable production and IPM are however complex. Stable introduction of IPM at farm level therefore is a slow, stepwise and complex process. The participating farmers are happy to demonstrate their successes and discuss the problems encountered for the benefit of the sector. **DRIVERS** Farmers understand that their future perspective depends on innovation towards durability. Within the Dutch framework of high tech farming they naturally search for technical solutions such as robot weeding and precision spraying. Agroecological solutions to pest, disease and weed problems, such as wider rotations, banker plants and biological control are becoming increasingly integrated to come to true, integrated, IPM solutions. Yield and economic return remain as important drivers but environmental impact and biodiversity now also create added value for the farmer, the environment and the local community. **BARRIERS** Farmers operate within the constraints of economic viability. As a result, they are critical towards new, often riskier, more data and knowledge intensive methods. IPM solutions thus also have to be reliable and robust in an environment of continuously changing weather conditions and climate change. In addition, the ever-changing rules and regulations hamper investment in future proof methods and technology. **IPM Challenges** An enquiry early in the IPMWorks project resulte+B6d in two main challenges: •Weed control in onion, carrots and other fine-seeded crops: Weed control in these crops is heavily dependent on soil herbicides. Most of the active ingredients herein are on the EU list of Candidates for Substitution (CfS) making it likely that availability will be discontinued in the near future. Alternative control methods are urgently needed. •Control of aggressive foliar diseases: Disease control of Cercospora spp. in sugar beet and Phytophthora infestans in potato depends on CfS fungicides (Cercospora) or highly frequent applications (Phytophthora). Solutions include cultivation of more resistant cultivars but the risk of pathogen populations breaking host resistances must be carefully managed to ensure future durability of this IPM solution. **Key conclusions** The introduction of IPM in arable production systems is complex. In addition, economic constraints cause farmers to be risk averse. Forerunner farmers are intrinsically motivated to help develop more sustainable production methods. They also have the skills, tools and knowledge to serve as examples for their colleagues. As a result, introduction of reliable and robust IPM methods for weed, disease and pest control is a slow and lengthy process that started many years ago and will continue far into the future. Farmer collaboration, facilitated and supported by experts, in hubs, sharing knowledge, ideas and experience is of critical importance to the successful implementation of IPM. **Facilitation approaches: How do we sustainably manage late blight in potatoes?** What conclusions were drawn? •Host resistance is a very effective and valuable tool to control pests and diseases. •Availability of genetic resources conferring host resistance may be limited. •Additional knowledge and tools are necessary to allow for sustainable deployment of host resistance. •Preventing pathogen adaptation must be taken into account as part of any durable IPM solution for pest, disease and weed control. •Durability of control is found in the integration of control tools from all five pillars of IPM. My tips for making it work: •Seeing is believing, real life demonstrations are the most effective tools to share knowledge and experience. •Add a social event to any technical demonstration or workshop. A shared lunch or a drink stimulates discussion and knowledge sharing. •Farmers live and plan by the day. Take this into account when planning meetings/demo's but don't be disappointed when only a few show up, e.g. during harvest time. •Combine technical and ecological demos. Big machines more easily draw a crowd.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/673b571f2893d834d85ea376

Short summary for practitioners in native language (*can be the language of the coordinator / one of the partners - otherwise in English*) (1000-1500 characters, word count - no spaces).	**De hub** De Nederlandse akkerbouw hub omvat ongeveer 20 deelnemende bedrijven. Vijf bedrijven uit Flevoland (klei) en 15 uit Noord Brabant (zand). Een van de deelnemende bedrijven combineert gangbare en biologisch akkerbouw. De overige deelnemers bedrijven gangbare akkerbouw. In Nederland werkt IPMWorks, tot wederzijds voordeel, o.a. samen met NPPL, een langlopend nationaal project over precisie-akkerbouw. **Doelstelling en motivatie van de deelnemers** De deelnemende telers zijn zonder uitzondering "voorlopers", intrinsiek gemotiveerd om bij te dragen aan ontwikkeling van een duurzamere akkerbouw m.b.t. productie, economie, milieu en maatschappij. De stabiele introductie van IPM op de bedrijven is een langzaam, stapsgewijs proces wat lang geleden al is ingezet. Zowel de akkerbouw als IPM zijn echter complex. De introductie van IPM profiteert daarom enorm van een brede uitrol waarbij de resultaten ook breed gedeeld worden. IPMWorks demonstraties bij deelnemers werden daarom ook zeer gewaardeerd als basis voor IPM introductie op het eigen bedrijf. **Motivatie** Telers begrijpen dat de toekomst van hun bedrijven afhankelijk is van verduurzaming. Binnen de Nederlandse "high tech landbouw" bestaat bij innovatievraagstukken een natuurlijke affiniteit met technische oplossingen zoals robot-wieden en precisiespuiten. Agro-ecologisch componenten van ziekte-, plaag- en onkruidbeheersing dragen echter ook meer en meer bij aan een volledig geïntegreerde IPM aanpak. Opbrengst en met name saldo blijven vanzelfsprekend leidend maar milieubelasting en biodiversiteit creëren ook steeds meer toegevoegde waarde. **Belemmeringen** Akkerbouwbedrijven opereren binnen de grenzen gesteld door de economische levensvatbaarheid van het bedrijf. Deelnemers zijn daarom van nature kritisch t.o.v. nieuwe, kennis- en data-intensieve en vaak riskantere, gereedschappen en methoden. Een IPM aanpak moet daarom evenzeer betrouwbaar en robuust zijn binnen de continu veranderende omgeving waarin de akkerbouw opereert. **IPM Uitdagingen** Een enquête bij de start van IPMWorks resulteerde in 2 prioritaire uitdagingen: •Onkruidbeheersing in ui, peen en andere fijnzadige gewassen: Onkruidbeheersing in fijnzadige gewassen is sterk afhankelijk van bodemherbiciden. De meeste van de betreffende actieve stoffen staan echter op de EU lijst met "Candidates for Substitution" (CfS). Alternatieve methoden voor onkruidbeheersing in deze gewassen zijn daarom dringend noodzakelijk. •Beheersing van agressieve schimmelziektes: Beheersing van Cercospora spp. in suikerbiet is afhankelijk van CfS fungicides. Beheersing van Phytophthora infestans in aardappel is afhankelijk van zeer frequente bespuitingen. IPM oplossingen voor beide ziektes bouwen met name op de teelt van resistentere rassen. Erosie van waardplantresistentie ligt echter op de loer en moet uitdrukkelijk in de IPM strategie getackled worden om duurzaamheid van de IPM oplossing te waarborgen. **Conclusies** Introductie van IPM in de akkerbouw is, evenals de akkerbouw zelf, complex. Telers zijn, vanuit economisch perspectief, vaak enigszins terughoudend t.o.v. IPM oplossingen, zeker als die nieuwe risico's met zich meebrengen. Voorlopers, zoals de IPMWorks deelnemers, zijn intrinsiek gemotiveerd mee te bouwen aan nieuwe, duurzame akkerbouwsystemen. Introductie van IPM-gewasbescherming is een langzaam proces van vallen en opstaan. De transitie is echter jaren geleden al ingezet en begint vruchten af te werpen. Samenwerking en uitwisseling van kennis tussen telers (zoals binnen IPMWorks) is van crucial belang voor een succesvolle adoptie van IPM gewasbescherming.

Facilitatie : Hoe beheersen we Phytophthora op een duurzame manier?

What conclusions were drawn?

•Waardplantresistentie is zeer waardevol voor duurzame beheersing van Phytophthora.
•Het aantal verschillende resistentiegenen is helaas beperkt tot 6-8.
•Telers hebben extra kennis en gereedschap nodig om waardplantresistentie duurzaam te kunnen gebruiken.
•Preventie van adaptatie van de pathogeenpopulatie moet een vast onderdeel zijn van elke IPM beheersingsstrategie.
•Duurzaamheid van IPM beheersing neemt toe naarmate meer IPM pilaren betrokken worden en meer fases van de levenscyclus worden geraakt.

Tips:

•Zien is geloven, demonstraties op de deelnemende bedrijven zijn zeer effectief als methode van overdracht van kennis en ervaring.
•Een "borrel" of lunch als onderdeel van het demo-programma simuleert zowel deelname, discussie als kennisoverdracht.
•Telers plannen op basis van het seizoen, het weer en de weersverwachting. Ga hierin mee voor de planning van (demo) activiteiten.
•Combineer technische en agro-ecologische aspecten in dezelfde demo. Machines en technische oplossingen hebben een streepje voor.

Practice "abstract" 12:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a belgian vegetable crops hub / INAGRO**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** Around 11 companies are involved in the hub processes. They often combine zucchini activities with other labour intense vegetables like Brussel sprouts and leek, but also arable crops like potato, maize and wheat. All members are located not far from the Inagro field station. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS+B11** The main objective of the growers is to improve their IPM-strategy so they can have a sustainable and profitable crop production system. They want to limit the use of insecticides and fungicides on their product. Furthermore, they are eager to learn from each other and exchange knowledge so they can find solutions. **DRIVERS** The local good soils, knowledge and logistic opportunities are used to grow great vegetables for the internal market and export. Family driven farms are still at the heart of this, but a shift towards specialisation and expansion has been going on for a couple of decades. Competition for land use and the intensity of the specific higher value crops provide challenges towards sustainability and pesticide use. **BARRIERS** For the hub members growing zucchini in spring and autumn, they are facing the meteorological risk factors of cold and cloudy days. This means lower pollination activity and higher disease risks. Other barriers are climate change with more dry seasons, making planting conditions in summer more difficult. Wetter autumns make it more difficult to sow catch crops on time. **IPM Challenges** At the start of the hub formation, the following IPM Challenges were identified: Pollination, proportion of male flowers, Fruit setting, Aphids (mainly because of virus), Promote beneficial insects, Crop cover and mulch materials, Variety choice, Planting material/output material, Harvest hygiene, Climate (under cover), Pesticide choices, disease control, Spraying technique, Watering and irrigation technique, Water management, Weed control, Sustainability of the cultivation. **Key conclusions** -Organizing growers in a hub is not an easy task.B -Trust in the hub coach and objective information is key. -Farmers are more reluctant to experiment themselves if a trial station is nearby. -Setting and selecting demos on the field station for (open air) horticulture is still a strong means of innovating and education. **Facilitation approaches : Importance of data and field-trips** What conclusions can you draw? Exchanges cross borders are an inspiration to try new things. It also gives farmers the opportunity to reflect on their business and adhere to the larger European community. Tips for making it work Try to use facilitation to get free samples or material for the farmers so they can test with minimal financial effort. This will leverage on farm experimentation.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672c703823b65b5b5bf5e910

Short title in native	**Facilitie aanpak en vooruitgang in IPM adoptie – INAGRO**
Short summary for practitioners in native language	**DE HUB** Ongeveer 11 bedrijven zijn betrokken bij de hub. Ze combineren de courgetteteelt vaak met andere arbeidsintensieve groenten zoals spruitkool en prei, maar ook akkerbouwgewassen zoals aardappel, maïs en tarwe. Alle leden wonen niet ver van het Inagro proefstation. **DOELSTELLINGEN EN MOTIVATIE VAN DE TELERS** Het belangrijkste doel van de telers is om hun IPM-strategie te verbeteren, zodat ze hun gewassen duurzaam en economisch kunnen telen. Ze willen een beperkt gebruik van insecticiden en fungiciden op hun product. Verder willen ze graag van elkaar leren en kennis uitwisselen om oplossingen te vinden voor IPM uitdagingen. **DRIJFVEREN** De lokale vruchtbare bodem, kennis en logistieke mogelijkheden worden ingezet om kwaliteitsgroenten te verbouwen voor de interne markt en de export. Familiebedrijven vormen nog steeds de kern van het productiesysteem, maar er is al enkele decennia een verschuiving naar specialisatie en uitbreiding aan de gang. Concurrentie om landgebruik en de intensiteit van de specifieke hoogwaardige gewassen zorgen voor uitdagingen op het gebied van duurzaamheid en het gebruik van pesticiden. **BARRIÈRES** De hubtelers die courgettes telen in de lente en de herfst worden geconfronteerd met de meteorologische risico's van koude en bewolkte dagen. Dit betekent een lagere bestuivingsactiviteit en een hoger ziektericico. Andere belemmeringen zijn de klimaatverandering met meer droge seizoenen, waardoor de plantomstandigheden in de zomer moeilijker worden. Nattere najaren maken het moeilijker om vanggewassen op tijd te zaaien. **IPM Uitdagingen** Aan het begin van de hubformatie werden de volgende IPM-uitdagingen geïdentificeerd: Bestuiving, aandeel mannelijke bloemen, Vruchtzetting, Bladluizen (voornamelijk door virus), Nuttige insecten bevorderen, Gewasbedekking en mulchmaterialen, Rassenkeuze, Plantgoed/uitgangsmateriaal, Oogsthygiëne, Klimaat (onder beschutting), Keuze bestrijdingsmiddelen, ziektebestrijding, Spuittechniek, Water- en irrigatietechniek, Waterbeheer, Onkruidbestrijding **Conclusies** Het organiseren van telers in een hub is geen eenvoudige taak. Vertrouwen in de hubcoach en objectieve informatie zijn essentieel. Boeren zijn terughoudender om zelf te experimenteren als er een proefstation in de buurt is. Het opzetten en selecteren van demo's op het experimenteel station voor (open lucht) tuinbouw is nog steeds een sterke tool voor innovatie en educatie. **Hoe faciliteren? Gebruik van biodegradeerbare plastic mulchfolie** Welke conclusise kan je trekken? Uitwisseling over de landsgrenzen heen zijn een inspiratie om nieuwe zaken te proberen. Het geeft ook telers de mogelijkheid te reflecteren over hun eigen bedrijfsvoering en hun plaats in de bredere Europese gemeenschap. Tips om het te laten werken Probeer gratis monsters of materiaal te krijgen voor de boeren, zodat ze kunnen testen met minimale financiële inspanningen. Dit zal een hefboom zijn voor experimentatie op de boerderij.

Practice "abstract" 13:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a finnish vegetable crops hub / PROAGRIA**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** Our hub consists of 11 horticultural farms, which are located in Kanta-Häme, Päijät-Häme and Pirkanmaa. The farms are located within a maximum distance of 70 km from Hämeenlinna. The farms are two conventional outdoor vegetable farms (onion, podpea), one outdoor organic vegetable farm, two organic small fruit farms, two conventional open field soft fruit farms, two polytunnel soft fruit farms, one apple farm and one cut rose farm. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** Our farmers are interested in producing marketable yield in a economically and environmentaly sustainable way. **DRIVERS** The farmers have a lack of plant protection chemicals. They have to find a way to cultivate without chemicals. **BARRIERS** New plant protection products come onto the market rarely. This is due to Finland's small market and strict legislation. In public the use of chemicals raises general concerns about environmental protection. **IPM Challenges** Variable conditions caused challenges. Drought, wetness, and the resilience of crops against plant diseases and pests vary from one growing season to another. There are no two identical growing seasons, but monitoring crop growth and weather forecasts provides essential information for successful cultivation. **Key conclusions** Integrated Pest Management (IPM) methods are evolving, and chemical-free crop protection is already in use because chemical pesticides are either unavailable or cannot be used every year. More research on Integrated Pest Management (IPM) for vegetables and soft fruits in Finnish conditions is needed to enable crop production even under changing climates, such as in conditions of extended daylight. **Facilitation approaches : Joint events** What conclusions can you draw? All participating farmers use IPM methods and can therefore exchange related experiences. Tips for making it work The distances cannot be helped, but the interesting topics of Open Field Day events motivate farmers to travel longer distances to gain additional information and meet each other.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672ddf7c23b65b5b5bf5e96f

Short title in native	**IPM käyttö havaintomaatilaverkostossa - PROAGRIA**
Short summary for practitioners in native language	**HAVAINTOMAATILAVERKOSTO** Havaintomaatilaverkostossamme on 11 tilaa Kanta-Hämeestä, Päijät-Hämeestä ja Pirkanmaalta. Tilat sijaitsevat enintään 70 kilometrin etäisyydellä Hämeenlinnasta. Mukana on kaksi perinteistä avomaavihannestilaa (sipuli, palkoherne), luomuvihannestila, kaksi luomumarjatilaa, kaksi tavanomaista marjatilaa, kaksi tunnelimarjatilaa, yksi omenatila ja yksi leikkoruusuyritys. Havaintomaatiloillamme tehdään kasvinsuojelua IPM-menetelmin. **VILJELIJÖIDEN TAVOITTEET JA PYRKIMYKSET** Viljelijämme ovat kiinnostuneita tuottamaan markkinakelpoista satoa taloudellisesti ja ympäristön kannalta kestävällä tavalla. **TOIMINTAA OHJAAVAT** Viljelijöillä on käytettävissä vain harvoja kemiallisia kasvinsuojeluaineita. Tämän vuoksi heidän täytyy löytää tapoja viljellä satoa ilman kasvinsuojeluaineita. **ESTEET** Uusia kasvinsuojeluaineita tulee harvoin markkinoille. Tämä johtuu Suomen pienestä markkinasta ja tiukoista säädöksistä. Kuluttajat ovat huolestuneita siitä, miten kemikaalien käyttö vaikuttaa ympäristöön ja terveyteen. **IPM haasteet** Vaihtelevat viljelyolosuhteet aiheuttivat haasteita. Kuivuus, kosteusolot sekä viljelykasvien vastustuskyky kasvitauteja ja tuholaisia vastaan vaihtelevat eri kasvukausien aikana. Ei ole kahta samanlaista kasvukautta, mutta tuholaistarkkailu ja tuholaisennusteet ovat olennaisia viljelyn onnistumiselle. **Keskeiset päätelmät** Kasvinsuojelun IPM-menetelmät kehittyvät, ja kemikaalittomia kasvinsuojelumenetelmiä on jo käytössä, sillä kemiallisia kasvinsuojeluaineita ei ole saatavilla tai niitä ei voida käyttää joka vuosi. Lisää tutkimusta kasvinsuojelun IPM-menetelmistä vihanneksille ja marjoille suomalaisissa olosuhteissa tarvitaan, jotta kasvintuotanto on mahdollista erilaisissa ilmastoissa, myös pitkän päivän olosuhteissa. **Yhteyksien luominen : Yhteiset tapahtumat** Millaisia johtopäätöksiä tehtiin? Kaikki mukana olleet viljelijät käyttävät IPM-menetelmiä ja he olivat kiinnostuneita vaihtamaan keskenään tietoja ja kokemuksia Vinkkini onnistuneeseen tapahtumaan Pitkät etäisyydet tuovat haasteita tapahtuman järjestämiseen, mutta pellonpiennarpäivien kiinnostavat aiheet saavat viljelijät liikkumaan kauemmaksikin hankkimaan uutta tietoa ja tapaamaan toisiaan.

Practice "abstract" 14:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a vegetable portuguese hub // CONSULAI**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The Portuguese horticulture hub has 12 members or demo farms, located in the Oeste and Ribatejo regions. The group consists mainly of farm technicians, agronomists and farm managers. The group is very diverse. Some famers produce only outdoor vegetables, mainly tomatoes, carrots, potatoes, bell peppers and other crops, whilst others produce indoors, mainly tomatoes, lettuce and cucumbers. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** The main motivation of the group is to exchange knowledge with other farmers and technicians, mainly through demonstration events and interaction with experts. The group seeks to reduce pesticide use, with interest in the topic of soil management (soil health, regeneration and cover crops) and biological control (conservation biocontrol and biodiversity infrastructures). **DRIVERS** There are increasing challenges within agriculture, in particular regarding pest and disease control, the emergence of new threats, the disappearance of alternative chemical controls and climate change. New alternatives need to be sought, and knowledge constantly acquired in order to meet these challenges. **BARRIERS** The adoption of biological practices, in particular biological control using auxiliaries, is still seen as difficult to adopt in the outdoor sectors. Many do not see it as an effective solution in open environments. The fact that the group produces very different crops did not allow for the discussion of problems specific to certain pests and crops. This, on the other hand, created a more comprehensive and holistic discussion. **IPM Challenges+short_sum1** As the group was very diverse, each member faced different IPM challenges. However, they mainly related with soil health and lack of knowledge for alternative solutions for pest management and the increased challenges due to climate change and the disappearance of certain active substances. The main pests discussed in the group were caterpillars, whitefly, mites, and aphid, as well as mildew, alternaria and soil fungi. The lack of support for decision-making in treatments, specifically lack of DSS available for their IPM challenges was another difficulty faced by the group. **Key conclusions** Soft skills play a crucial role in the hubs' success, especially in managing issues related to farmer engagement and event effectiveness. Communication skills foster an open, inclusive environment, encouraging farmers to share honest feedback, experiences, and opinions. Active listening allows facilitators to understand farmers' needs better, tailor event topics to their interests, and promptly address concerns. Empathy is key in creating trust, enabling facilitators to navigate different perspectives and resolve conflicts, which promotes a supportive atmosphere. Adaptability also proves essential, as facilitators must adjust agendas based on real-time feedback, enhancing the relevance and impact of each event. Overall, soft skills build a foundation of trust, inclusivity, and responsiveness, essential for successful issue management and impactful, farmer-focussed demonstrations. **Facilitation approaches: Demonstration Events Facilitation** What conclusions can you draw? Involving farmers directly fosters engagement and a sense of ownership, leading to more meaningful learning. Consistent feedback collection highlighted areas for improvement, confirming that responsive, farmer-centered approaches make demonstrations more impactful and tailored to their needs. Tips for making it work Create an open space for honest dialogue so farmers feel comfortable sharing challenges and successes. Allocate time for peer discussions and reflective sessions to reinforce learning. Regularly gather feedback and adapt future events to it. Flexibility and responsiveness to farmers' interests greatly enhance engagement and event effectiveness

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/673b5a762893d834d85ea381

Short summary for practitioners in native language	**O HUB** O hub português de horticultura tem 12 membros ou explorações de demonstração, localizados na região Oeste e Ribatejo. O grupo é constituído principalmente por técnicos agrícolas, agrónomos e gestores agrícolas. O grupo é muito diversificado. Alguns agricultores produzem apenas produtos hortícolas ao ar livre, principalmente tomate, cenoura, batata, pimento e outras culturas, outros produzem também em estufa, principalmente tomate fresco, alface e pepino. **OBJETIVOS E MOTIVAÇÕES DOS AGRICULTORES** A principal motivação do grupo é a troca de conhecimento com outros agricultores e técnicos, principalmente através de eventos de demonstração e da interação com especialistas dos tópicos abordados nestes eventos. O grupo procura reduzir a utilização de pesticidas, com interesse no tema da gestão do solo (saúde e regeneração do solo e culturas de cobertura) e do controlo biológico (bio-controlo de conservação, infra-estruturas de biodiversidade). **MOTIVAÇÕES** Existem desafios crescentes na agricultura e, em particular, no controlo de pragas e doenças. O aparecimento de novas ameaças, o desaparecimento de algumas alternativas e as alterações climáticas são apenas alguns exemplos. É necessário procurar novas alternativas e adquirir constantemente conhecimentos para fazer face a estes desafios. **BARREIRAS** A adoção de práticas biológicas, em particular o controlo biológico através de auxiliares, ainda é vista como difícil de adotar nos setores ao ar livre. Muitos não a vêem como uma solução eficaz para a produção ao ar livre. O facto de o grupo produzir culturas muito diferentes não permitiu a discussão de problemas específicos de determinadas pragas e culturas. Por outro lado, este facto obrigou a uma discussão mais abrangente e holística. **Desafios da PI** Uma vez que o grupo era muito diversificado, cada membro enfrentou diferentes desafios em matéria de gestão integrada de pragas. No entanto, estes relacionavam-se principalmente com o solo e a falta de conhecimentos sobre soluções alternativas para a gestão de pragas, bem como com os desafios acrescidos decorrentes das alterações climáticas e do desaparecimento de determinadas substâncias ativas. As principais pragas debatidas no grupo foram as lagartas, a mosca branca, os ácaros e os afídeos, bem como o míldio, a alternaria e os fungos do solo. A falta de apoio à tomada de decisões nos tratamentos, nomeadamente a falta de SAD disponíveis para os seus desafios de PI, foi também uma dificuldade enfrentada pelo grupo. **Principais conclusões** As soft skills desempenham um papel crucial no sucesso do HUB, especialmente na gestão de questões relacionadas com o envolvimento dos agricultores e a eficácia do evento. As competências de comunicação promovem um ambiente aberto e inclusivo, encorajando os agricultores a partilhar feedback, experiências e opiniões. A adaptabilidade também se revela essencial, uma vez que os facilitadores devem ajustar os programas com base no feedback em tempo real, aumentando a relevância e o impacto de cada evento. De um modo geral, as soft skills criam uma base de confiança, inclusão e capacidade de resposta, essencial para uma gestão bem sucedida dos problemas e para demonstrações impactantes e centradas nos agricultores. **Métodos de Facilitação : Eventos de Demonstração** Quais são as principais conclusões a retirar? O envolvimento direto dos agricultores conduz a uma aprendizagem e troca de experiências mais significativa. A recolha consistente de feedback destacou as áreas amelhorar, confirmando que as abordagens centradas nos agricultores tornam as demonstrações mais impactantes e adaptadas às suas necessidades. As minhas dicas Criar um espaço para o diálogo, para que os agricultores se sintam à vontade para partilhar desafios e experiências. Atribuir tempo para debates para reforçar a aprendizagem. Recolha regular de feedback e adaptação dos eventos futuros considerando ese feedback. A flexibilidade e a capacidade de resposta aos intereses dos agricultores aumentam consideravelmente o envolvimento e a eficacia do evento.

Practice "abstract" 15:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a dutch vegetable crops hub / DELPHY**
Short summary for practitioners in english on the (final or expected) outcomes (1000-1500 characters, word count - no spaces). *Do not complete if the summary below is completed in English*	**THE HUB** -Group of 11 farmers -Mix between arable and outdoor vegetable farmers -Most common crops are potatoes, onions, winter wheat, sugar beets and chicory **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** Motivations of farmers within the hub are to integrate IPM into their farming systems as much as possible. Farmers within the hub are open to new strategies and want to be pioneers in the application of IPM and work on a cropping system that is more robust/resilient to pests and diseases. They are convinced that less pressure on biodiversity will in the end result in a healthier crop with higher yields. They are motivated to invest in the newest IPM technologies in order to increase their knowledge and reduce environmental impact. **DRIVERS** The farmers within the hub have multiple drivers. These vary from the interest in technical machinery and testing out new pra+short_sum1ctices to social issues where there is a pressure from society. Most farmers within the hub are very curious to new ideas and technologies and are open to share this with other farmers. **BARRIERS** Barriers for the farmers within this region are the complexity of climatic conditions. Most farmers within the hub are not able to irrigate successfully due to the salty ground and surface water. Also, pest and weed control is one of the barriers in which timing plays a crucial role. Especially while using mechanical technologies when crops have to be treated during the right growth stage. **IPM Challenges** One of the main IPM challenges the hub was facing was disease pressure due to a very wet season. Due to this, the pressure of fungal diseases was high. Also, in terms of weed management, a shift had to be made while applying new technologies which was a challenge in the beginning for some farmers. **Key conclusions** With use of the right communication, farmers within the hub started to ask questions and were interested in the use of different IPM measures such as application of DSS systems, mechanical weed control and the use of robust or resistant varieties. Due to the informal way of communication with the farmers, ringing the phone or sending a message via WhatsApp became much easier which resulted in a quicker implementation of IPM strategies. **Facilitation approaches : How can we help farmers to apply DSS within their farms?** What conclusions can you draw? The farmers were interested in applying and making use of a DSS to control their aphid population. The monitoring resulted in helpful insights which were directly communicated with the farmers. The system itself was also explained to farmers in order to make them aware of how the program works. Tips for making it work For this issue, the decision was made to explain the results within a webinar. This resulted in a high number of participants (55) and in this way, the DSS platform developed in IPM Decisions could be easily demonstrated and farmers were encouraged to directly create an account and monitor their fields.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672c7e7623b65b5b5bf5e93c

Short summary for practitioners in native language (*can be the language of the coordinator / one of the partners - otherwise in English*) (1000-1500 characters, word count - no spaces).	**DE GROEP** Groep van 11 boeren Mix tussen akkerbouwers en vollegrondsgroententelers De meest voorkomende gewassen zijn aardappelen, uien, wintertarwe, suikerbieten en witlof **DOELSTELLINGEN EN MOTIVATIES VAN DE BOEREN** Motivaties van boeren binnen de groep zijn om IPM zoveel mogelijk te integreren. Boeren binnen de groep staan open voor nieuwe strategieën en willen pioniers zijn in de toepassing van IPM en werken aan een teeltsysteem dat robuuster/weerbaarder is tegen plagen en ziekten. Ze zijn ervan overtuigd dat minder druk op de biodiversiteit uiteindelijk zal resulteren in een gezonder gewas met hogere opbrengsten. Ze zijn gemotiveerd om te investeren in de nieuwste IPM-technologieën om hun kennis te vergroten en de impact op het milieu te verminderen. **DRIJFVEREN** De boeren binnen de groepen hebben meerdere drijfveren. Deze variëren van de interesse in technische machines en het uitproberen van nieuwe ideeën tot sociale kwesties waarbij er druk vanuit de samenleving is. De meeste boeren binnen de hub zijn erg nieuwsgierig naar nieuwe ideeën en technologieën en staan open om dit met andere boeren te delen. **BELEMMERINGEN** Barrières voor de boeren in deze regio zijn de complexiteit van de weersomstandigheden. De meeste boeren binnen de groep kunnen niet succesvol beregenen vanwege het zoute grond- en oppervlaktewater. Ook plagen en onkruidbestrijding is één van de barrières waarbij timing een cruciale rol speelt. Vooral bij het gebruik van mechanische technologieën wanneer gewassen in de juiste groeifase moeten worden behandeld. **IPM uitdagingen** Eén van de belangrijkste IPM-uitdagingen waarmee de groep werd geconfronteerd, was de ziektedruk als gevolg van een zeer nat seizoen. Hierdoor was de schimmeldruk hoog. Ook op het gebied van onkruidbeheersing moest er een ommekeer worden gemaakt bij het toepassen van nieuwe technologieën, wat voor sommige boeren in het begin een uitdaging was. **Belangrijkste conclusies** Met gebruik van de juiste communicatiemiddelen begonnen boeren binnen de groep vragen te stellen en waren ze geïnteresseerd in het gebruik van verschillen-de IPM-maatregelen, zoals toepassing van BOS- systemen, mechanische onkruidbestrijding en het gebruik van robuuste of resistente rassen. Door de informele manier van com-municeren met de boeren werd het bellen of het sturen van een bericht via WhatsApp veel makkelijker, wat resulteerde in een snellere implementatie van IPM-strategieën. **Faciliterende aanpak : Hoe kunnen we boeren helpen BOS'sentoe te passen op hun bedrijf?** Welke conclusies kunt u trekken? De boeren waren geïnteresseerd in het toepassen en gebruiken van een BOS om hun bladluispopulatie te beheersen. De monitoring resulteerde in nuttige inzichten die rechtstreeks met de boeren werden gecommuniceerd. Het systeem zelf werd ook aan de boeren uitgelegd om hen bewust te maken van hoe het programma werkt.
	Mijn tips om het te laten werken Voor deze Bos is besloten om de resultaten in een webinar toe te lichten. Dit resulteerde in een hoog aantal deelnemers (55) en op deze manier kon het BOS-platform dat in IPM Decisions is ontwikkeld, eenvoudig worden gedemonstreerd en werden boeren aangemoedigd om direct een account aan te maken en hun velden te monitoren.

Practice "abstract" 16:	
Short title in English	**Abordagem de facilitação e progressos alcançados na adoção de medidas de proteção integrada num centro português de viticultura**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The Portuguese viticulture hub has 12 members or demo farms, located in the Alentejo region. The group consists mainly in farm technicians, agronomists and farm managers. The average vineyard size in the group is around 100 ha, all including both white and red varieties. Most farms have other enterprises, such as olive or almond crops and livestock. Most of these farms produce in the Integrated Production Mode. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** The main motivation of the group is to exchange knowledge with peers, through demonstration events in their own farms or online with invited specialists. The group seeks to reduce pesticide use, not only looking to alternative pest management practices but also looking into topics such as water and fertilizer management. **DRIVERS** The members of the group endeavour to achieve sustainable agriculture, not only in environmental terms but also socially and economically. There is less and less variety of substances available, weather conditions are increasingly uncertain and difficult to predict, and it is necessary to have a resilient vineyard and ecosystem that can overcome these difficulties. For these reasons, the members of the group are looking for new solutions and sharing good practices. **BARRIERS** At the outset there seems to be insufficient knowledge and few proven and easily adoptable alternatives available for various problems, especially emerging pests. Due to the cost and lack of knowledge and evidence on certain practices, it is difficult to motivate experimentation. The distance between farms makes it short_sum1difficult for all members to participate, particularly at critical times of the year. **IPM Challenges** The main IPM challenge in the hub, and in many vineyards across the country, is the management and control of the green leafhopper pest. The pest, along with climate change and the disappearance of certain active substances, has caused more and more damage to vines, sometimes affecting their life span. Weed and vegetation management as well as lack of support for decision-making in treatments and operations are also difficulties faced by the group. **Key conclusions** Soft skills play a crucial role in the hubs' success, especially in managing issues related to farmer engagement and event effectiveness. Communication skills foster an open, inclusive hub, encouraging farmers to share honest feedback, experiences, and opinions. Active listening allows facilitators to understand farmers' needs better, tailor event topics to their interests, and promptly address concerns. Empathy is key in creating trust, enabling facilitators to navigate different perspectives and resolve conflicts, which promotes a supportive atmosphere. Adaptability also proves essential, as facilitators must adjust agendas based on real-time feedback, enhancing the relevance and impact of each event. Overall, soft skills build a foundation of trust, inclusivity, and responsiveness, essential for successful issue management and impactful, farmer-focussed demonstrations. **Facilitation approaches:** What conclusions can you draw? Involving farmers directly fosters engagement and a sense of ownership, leading to more meaningful learning. Consistent feedback collection highlighted areas for improvement, confirming that responsive, farmer-focussed approaches make demonstrations more impactful and tailored to their needs. Tips for making it work Create an open space for honest dialogue so farmers feel comfortable sharing challenges and successes. Allocate time for peer discussions and reflective sessions to reinforce learning. Regularly gather feedback and adapt future events to it. Flexibility and responsiveness to farmers' interests greatly enhance engagement and event effectiveness.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/673b5b692893d834d85ea387

Short title in native language	**Abordagem de facilitação e progressos alcançados na adoção de medidas de proteção integrada num centro português de viticultura [CONSULAI]**
Short summary for practitioners in native language	**O HUB** O hub de viticultura de Portugal tem 12 membros ou explorações de demonstração, localizadas na região do Alentejo. O grupo é constituído principalmente por técnicos agrícolas, agrónomos e gestores agrícolas. A dimensão média das vinhas do grupo é de cerca de 100 ha, incluindo castas brancas e tintas. Muitas explorações têm outras actividades, como a cultura da oliveira ou da amendoeira e a criação de gado. A maior parte das explorações produz em modo de produção integrada. **OBJETIVOS E MOTIVAÇÕES DOS AGRICULTORES** A principal motivação do grupo é a troca de conhecimento com os seus pares, através de eventos de demonstração nas suas próprias explorações agrícolas ou em reuniões online com especialistas convidados. O grupo procura reduzir a utilização de pesticidas, não só procurando práticas alternativas de gestão de pragas e doenças, mas também analisando temas como a gestão da água e dos fertilizantes. **MOTIVAÇÕES** Os membros do grupo esforçam-se por praticar uma agricultura sustentável, não só em termos ambientais, mas também sociais e económicos. A variedade de substâncias ativas homologadas é cada vez menor, as condições climáticas são cada vez mais incertas e difíceis de prever, sendo necessário ter uma vinha e um ecossistema resilientes para fazer face a estas dificuldades. Por estas razões, os membros do grupo procuram novas soluções e partilham boas práticas. **BARREIRAS** Parece haver pouco conhecimento e poucas alternativas (comprovadas e fáceis de adotar) disponíveis para vários problemas, especialmente para as pragas emergentes. Devido ao custo e à falta de conhecimento sobre certas práticas alternativas, é difícil motivar a adoção das mesmas. A distância entre as explorações dificulta a participação de todos os membros, especialmente em alturas críticas do ano. **Desafios da PI** O principal desafio da PI no HUB, e em muitas vinhas do país, é a gestão e o controlo da cigarrinha verde, uma praga que, com as alterações climáticas e o desaparecimento de certas substâncias ativas, tem causado, cada vez mais, danos às videiras, afetando, por vezes, a sua longevidade. A gestão das infestantes e da vegetação e a falta de apoio à decisão nos tratamentos e operações são outras dificuldades com que o grupo se depara. **Principais conclusões** As soft skills desempenham um papel crucial no sucesso do HUB, especialmente na gestão de questões relacionadas com o envolvimento dos agricultores e a eficácia do evento. As competências de comunicação promovem um ambiente aberto e inclusivo, encorajando os agricultores a partilhar feedback, experiências e opiniões. A adaptabilidade também se revela essencial, uma vez que os facilitadores devem ajustar os programas com base no feedback em tempo real, aumentando a relevância e o impacto de cada evento. De um modo geral, as soft skills criam uma base de confiança, inclusão e capacidade de resposta, essencial para uma gestão bem sucedida dos problemas e para demonstrações impactantes e centradas nos agricultores. **Métodos de Facilitação : Eventos de Demonstração** Quais são as principais conclusões a retirar? O envolvimento direto dos agricultores conduz a uma aprendizagem e troca de experiências mais significativa. A recolha consistente de feedback destacou as áreas a melhorar, confirmando que as abordagens centradas nos agricultores tornam as demonstrações mais impactantes e adaptadas às suas necessidades.
	As minhas dicas Criar um espaço para o diálogo, para que os agricultores se sintam à vontade para partilhar desafios e experiências. Atribuir tempo para debates para reforçar a aprendizagem. Recolha regular de feedback e adaptação dos eventos futuros considerando esse feedback. A flexibilidade e a capacidade de resposta aos interesses dos agricultores aumentam consideravelmente o envolvimento e a eficácia do evento.

Practice "abstract" 17:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a greek grapevine hub - AUA**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The HUB consists of 10 conventional farmers situated in the general region of Kiato, Peloponese, Greece.Specializing in viticulture for table grape production, the farmers cultivate mostly Thomson Seedless varieties. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** The farmers are participating in the hub are motivated towards a greener agriculture with reduced costs for farming operations which will be environmentally, economically and socially sustainable. Based on the fact that no farmers were integrating IPM practices in their farms before the project, they were very interested on gaining knowledge on this topic. **DRIVERS** Farmers want to prioritize sustainable farming methods and to be more aware of the environmental impacts and risks, including resistance development, associated with extensive use of pest control treatments. They are committed to exploring alternative, eco-friendly solutions to maintain the sustainability and effectiveness of their farming practices over time. **BARRIERS** Farmers are hesitant to try new, less proven methods due to the risk of potential losses. This cautious stance is a result of their need for dependable solutions to manage the difficult climate conditions. Additionally, the lack of support from the Greek government adds to their challenges, making it even more crucial for them to rely on established strategies to protect their agricultural activities. **IPM Challenges** In the Greek viticulture hub, IPM faces significant challenges due to farmers' heavy reliance on chemical protection products, with 13-18 applications per growing season. Another major obstacle is the absence of Greek legislation to support the adoption of IPM strategies, hindering progress toward more sustainable practices. In regards of threats: Botrytis, often known as gray mold in viticulture, is the key challenge. **Key conclusions** The key results from our activities demonstrate that when hub farmers collaborate, share knowledge, and employ IPM practices, we can reduce chemical use and enhance sustainability. 'Soft skills' such as communication, problem-solving, and team cooperation have been vital to the hub's success in managing issues. These skills have enabled us to efficiently share insights, support each other through challenges, and build a strong community foundation that's essential for long-term sustainability and resilience in the agricultural practices. **Facilitation approaches : Engagement of Farmers** What conclusions can you draw? Effective planning within agricultural operations must account for the unpredictable nature of the work, especially due to weather-related urgencies. Flexibility in scheduling has proven to be critical, allowing for timely and necessary adjustments to activities. Tips for making it work -Embrace digital tools to allow for keeping everyone updated and informed. -Keep a flexible approach to planning -Regularly check in with all members to reassess and, if necessary, readjust plans to fit everyone's availability and current agricultural demands.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672de12e23b65b5b5bf5e987

No Greek version

Practice "abstract" 18:

Short title in English: **Facilitation approach and progress made in IPM adoption in a spanish grapevine hub / FEUGA**

Short summary for practitioners in english on the (final or expected) outcomes:

THE HUB
The HUB consists of 12 wine growers situated in the region spanning from Cambados to Rivadavia. Specializing in viticulture, these farmers cultivate varieties such as Albariño, Godello, and Treixadura, contributing to the production of distinctive wines.
OBJECTIVES AND MOTIVATIONS OF THE FARMERS
Farmers are actively seeking to reduce the frequency of phytosanitary applications and are eager to adopt Integrated Pest Management (IPM) practices. Their interest spans a wide range of aspects, encompassing preventive measures like specific pruning techniques, exploring mechanical solutions, engaging in landscape and biodiversity management, and incorporating alternative natural products. This comprehensive approach reflects their commitment to sustainable and environmentally conscious farming practices..
DRIVERS
Farmers are deeply committed to su+short_sum1stainable and environmentally conscious farming practices. They recognize that heavy reliance on phytosanitary treatments not only has environmental repercussions but also poses risks with the emergence of resistance and the potential for treatments to be restricted or prohibited. This awareness underpins their dedication to finding alternative, ecologically sound approaches to ensure the long-term health and viability of their agricultural practices.
BARRIERS
The farmers express reluctance to experiment with less-tested approaches due to concerns about potential yield losses. The challenging climate, characterized by frequent rainfall in the region, exacerbates their apprehension. Given that the predominant issues revolve around fungal diseases, this cautious approach reflects their need for reliable and proven strategies to navigate the complex environmental conditions while minimizing risks to their agricultural business.
IPM Challenges
The primary hurdle inhibiting winegrowers from adopting Integrated Pest Management is the absence of viable solutions to combat diseases such as mildew.
Galicia's abundant rainfall and humid climate create favorable conditions for this fungal disease. Controlling mildew involves strategic management practices and often necessitates chemical interventions. The region's farmers grapple with finding effective solutions to mitigate mildew's impact on crop yields while considering the environmental implications of their pest management strategies.
Key conclusions
Various demonstration events have been organized to support farmers in their endeavor to reduce phytosanitary applications. While phytosanitary recovery machines were showcased, their adaptability to the prevalent production system in the region remains a challenge, limiting their widespread use.
Moreover, discussions and demonstrations focused on decision support systems (DSS) aimed to ensure that applications occur only when necessary rather than following a fixed calendar. However, farmers express hesitancy in fully trusting these models, emphasizing the difficulty of not adopting preventive measures when mildew, with irreversible effects on plants, poses a constant threat.

Facilitation approaches : Busy schedules of farmers
What conclusions can you draw?
Effective planning is essential, recognizing that sometimes it becomes necessary to reschedule meetings due to weather conditions demanding immediate responses from farmers. Flexibility in scheduling allows for timely adjustments, ensuring that activities align with the practical needs and challenges posed by the dynamic nature of agriculture.
Tips for making it work
-Maintaining constant communication is crucial, and actively seeking farmers' input on their interests and preferences is key.
-By understanding what topics resonate with them, we can tailor events to their preferences, increasing their motivation to attend and participate. This approach ensures that the activities align with their needs and foster a more engaged and collaborative community

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672c6cad23b65b5b5bf5e8f0

Short title in native: **Enfoque de facilitación y avances en la adopción de IPM - FEUGA**

Short summary for practitioners in native language:

EL GRUPO / HUB
El HUB está formado por 12 viticultores situados en la región que va de Cambados a Rivadavia. Especializados en viticultura, estos agricultores cultivan variedades como Albariño, Godello y Treixadura, contribuyendo a la producción de vinos distintivos.
Objetivos y motivaciones de los agricultores
Los agricultores buscan activamente disminuir la frecuencia de las aplicaciones fitosanitarias y están dispuestos a adoptar prácticas de gestión integrada de plagas (GIP). Su interés abarca una amplia gama de aspectos, desde medidas preventivas como técnicas específicas de poda hasta la exploración de soluciones mecánicas, pasando por la gestión del paisaje y la biodiversidad y la incorporación de productos naturales alternativos. Este enfoque integral refleja su compromiso con unas prácticas agrícolas sostenibles y respetuosas con el medio ambiente.
IMPULSOS
Los agricultores están profundamente comprometidos con las prácticas agrícolas sostenibles y respetuosas con el medio ambiente. Reconocen que una gran dependencia de los tratamientos fitosanitarios no sólo tiene repercusiones medioambientales, sino que también plantea riesgos con la aparición de resistencias y la posibilidad de que se restrinjan o prohíban los tratamientos. Esta conciencia subraya su dedicación a la búsqueda de enfoques alternativos y ecológicamente racionales para garantizar la salud y la viabilidad a largo plazo de sus prácticas agrícolas.
BARRERAS
Los agricultores se muestran reacios a experimentar con métodos menos probados por temor a posibles pérdidas. El difícil clima de la región, caracterizado por precipitaciones frecuentes, exacerba su aprensión. Dado que los problemas predominantes giran en torno a las enfermedades fúngicas, este enfoque cauteloso refleja su necesidad de estrategias fiables y probadas para sortear las complejas condiciones ambientales, minimizando al mismo tiempo los riesgos para sus empresas agrícolas.
Retos IPM
El principal obstáculo que impide a los viticultores adoptar la Gestión Integrada de Plagas es la ausencia de soluciones viables para combatir enfermedades como el mildiu. Las abundantes precipitaciones y el clima húmedo de Galicia crean condiciones favorables para esta enfermedad fúngica. La lucha contra el mildiu requiere prácticas de gestión estratégicas y, a menudo, intervenciones químicas. Los agricultores de la región se esfuerzan por encontrar soluciones eficaces para mitigar el impacto del mildiu en el rendimiento de los cultivos, teniendo en cuenta al mismo tiempo las implicaciones medioambientales de sus estrategias de gestión de plagas.
Conclusiones clave
Se han organizado varios eventos de demostración para apoyar a los agricultores en su empeño por reducir las aplicaciones fitosanitarias. Aunque se presentaron máquinas de recuperación de fitosanitarios, su adaptabilidad al sistema de conducción predominante en la región sigue siendo un reto, lo que limita su uso generalizado.
Además, los debates y las demostraciones se centraron en los sistemas de apoyo a la toma de decisiones (DSS) destinados a garantizar que las aplicaciones se produzcan sólo cuando sean necesarias, en lugar de seguir un calendario fijo.
Sin embargo, los agricultores expresan sus dudas a la hora de confiar plenamente en estos modelos, haciendo hincapié en la dificultad de no adoptar medidas preventivas cuando el mildiu, con efectos irreversibles en las plantas, supone una amenaza constante.

Enfoques de facilitación : La apretada agenda de los agricultores
¿Qué conclusiones se extraen?
Es esencial una planificación eficaz, reconociendo que a veces es necesario reprogramar debido a condiciones meteorológicas que exigen respuestas inmediatas de los agricultores. La flexibilidad en la programación permite realizar ajustes oportunos, garantizando que las actividades se ajusten a las necesidades prácticas y a los retos que plantea la naturaleza dinámica de la agricultura.
Mis consejos para hacer que funcione
Mantener una comunicación constante es fundamental, así como recabar activamente la opinión de los agricultores sobre sus intereses y preferencias. Si sabemos qué temas les interesan, podemos adaptar los actos a sus preferencias y aumentar su motivación para asistir y participar. Este planteamiento garantiza que las actividades se ajusten a sus necesidades y fomenten una comunidad más comprometida y colaboradora.

Practice "abstract" 19:

Short title in English

Facilitation approach and progress made in IPM adoption in an italian orchard hub / SSSA

Short summary for practitioners in english on the (final or expected) outcomes

THE HUB
The 12 farms of our hub are located in Tuscany on Monte Pisano, a hilly area between the cities of Pisa and Lucca. 7 out of 12 farms are commercial companies; 3 of them are certified organic farms. Olive trees are the main cultivation for all of the farms.
Farms are characterised by small surfaces; high slopes; ancient olive trees: dense and very tall; vegetation; manual work.

OBJECTIVES AND MOTIVATIONS OF THE FARMERS
- Technical: to reduce interventions and costs, focusing on a holistic approach and strategies that ensure quality and sustainability.
- Economical: to encourage the market recognising the importance of quality of production and labour of commercial farms.
- Environmental and social: to involve citizens and administrations to support olive growing as a part of common, cultural and landscape heritage.

DRIVERS
- Technical: lack of efficient chemical solutions and so a necessary adoption of ecological practices predisposes farmers to an innovative vision based on monitoring and prevention of damage from the main pests.
- Environmental: high level of biodiversity and ecosystem services although the area has been inhabited since ancient times
- Economical: the production of quality organic oil leads to higher product prices on the market and the possibility of trade outside the borders
- Social: traditional cultivation that is cultural and of landscape heritage. The presence of groups and associations for an agro-ecological and chemical input reduction approach (Spotello di Agroecologia di Calci) and for the promotion of quality production (Strada dell'Olio Monti Pisani).

BARRIERS
- Technical: difficulties in mechanizing work; lack of effective chemistry that can also be used in organic farming; lack of skills for a holistic approach.
- Environmental: unpredictability and extreme weather conditions in recent years and difficulties linked to the physical characteristics of the land (calcareous soils, slope, lack of water).
- Economical: high costs of some innovative solutions (e.g. traps f+short_sum1or mass trapping) and high costs of manual labor.
- Social: Professional olive growers versus hobbyists.

IPM Challenges
The first issue for our farmers was to find a strategy against olive fly since the most effective product available on the market was banned. Due to the characteristics of the territory they need to reduce interventions as much as possible to reduce costs and so focus on strategies ensuring the quality and sustainability of their work. Moreover, they see the rise of other pests such as the Asian bug and the green olive moth, so they have taken up the challenge of an overall approach to olive grove management, exploiting each technical choice as a part of a more complex holistic strategy.

Key conclusions
Demo events and discussions on use of DSS have supported the belief that interventions, even in prevention, are carried out only when necessary. Furthermore, the use of participatory monitoring to implement data closer to individual farm realities and microclimate, enhanced this awareness.
However, farmers are unable to fully rely on the proposed models and suggest modifications to make them more usable.
Study days and knowledge exchange events between our project and other projects working in the area improve knowledge of all the factors involved in olive grove management and help holistic research into solutions, leading to a more or less abandonment of chemicals and a greater sensitivity to the environment

Facilitation approaches : Strategies to adopt against olive fly
What conclusions can you draw?
The limited possibilities to control olive fly, which depend as much on seasonal weather patterns as on technical factors that cannot be overcome, leads to a holistic approach based on prevention and monitoring. This approach becomes relevant, both from an individual and collective point of view. This is complemented by a continuous exchange of opinions and results inside and outside of the hub.
Tips for making it work
- Broaden the discussion by participating in meetings, workshops and table discussions with other projects working on the same challenges with other farmers.
- Make farmers feel that they are bearers and not just recipients of knowledge.
- Remind them that everyone's ideas are important and can be communicated at any time, whenever possible, and disseminated to everyone by all available means: WhatsApp, mail, meetings or demos.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672cb7a423b65b5b5bf5e946

Short title in native language

Approccio di facilitazione e progressi compiuti nell'adozione dell'IPM un caso di frutteto in Italia - SSSA

Short summary for practitioners in native language

IL GRUPPO
Le 12 aziende agricole del nostro hub si trovano in Toscana sul Monte Pisano, una zona collinare tra le città di Pisa e Lucca.
7 aziende agricole su 12 sono aziende professionali; 3 di loro sono aziende agricole biologiche certificate. Per tutti l'olivo è la coltivazione principale. Le aziende agricole sono caratterizzate da superfici ridotte; pendenze elevate; ulivi secolari: con alta densità e molto alti; lavoro manuale. Il gruppo si concentra sulla prevenzione e sul monitoraggio delle popolazioni di mosca dell'olivo.

OBIETTIVI E MOTIVAZIONI DEGLI AGRICOLTORI
Tecnici: ridurre interventi e costi puntando su un approccio olistico e su strategie che garantiscano qualità e sostenibilità del lavoro.
Economici: normalizzare il mercato rispettando la qualità della produzione e della manodopera delle aziende agricole professionali.
Ambientali e sociali: coinvolgere cittadini e amministrazioni per sostenere l'olivicoltura anche come parte del patrimonio comune, culturale e paesaggistico.

FATTORI TRAINANTI
Tecnici: la mancanza di soluzioni chimiche efficaci e necessaria adozione di pratiche ecologiche predispone gli agricoltori a una visione innovativa basata sul monitoraggio e sulla prevenzione dei danni dei principali parassiti.
Ambientali: un alto livello di biodiversità e di servizi ecosistemici, nonostante l'area sia antropizzata da tempi remoti.
Economici: la produzione di olio biologico di qualità con maggiori prezzi ottenibili sul mercato e possibilità di scambi commerciali all'estero.
Sociali: coltivazioni tradizionali che costituiscono un patrimonio culturale e paesaggistico, nonché la presenza di gruppi e associazioni per un approccio agroecologico e di riduzione degli input chimici (Spotello di Agroecologia di Calci) e per la promozione di produzioni di qualità (Strada dell'Olio Monti Pisani).

OSTACOLI
Tecnici: difficoltà nella meccanizzazione del lavoro; mancanza di prodotti chimici efficaci ammessi anche in agricoltura biologica; mancanza di competenze per un approccio olistico.
Ambientali: imprevedibilità e condizioni climatiche estreme negli ultimi anni e difficoltà legate alle caratteristiche fisiche del terreno (suoli calcarei, pendenza, mancanza di acqua).
Economici: costi elevati di alcune soluzioni innovative (ad esempio le trappole per la cattura massale) e del lavoro manuale.
Sociali: olivicoltori professionisti contrapposti ad olivicoltori hobbisti.

Sfide IPM
Il primo problema per i nostri agricoltori è stato quello di trovare una strategia contro la mosca dell'olivo, dato che il prodotto più efficace disponibile sul mercato è stato vietato. A causa delle caratteristiche del territorio, hanno bisogno di ridurre il più possibile gli interventi per ridurre i costi e quindi si concentrano su strategie che garantiscano la qualità e la sostenibilità del lavoro. Inoltre, vedendo l'aumento di altri parassiti come la cimice asiatica e la tignola verde dell'olivo, hanno raccolto la sfida di un approccio globale alla gestione dell'oliveto, sfruttando ogni scelta tecnica come parte di una strategia olistica più complessa.

Conclusioni chiave
Eventi dimostrativi e le discussioni sull'uso dei DSS hanno sostenuto la convinzione che gli interventi, anche preventivi, vengono effettuati solo quando sono necessari.
L'uso del monitoraggio partecipativo per implementare dati più vicini alle singole realtà aziendali e al microclima, ha rafforzato questa consapevolezza. I modelli proposti non sono però completamente rispondenti, così gli agricoltori suggeriscono modifiche per renderli più utili. Partecipare a giornate di studio ed eventi di scambio tra il nostro progetto e altri progetti che operano nella zona migliora la conoscenza di tutti i fattori coinvolti nella gestione dell'oliveto e favorisce una ricerca olistica di soluzioni, l'abbandono marcato di prodotti chimici e una maggiore sensibilità.

Approcci di facilitazione : Strategie da adottare per il controllo della mosca dell' olivo
Quali conclusion puoi trarre?
Le limitate possibilità di controllo della mosca dell'olivo, che dipendono tanto dall'andamento meteorologico stagionale quanto da fattori tecnici non superabili, portano a un approccio olistico basato soprattutto sulla prevenzione e sul monitoraggio che diventa rilevante, sia dal punto di vista individuale che collettivo. A ciò si aggiunge un continuo scambio di opinioni e risultati all'interno e all'esterno dell'hub.
I miei consigli per farlo funzionare
Ampliare la discussione partecipando a incontri, workshop e tavole rotonde di altri progetti che lavorano sulle stesse sfide con altri agricoltori. Fare in modo che gli agricoltori si sentano portatori, e non solo destinatari, di conoscenze. Ricordare loro che le idee di tutti sono importanti e possono essere comunicate in qualsiasi momento, quando possibile, e diffuse a tutti con tutti i mezzi disponibili: WhatsApp, posta elettronica, riunioni o dimostrazioni

Practice "abstract" 20:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a slovenian apple orchard hub / KGZS**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The Slovenian IPM HUB was launched as part of the IPMWORKS project. It is somewhat different from other hubs, as it includes the sectors of arable crops, vineyards, and orchards. A total of 10 farmers are located in the same region, Podravje, in the northeastern part of Slovenia. The aim of our hub is to create a favorable environment for farmers to exchange, learn, test, and demonstrate cost-effective IPM solutions. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** Technical: reduction of pesticide use, optimization of the production process, transfer of good IPM practices, involvement of farmers in empirical research and on-farm testing. Environment: to promote local environmental sustainability, to increase biodiversity, to reduce the carbon footprint, the community will become more efficient with food and energy. Economic, social: introduce consumers to successful IPM methods, support local economic and social stability, create new jobs by involving the young generation. **DRIVERS** Technical: Researchers, technicians, advisers, and companies should collaborate on effective Integrated Pest Management (IPM) methods for controlling various diseases and pests in orchards. This includes using confusion methods, weed and pest control (e.g., Eriosoma lanigerum, residues), spraying techniques, and developing new varieties. Environmental: Local farmers should employ more sustainable farming practices (e.g. biotic protection) to preserve the environment and local biodiversity. Economic and Social: Adopted IPM strategies by farmers optimize production costs, making farming more economically efficient. Associations of young farmers are crucial for sharing new knowledge and best practices on IPM methods, consequently creating new job opportunities on farms. **BARRIERS** Technical: Not enough is known about approaches to reduce the use of pesticides, more accurate prediction and monitoring of diseases, advice on the preparation of the spraying program is needed. Too little is being done on prevention and the development of resistant varieties. Environmental: Increasingly frequent natural disasters such as frost, floods, landslides and hail storms are a major concern. Economic and social: Slovenian medium and small fruit growers find it difficult to compete with large EU producers due to limited financial resources and marketing skills. Many young people leave farms due to bad economic conditions and generational conflicts. **IPM Challenges** The European Commission aims to reduce the total use of pesticides by 50% by 2030. This strategy is a major challenge for European agriculture. Most of the public and media discussions are about reducing insecticides, where fungicides (40%) and herbicides (33%) account for a larger share. There are many IPM methods to reduce the use of herbicides, one of them is low undergrowth sowing in orchards. As an alternative to herbicides, annual flowers, perennials and low soybeans are planted. The control is represented by the existing undergrowth under the trees. **Key conclusions** Low undergrowth, annual flowers, perennial flowers and low soybeans are good alternatives to the glyphosate use. They play a beneficial role by providing biodiversity and supporting ecosystem services. Regulation of grass mixtures must be optimally adapted to growth.
	Facilitation approaches: Reduced use of pestic•B5ides with the IPM strategy of low undergrowth sowing in an apple orchard What conclusions can you draw? Low cover seeding has been well received by the farmer, as a higher percentage of cover significantly improves biomass compared to herbicides. This is a key goal in achieving biodiversity in orchards and improving soil quality without the use of herbicides. Tips for making it work Farmers are a very important part of the IPM hub, where they can openly discuss the problems they are facing. Together with the coach, technicians, advisers, and other farmers, they try to find the most suitable solutions. Trust between all relevant participants in the hub is very important, especially when working with the hub coach and other farmers who are facing the same issues. In the end, it works when the IPM approach works. AND THIS ONE WORKS!

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/6731bf7223b65b5b5bf5e98e

Short summary for practitioners in native language	**HUB** Slovenski IPM HUB je bil ustanovljen v okviru projekta IPMWORKS. Nekoliko se razlikuje od ostalih HUB-ov v projektu, saj vključuje tri sektorje, kot so poljedelstvo, vinogradništvo in sadjarstvo. V regiji Podravje, v severovzhodnem delu Slovenije, je v HUB vključenih 10 kmetov. Cilj slovenskega HUB-a je ustvariti ugodno okolje za kmete, za medsebojno učenje, testiranje, demonstracije in izmenjavo stroškovno učinkovitih IPM rešitev. **CILJI IN MOTIVACIJE KMETOV** Tehnične: zmanjšanje uporabe pesticidov, optimizacija proizvodnega procesa, prenos dobrih IPM praks, vključevanje kmetov v empirične raziskave in testiranje na kmetiji. Okoljske: spodbujanje lokalne okoljske trajnosti, povečanje biotske raznovrstnosti, zmanjšanje ogljičnega odtisa, da bo skupnost postala učinkovitejša s prehransko in energetsko oskrbo. Ekonomske in socialne: seznanite potrošnike z uspešnimi metodami IPM, podpora lokalnemu gospodarstvu in socialni stabilnosti, ustvariti nova delovna mesta z vključevanjem mlade generacije. **GONILNE SILE** Tehnične: raziskovalci, tehnologi, svetovalci in podjetja bi morali sodelovati pri učinkovitih metodah integriranega varstva (IPM) za nadzor različnih bolezni in škodljivcev v sadovnjakih To vključuje uporabo metod zbeganja, zatiranje plevela in škodljivcev (npr. Eriosoma lanigerum, ostanki), tehnike škropljenja in razvoj novih odpornih sort. Okoljske: lokalni kmetje bi morali uporabiti bolj trajnostne kmetijske prakse (npr. biotsko varstvo), za ohranitev okolja in lokalno biotsko raznovrstnost. Ekonomske in socialne: strategije IPM, ki so jih kmetje sprejeli, optimizirajo proizvodne stroške, zaradi česar je kmetijstvo ekonomsko učinkovitejše. Sodelovanje mladih kmetov je velikega pomena za izmenjavo novega znanja in najboljših IPM praks na področju celovitega varstva rastlin. **OVIRE** Tehnične: Premalo poznani pristopi k zmanjševanju uporabe pesticidov, natančnejšemu napovedovanju in spremljanju bolezni, potrebno je svetovanje pri pripravi škropilnega programa. Premalo se dela na preventivi in razvoju odpornih sort. Okolje: Vse pogostejše naravne nesreče, kot so pozeba, poplave, velika skrb so zemeljski plazovi in neurja s točo. Ekonomsko in socialno: slovenski srednji in mali sadjarji zaradi omejenih finančnih sredstev in trjnih aktivnosti težko konkurirajo velikim proizvajalcem iz EU. Veliko mladih zapusti kmetije zaradi slabih gospodarskih razmer in generacijskih konfliktov. **IPM izzivi** Cilj Evropske komisije je do leta 2030 zmanjšati skupno uporabo pesticidov za 50 %. Ta strategija je velik izziv za evropsko kmetijstvo. Največ javnih in medijskih razprav je o zmanjševanju insekticidov, kjer je večji delež fungicidov (40 %) in herbicidov (33 %). Metod IPM za zmanjševanje uporabe herbicidov je veliko, ena izmed njih je setev nizke podrasti v sadovnjakih. Kot alternativo herbicidom sadimo enoletnice, trajnice in nizko sojo. Kontrolo predstavlja obstoječa podrast pod drevjem. **Ključne ugotovitve** Nizka podrast, enoletne rože, trajnice in nizka soja so dobra alternativa uporabi glifosata. Imajo koristno vlogo pri zagotavljanju biotske raznovrstnosti in podpiranju ekosistemskih storitev. Izbira travnih mešanic mora biti optimalno prilagojena rasti.
	Podporni pristopi: Zmanjšana poraba pesticidov s strategijo IPM - setev nizke podrasti v nasadu jablan Kakšne zaključke bi izpostavili? Kmetje so dobro sprejeli nizko pokrovno setev, saj višji odstotek pokrovnosti bistveno izboljša biomaso v primerjavi s herbicidi. To je ključni cilj pri doseganju biotske raznovrstnosti v sadovnjakih in izboljšanju kakovosti tal brez uporabe herbicidov. Moji nasvet, kako bo delovalo -Kmetje so zelo pomemben del IPM huba, kjer se lahko odkrito pogovarjajo o težavah, s katerimi se soočajo. Skupaj s trenerjem, tehnologi, svetovalci in ostalimi kmeti poskušajo najti najustreznejše rešitve. -Zaupanje med vsemi relevantnimi udeleženci v HUB-u je zelo pomembno, še posebej s sodelovanjem s trenerjem&svetovalci in drugimi kmeti, ki se soočajo z enakimi težavami. -Na koncu deluje, ko IPM deluje. IN TA DELUJE!

Practice "abstract" 21:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a belgian soft fruits hub / INAGRO**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The hub consist of 11 West-Flemish farmers. It is a mix of specialized soft fruit growers in substrate in glasshouses/under plastic or in soil under plastic. The main soft fruit they grow are strawberries. Some growers also have raspberries, blueberries and blackberries. Some also produce arable and/or vegetable crops. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS•short_sum1** The main objective of the farmers is to improve their IPM-strategy so they can have a sustainable and profitable crop production. They want a limited use of insecticides and fungicides on their product. Further they are eager to learn from each other and exchange knowledge so they can find solutions. **DRIVERS** The hub has a strong willingness to reduce the use of plant protection products and is confronted with the reduction of approved products. They want to exchange ideas with others to make progress. Further they want to optimize their inputs and want to meet commercial demands. **BARRIERS** The hub is confronted with the difficulty to control some pests and diseases because there are technical or economical obstacles. The diversity of cropping systems within the group makes it a challenge to find a common interest. In case of varieties, it is a challenge to meet the market demands. **IPM Challenges** The main IPM challenges were to improve their already advanced IPM-strategy against pests with beneficials, using augmentative biocontrol which is economically justified. Other big challenges are dealing with pests such as Drosophila suzukii for which there are no efficient IPM-strategies currently or diseases such as powdery mildew for which good IPM-strategies can't be applied at every farm because of technical incompatibilities. **Key conclusions** Each year, a gathering was convened with all hub members to highlight the objectives for the upcoming year. Every member was acquainted with the year's objectives and had the opportunity to offer suggestions. This collective commitment led to active participation in various activities and demonstrations. With the guidance of a hub coach, activities and demonstrations were effectively organized, ensuring the fulfillment of the identified objectives. **Facilitation approaches : Reducing the use of insecticides against aphids in strawberries** What conclusions can you draw? Let farmers be inspired by research and other farmers. So, they can hear, look and learn from each other. Give them the tools so they can easily experiment on their own farm. Tips for making it work -Gain trust between your farmers and with you as hub coach -Listen to the growers and let them decide what they want to do. They are the expert on their farm -Guide the growers in group and individual -Give them the tools to make small steps on their farm

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/6731c21823b65b5b5bf5e9a7

Short title in native	**Facilitaire aanpak en vooruitgang in IPM adoptie - INAGRO**
Short summary for practitioners in native language	**DE HUB** De hub bestaat uit 11 West-Vlaamse telers. Het is een mix van gespecialiseerde zachtfruittelers in substraat in serres/onder plastiek of in grond onder plastiek. Het voornaamste zachtfruit dat ze telen zijn aardbeien. Sommige telers hebben ook frambozen, blauwe bessen en bramen. Sommigen telen ook akkerbouwgewassen en/of groenten. De belangrijkste plagen die ze moeten beheersen zijn trips, spint, witte vlieg, bladluizen en Drosophila suzukii. De belangrijkste ziekten zijn echte meeldauw, vruchtrot en wortelrot. **DOELSTELLINGEN EN MOTIVATIE VAN DE TELERS** Het belangrijkste doel van de telers is om hun IPM-strategie te verbeteren, zodat ze hun gewassen duurzaam en economisch kunnen produceren. Ze willen een beperkt gebruik van insecticiden en fungiciden op hun product. Verder willen ze graag van elkaar leren en kennis uitwisselen om oplossingen te vinden. **DRIJVERS** De hub wil het gebruik van gewasbeschermingsmiddelen verminderen en wordt geconfronteerd met de reductie van het aantal goedgekeurde middelen. Ze willen ideeën uitwisselen met elkaar om vooruitgang te boeken. Verder willen ze hun inputs optimaliseren en willen ze voldoen aan commerciële eisen. **BARRIERES** De hub wordt geconfronteerd met de moeilijkheid om sommige plagen en ziekten te beheersen, omdat er technische of economische obstakels zijn. De diversiteit aan teeltsystemen binnen de groep maakt het een uitdaging om een gemeenschappelijk belang te vinden. In het geval van variëteiten is het een uitdaging om aan de marktvraag te voldoen. **IPM uitdagingen** De belangrijkste IPM-uitdagingen waren het verbeteren van hun al geavanceerde IPM-strategie tegen plagen met nuttigen, met behulp van augmentatieve biocontrole die economisch verantwoord is. Andere grote uitdagingen zijn het omgaan met plagen zoals Drosophila suzukii waarvoor momenteel geen efficiënte IPM-strategieën bestaan of ziekten zoals echte meeldauw waarvoor goede IPM-strategieën niet kunnen worden toegepast op elk bedrijf vanwege technische onverenigbaarheden. **Conclusies** Elk jaar werd er een bijeenkomst gehouden met alle hubleden om de doelstellingen voor het komende jaar te bespreken. Elk lid werd op de hoogte gebracht van de doelstellingen en kreeg de kans om suggesties te doen. Deze betrokkenheid leidde tot een actieve deelname aan verschillende activiteiten en demonstraties. Onder begeleiding van een hub-coach werden de activiteiten en demonstraties effectief georganiseerd, waardoor de vastgestelde doelstellingen werden gehaald. **Facilitatie benaderingen : Reductie van het gebruik van insecticiden tegen bladluizen in aardbeien** Welke conclusies kan je trekken? Laat telers inspireren door onderzoek en andere telers. Zodat ze kunnen horen, kijken en leren van elkaar. Geef ze de tools zodat ze gemakkelijk kunnen experimenteren op hun eigen bedrijf. Tips om het te laten werken -Zorg voor vertrouwen tussen je telers en met jou als hubcoach. -Luister naar de telers en laat hen beslissen wat ze willen doen. Zij zijn de expert op hun bedrijf. -Begeleid de telers in groep en individueel.

Practice "abstract" 22:	
Short title in English	**Facilitation approach and progress made in IPM adoption in a spanish greenhouse hub / COEXPHAL**
Short summary for practitioners in english on the (final or expected) outcomes	**THE HUB** The Spanish greenhouse hub is located in the province of Almeria – mainly in the Campo de Dalías (west) or La Cañada - Níjar (east) area. There are 11 farmers engaged within the hub. They produce the most typical horticultural crops grown in the region: tomato, sweet pepper, zucchini, melon, watermelon, eggplant and cucumber. **OBJECTIVES AND MOTIVATIONS OF THE FARMERS** Most growers share a common interest in optimizing their biological control strategies, particularly by means of enhancing preventive measures. The hub will be focusing on biological control, mostly on conservation biological control, which allow farmers to integrate multi-function plant species and other biodiversity to contribute to boost+short_sum1 pest regulation. **DRIVERS** The major drivers of the hub are related to improving crop sustainability (mainly economic and environmental aspects), particularly by promoting biodiversity conservation inside and outside the greenhouse. **BARRIERS** The major barriers of the hub are related with how to gradually adapt IPM strategies so that they also work against emerging diseases and pests. **IPM Challenges** The focus of the hub has been reducing damage caused by greenhouse crop pests by means of preventive measures, particularly biocontrol and on-farm biodiversity conservation. Overall, there is a special interest on developing and improving an integrated protocol to control Tuta absoluta in tomato crops, and also on aphid control in zucchini and sweet pepper crops. **Key conclusions** Learning together by sharing experiences has been the motto which has enabled the groups' overall improvement in IPM. Farmers have been able to see, touch and feel what others have done in relation to pest damage, so by following their peers' practical advice and ways of doing IPM, they have been able to relate to one another's circumstances, adapting them to their own situation. **Facilitation approaches : Knowing your group, joining the dots, helping the individuals** What conclusions can you draw? In my hub, farmers had all the knowledge that was necessary to achieve most of their goals, both individually and at the group level. My job was to "join the dots", building up the trust in the group, making sure that they felt confident to share their results with one another. Tips for making it work -Be patient and take your time, achievements come slow. -If you want to be trusted by others, just be yourself, and never pretend to be someone you are not. -Avoid top-down approaches. You are not the expert, farmers are. -Listen more, talk less.

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/672dde5223b65b5b5bf5e964

Short title in native	**Enfoque de facilitación y progresos realizados en la adopción del MIP - COEXPHAL**
Short summary for practitioners in native language	**EL HUB** El centro de la producción en invernadero en España se encuentra en la provincia de Almería, principalmente en la zona de Campo de Dalías (oeste) o La Cañada - Níjar (este). En el hub trabajan 11 agricultores que producen los cultivos hortícolas más típicos de la región: tomate, pimiento dulce, calabacín, melón, sandía, berenjena y pepino. **OBJETIVOS Y MOTIVACIONES DE LOS AGRICULTORES** La mayoría de los productores comparten un interés común en optimizar sus estrategias de control biológico, en particular mediante la mejora de las medidas preventivas. El centro se centrará en el control biológico, principalmente en el control biológico de conservación, que permite a los agricultores integrar especies de plantas multifuncionales y otra biodiversidad para contribuir a impulsar la regulación de plagas. **Impulsores** Los principales impulsores están relacionados con la mejora de la sostenibilidad de los cultivos (principalmente aspectos económicos y ambientales), en particular mediante la promoción de la conservación de la biodiversidad dentro y fuera del invernadero **Barreras** Las principales barreras del hub están relacionadas con cómo adaptar gradualmente las estrategias de MIP para que también funcionen contra enfermedades y plagas emergentes. **Desafíos de MIP** El objetivo del centro ha sido reducir los daños causados por las plagas de los cultivos de invernadero mediante medidas preventivas, en particular el control biológico y la conservación de la biodiversidad en las explotaciones agrícolas. En general, existe un interés especial en desarrollar y mejorar un protocolo integrado para el control de Tuta absoluta en los cultivos de tomate, y también en el control de pulgones en los cultivos de calabacín y pimiento dulce. **Conclusiones** Aprender juntos compartiendo experiencias ha sido el lema que ha permitido la mejora global de los grupos en MIP. Los agricultores han podido ver, tocar y sentir lo que otros han hecho en relación con los daños causados por las plagas, por lo que siguiendo los consejos prácticos de sus compañeros y las formas de hacer MIP, han podido relacionarse con las circunstancias de los demás, adaptándolas a su propia situación. **Enfoques de facilitación : Conocer al grupo, unir los puntos, ayudar a las personas** ¿Qué conclusiones puedes sacar? En mi hub, los agricultores tenían todo el conocimiento necesario para lograr la mayoría de sus objetivos, tanto a nivel individual como grupal. Mi trabajo consistía en "unir los puntos", construyendo la confianza en el grupo, asegurándome de que se sintieran seguros para compartir sus resultados entre ellos. Mis consejos para que funcione 1. Ten paciencia y tómate tu tiempo, los logros llegan lentamente. 2. Si quieres que los demás confíen en ti, sé tú mismo y nunca pretendas ser alguien que no eres. 3. Evite los enfoques de arriba hacia abajo. Ustedes no son los expertos, los agricultores sí. 4. Escucha más, habla menos.

Practice "abstract" 23:	
Short title in English	How I implement IPM – Arable farm in Germany [GLZ]
Short summary for practitioners in english on the (final or expected) outcomes (1000-1500 characters, word count – no spaces). *Do not complete if the summary below is completed in English*	The farm is located in Uplengen (East Frisia) Lower Saxony Germany **Agronomical context of the farm** Arable farming Arable land: 60 ha Crop rotation: maize, catch crop green rye, maize, winter cereals (freezing catch crop) **Main objective of the farmer** Combining economic success with sustainability and adapting to new political conditions at an early stage **Main pests** Insect pests: Wireworm Weeds: Annual panicle, rumex«short_sum_en1 Diseases: Yellow/brown rust, mildew **Strategies implemented** •Spot spraying in permanent grassland achieved good results with greatly reduced PPP - costs similar to area treatment caused by the reduced application rate •No-till, strip-till or mulch-sowing methods are recommended •Hoe band spraying (reduced application rate) works well in maize, unless there is too much organic matter on the surface (which is actually desired). The use of a rotary hoe is recommended. •Catch crops and cover crops promote erosion control •Physarium 4-3 is suitable as a winter cereal **Key conclusions** Agronomic: Green rye/strip-till without total herbicide Ecological: Mechanical hoeing increases N mineralisation (in water protection areas) and humus decomposition. Ground-breeding birds disturbed by mechanical weed control Economic: Mechanical solutions associated with increased effort/costs, Specialised technology difficult to obtain Social: Coordination with contractors **Advantages of the system** -The spot spray method has proven to be particularly favourable for permanent grassland. It is an ecologically and economically sensible method of weed control. -The Strip-Till tillage method combines yield security and erosion protection by not mechanically tilling a large part of the field and allowing the mulch to act as a protective layer. **Limitations of the system** -For a future project, I would like to see better organisation and more output in the first few years

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/6731c3b723b65b5b5bf5e9b0

Short summary for practitioners in native language (*can be the language of the coordinator / one of the partners - otherwise in English*) (1000-1500 characters, word count – no spaces).	**Grünlandbetrieb** Ackerbau Ackerfläche: 60ha Fruchtfolge: Mais, Zwischenfrucht Grünroggen, Mais, Wintergetreide (Abfrierende Zwischenfrucht) Ziele und Motivation des Landwirtes Ökonomischer Erflog und Nachhaltigkeit vereinen und sich früh auf neue politische Rahmenbedingungen einstellen **Kernaussagen** •Spot-Spraying im Dauergrünland hat mit stark verminderten PSM gute Erfolge erzielt – Kosten ähnlich zur Flächenbehandlung dank der geminderten Aufwandmenge •Es empfehlen sich pflugloses Arbeiten und Striptill oder Mulchsaat Verfahren •Hacke-Bandspritze (reduzierte Aufwandmenge) funktioniert im Mais gut, außer es zu viel Organik an der Oberfläche (Was eigentlich gewünscht ist). Es bietet sich die Verwendung einer Rollhacke an. •Zwischenfrüchte und Begrünung fördern Erosionsschutz •Als Wintergetreide bietet sich Physarium 4-3 an **Schlussfolgerungen** Agronomisch: Grünroggen/Strip-Till ohne Totalherbizid Ökologisch: Durch mechanisches Hacken mehr N-Mineralisation (im Wasserschutzgebiert) und Humusabbau. Bodenbrüter gestört durch mechanische Unkrautregulierung Ökonomisch: Mechanische Lösungen mit erhöhtem Aufwand/Kosten verbunden, Spezialtechnik schwierig zu bekommen Sozial: Koordination mit Lohnunternehmer **Vorteile** •Für Dauergrünland hat sich das Spot Spray Verfahren als besonders positiv erwiesen. Es ist ein ökologisch und ökonomisch sinnvolles Verfahren zur Unkrautbekämpfung. •Das Strip-Till Bodenbearbeitungsverfahren verbindet Ertragssicherheit und Erosionsschutz, indem ein Großteil des Feldes nicht mechanisch bearbeitet wird und der Mulch wie eine Schutzschicht wirkt. **Beschränkungen** •Für ein zukünftiges Projekt wünsche ich mir bessere Organisation und mehr Output in den ersten Jahren

Practice "abstract" 24:	
Short title in English	How I implement IPM – Grape farm in Greece [AUA]
Short summary for practitioners in english on the (final or expected) outcomes (1000-1500 characters, word count – no spaces). *Do not complete if the summary below is completed in English*	**AGRONOMICAL CONTEXT** Grapevine varieties: Crimson, Thompson Utilised agricultural land: 5.5 ha Field preparation: No rotation Use of conventional mist blowers **OBJECTIVES AND MOTIVATIONS OF THE FARMER** Limit the use of pesticides to enhance sustainability. **MAIN PESTS** Weeds Pseudococcus Botrytis (Black rot) Thrips Eudemida Powdery mildews **Key measures** Good airflow and aeration between the rows and providing adequate light to the crop Keep relative humidity in low levels based on optimal irrigation schedule. Management practices, such as pruning, weed control and optimum levels of N fertilisation. Use of resistant varieties **Key conclusions** 18 spraying applications are proved to be very expensive for the farmers Plant protection products: affect the environment negatively due to chemical application The consumers add pressure to the farmers, while the government does not support the transition to reduce the use of chemicals products. The pests are becoming more and more resistant to the chemical compounds. **Advantages** My dedication to continuous learning and my commitment to integrating IPM principles, particularly for cover crops, exemplify my motivation for sustainable agriculture

Link to the complete booklet: https://ipmworks.net/toolbox/en/#/resource/6731c48023b65b5b5bf5e9b7

Short summary for practitioners in native language (*can be the language of the coordinator / one of the partners - otherwise in English*) (1000-1500 characters, word count – no spaces).	**Αγρονομικό πλαίσιο** Ποικιλίες αμπέλου: Crimson, Thompson Χρησιμοποιούμενη γεωργική γη: 55 στρ. Προετοιμασία αγρού: Δεν γίνεται αμειψισπορά Χρήση συμβατικών νεφελοψεκαστήρων **Κύρια παράσιτα** Ζιζάνια Ψευδόκοκκος Βοτρύτης Θρύπας Ευδεμίδα Ωίδιο **Στόχοι και κίνητρα του αγρότη** Περιορισμός της χρήσης φυτοφαρμάκων για την ενίσχυση της βιωσιμότητας. **Κύρια μέτρα** Βασικά μέτρα που εφαρμόστηκαν με ορισμένες εξηγήσεις και αιτιολογήσεις Καλή ροή αέρα και αερισμός μεταξύ των σειρών. Επαρκής φωτεινότητα. Διατήρηση της σχετικής υγρασίας σε χαμηλά επίπεδα με βάση το βέλτιστο πρόγραμμα άρδευσης. Πρακτικές διαχείρισης, όπως κλάδεμα, έλεγχος ζιζανίων και βέλτιστα επίπεδα λίπανσης με Ν **Συμπεράσματα** 18 εφαρμογές ψεκασμού αποδεικνύονται πολύ δαπανηρές για τους αγρότες. Φυτοπροστατευτικά προϊόντα: επηρεάζουν αρνητικά το περιβάλλον λόγω της εφαρμογής χημικών ουσιών. Οι καταναλωτές ασκούν πίεση στους αγρότες, ενώ η κυβέρνηση δεν υποστηρίζει τη μετάβαση στη μείωση της χρήσης χημικών προϊόντων. Οι εχθροί γίνονται όλο και πιο ανθεκτικοί στα χημικά σκευάσματα. Κατάθεση το αγρότη (τεχνικά αποτελέσματα και ενδιαφέρον για το IPMWORKS δίκτυο)