FAIR

DIGITAL TOOLS FOR FARM ADVISORS

Digital Tools and Advisory Services DATs

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Findable, Available, Interoperable, Reusable and Shareable

H2020 **Rural Renaissance – Taking Advantage of the Digital Revolution**

Topics: **RUR-13-2018:** Enabling the farm advisor community to prepare farmers for the digital age

Coordination and Support Action (CSA)

1. **Aim of Fairshare**
2. **What are Good Practices?**
3. **Train the trainer Modules**
4. **Conclusions and next steps**

1. Aim of Fairshare

FAIRshare aims to support farm advisors to use Digital Advisory Tools and Services (DATS) to support a more productive and sustainable agriculture.

The core of FAIRShare: The DATS Inventory

Additional information to ensure advisors success when working with DATS

Good pratices: What makes a DAT succesful?
WP2

What are barriers , engagement, incentives for the uptake for DATS?
WP 3

![FAIRshare — DIGITAL TOOLS FOR FARM ADVISORS]

Additional information to ensure advisors success when working with DATS

User cases are:
A challenge faced by a group of advisors

A new approach with targets of what they want to achieve

One or multiple DATS that the advisors have identified to solve their challenge
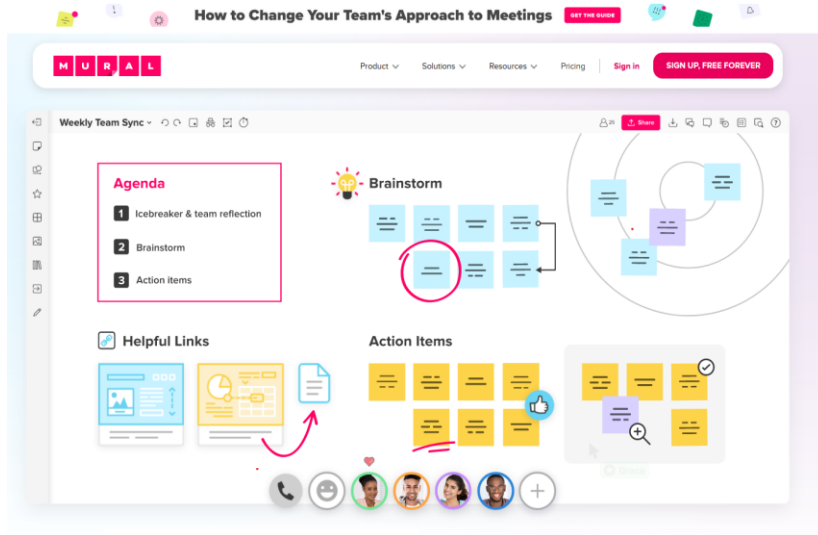WP 5 & WP 6

Development training modules
WP 6

Train the trainer: Train and support trainers of advisors in the use / implementation of digital tools
WP 6

Example Communication: MURAL

Virtual whiteboard allowing cooperative work

Example Calculation CostCheck The Mastitis Cost Calculator

Calculation of financial losses due to mastitis

Data is entered manually

Visualisation available

CostCheck

Detailed results

Total volume of milk not produced by the herd based on the Current SCC category when compared to an average SCC of <100,000 cells/ml

Total volume of milk not produced by the herd based on the Target SCC category when compared to an average SCC of <100,000 cells/ml

RESULTS: BREAKDOWN OF COSTS OF MASTITIS	CURRENT	TARGET
Milk production losses		
Volume of reduced milk production (litres)	-36,733	-17,412
Value of lost milk production	€7,714	€3,656
Potential gain from reducing SCC		**€4,058**
Treatment		
Cost of treatment	€558	€198
Cost of days of milk withheld	€784	€413
Potential gain from reducing SCC		**€731**
Culling		
Value of cull cows	€5,843	€2,478
Cost of replacing culled cows with heifers	€15,415	€5,537
Net culling costs	€9,572	€4,059
Potential gain from reducing SCC		**€5,513**
Other costs		
Cost of replacing cows died due to mastitis	€0	€0
Cost of penalties imposed due to high SCC	€0	€0

Developed by Livestock Systems Research, Teagasc, Moorepark, Fermoy, Cork, this Fund in consultation with the CellCheck.

Example Decision support system RISE

Bodennutzung (62)

Betriebsführung (85)

Tierhaltung (90)

Wirtschaftlichkeit (80)

Betriebsmittel & Umweltsc

Lebensqualität (58)

Wassernutzung (90)

Arbeitsbedingungen (83)

Energie & Klima (88)
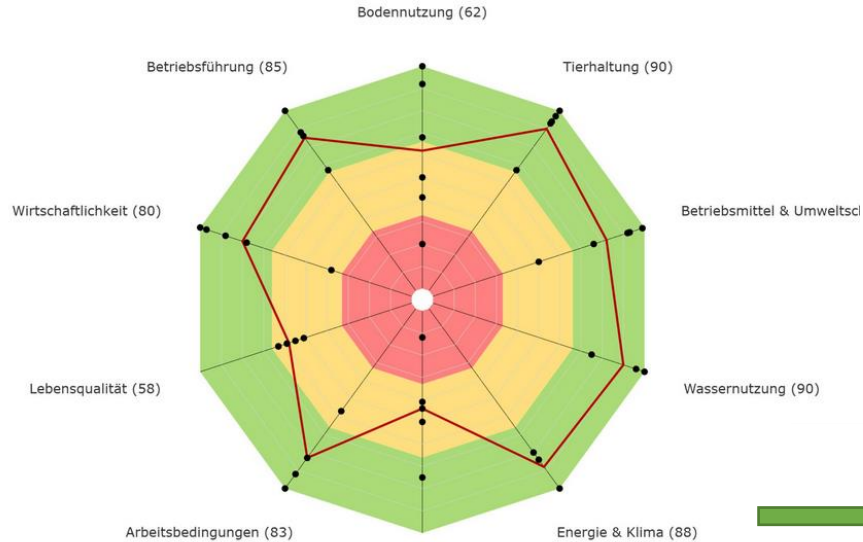
48 Questions for 10 fields of sustainability

Feedback discussions for decision

Decision — Use
Insight — Understanding
Knowledge — Meaning
Information — Context
Data
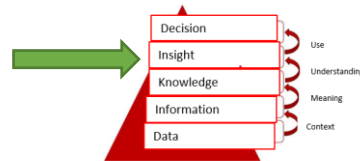
Development of Good Practices in FAIRShare

Collection of Good Practices using an Excel form by FAIRShare partners

Writing of storyboards which explain the Good Practice using a real life example

Publication as videos

Discussion with advisors at IALB conference in June 2022

Good Practices are available as videos

What is a good practice?

1. A key feature of a DATS you find useful in advisory work or a method for developing/adapting a DATS.
2. This key feature/method is 'tried and tested', has been used with good results a number of times.
3. Other advisors/farmers could find this feature/method useful and use it in their own work.

FAIRshare Good Practices – User Friendliness
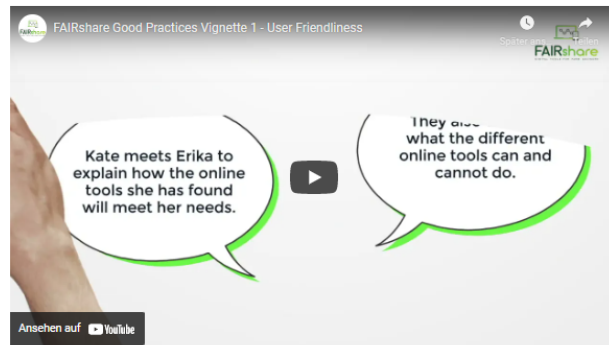
FAIRshare Good Practices – User–Centred Design for Diversity
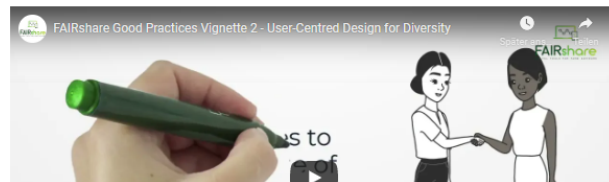
May 2022: Videos are being created

https://www.h2020fairshare.eu/fairshare-good-practices/

The 20 Good Practices of FAIRshare

User Friendliness	User-Centred Design for Diversity	Environmental Monitoring & Control	Easy to use	Helps to manage work load
Increases the efficiency of advisory work	Co-development and joint maintenance of DATS	Supports resolution of social challenges	Supports livestock management and animal health	Easy to use and adaptable
Supports climate change mitigation and adaptation	Reliable data and benchmarks	Enhances knowledge exchange between advisors and farmers	Enhances the cost effectiveness of advisory services, contributes to efficiency	Facilitates environmental monitoring and control
Gender and age of user are considered	Improves quality of life for farm families	Enhances knowledge exchange between farmers, advisors and research	Helps in managing, analysing and exchanging farm data	Improves farm planning and the related decisions

For each DAT it must be decided individually which of the Good Practices is appropriate

Resource: DATS and their selected trainings

DATS and their training sorted by type (Communication, Calculation or Decision support system)

Training frameworks.xlsx

Resource: Training module inventory on the offical website

https://fairshare-pnf.eu/training-modules

3. Train the trainer Modules (Patricia)

- **Aim of the „Train the trainer"-Modules:**
  Train and support trainers of advisors in the use of digital tools addressing the gaps identified in former Work packages

- **4 Modules:**
  What DATS are and can do for you (1)
  How advisors and farmers can be motivated to engage with DATS (2)
  Develop your own project to implement DATS (3)
  Reflect deployment and enhance knowledge exchange (4)

- **Method: Adult learning**
  Exchanging experiences and building on them

Learning aims

Learning aim / Module:	1	2	3	4
advisors/trainers are able to **select good DATS** from the FAIRshare inventory according to their needs, plan and reflect their use	x	x	x	x
know the **range of DATS trainings** (communication, calculation, decision making)	x			
experience the benefit of DATS on the basis of selected examples	x			
analyse 5-10 **good practices** with the application of DATS and determine the impact in selected practices		x		
know how to **motivate and engage farmers**, improve peer to peer exchange and sharing the results with applying DATS		x	x	x
learn from each other how to **collaborate** at the interface			x	x
differentiate own **roles** with respect to advisory services and data collection			x	x

Aims of Module 1

- Make expectations and first experiences of participants visible

- Get to know the goal of FAIRshare

- Get to know the **range of DATS**

- Understand 3 categories and the varying degrees of complexity of DATS

- Reflect on possible **benefits for farmers**

- Know **success factors** in connecting with application of DATS. Implementation of DATS needs good relationship with farmers and a so called "Safe space"

Aims of Module 2

- Reflect selection of new DATS from the **inventory Fairshare.**

- Get to know current **behavior of farmers**

- Understand **motivations and barriers** for farmers and advisors

- Learn how farmers/advisors can be **motivated**

- Getting to know the range of **Good Practices**

- Assignment for module 3: Look at different trainings with a good framework and reflect what could be used when and how

Aims of Module 3

- **Choose trainings** with a good framework and reflect on how to use them in your "Train the Trainer" concept

- **Reflect** own motivation as a trainer and empower yourself for transformational education

- Understand principles of **adult learning**

- Develop your **own TtT project**

Aims of Module 4

- Learn from examples presented and **develop them further**

- Learn how to work with **testimonials**

- Find suitable **knowledge sharing networks** in countries and develop them

Experience the successful use of DATS

- **Choose DATS with a lot of experiences and good trainings**
- **Exemple RISE 3.0**
- Calculation and visualization
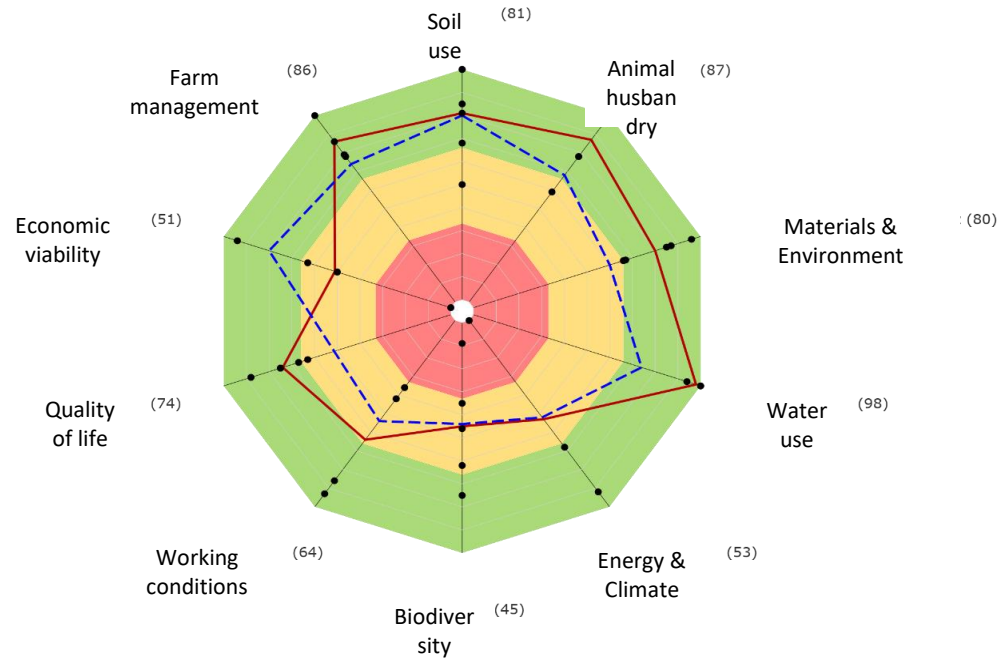
Testimonial «View of a farmer» (Film)

- Pilotfilm DATS Testimonial Farmer
  RISE
  (Bernese University of Applied Sciences)

- "The implementation at the end is on the farm made by the farmer. It's not the tool that will change your farm. The change management has to be done yourself."

- "If you want to reach success with RISE you have to **build up trust** with the farmers because as a farmer when you want to join into an analysis tool, first of all you don't know clearly what the benefit is? You won't get money when you join, you won't get fined when you don't use it. There has to be an **intrinsic motivation** to use that tool. And you give a lot of information away. (…) You really must trust this person that first this data stays there and nowhere else and second that you can expect a valuable outcome.

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Mural Part 4 Successful use of DATS bv farmers

	4 benefits for the farmer?			**Criteria for succesful use for farmers?**			**Typical struggles?**			
Communication	Tom: Clear message	simple use	can get answer on time (now) - no need to wait	minimal digital literacy	friendly (easy use)) tool		everyone wants live communication (after Covid-19)	Communication can be done well, or poorly, Also different approaches - knowledge transfer vs knowledge exchange		
	Two-way, interactive exchange. Opportunity for peer2peer without travel time, if under restriction etc.	Source to find innovations	Vasso: to provide up to date info on what is already available - pool for technologies and training material	Can communicate remotely, safe tyme	Vasso: nice interface, simple/easy to use ang navigate	Must be simple and easy to use. Support offered if needed		Should be supported by human interaction		
Calculation	- measure grass -low input costs -manage fodder	To make farmers keep records		Offline capabilitites	Simple & easy to use - nice interface		DATA SECURITY	Tom competing with sales reps who want to protect margins	Raising awareness of issue/ stakeholder involvement	
		Tom Cost saving	Health Management of herd	Cost saving - Cost Calculator & Pasturebase	Tom up to date Information to support the tool e.g. information on prices of different fertiliser types		Getting farmers to take precise grass measurement to input data	Having Good data	Aging farmers - not familair with DATS in general - need assistance ay the beginning	
Decision support system	Help to select tool suitable for a specific farm context	know situation (legal, technical)	Decisions at any time based on price and value Tom	data available on forehand	should be used by farmers with a vision regarding their farms	Tom good to have adiscussion with groups of farmers opens the door for those intersted in bulk purchasing	time limitation	sharing of data with other farmers (some farmers don't want to do that)	get the right data	Choose a topic that is of interestest (will vary with time, current affairs etc.)
	good overview on the weak and strong points of the farmer	farmers gets access to the DAT	use of the DAT can be repeated/ updated after few years to make a check	Must be simple to use, functional (no bugs)	have enought time to fill in all the data (3 days)	Vasso: provides basic technical info, makes easy to compare	time (data entry) and benefit	Data protection - who owns data/sharing data a risk	the DAT requires some "home assignements" for the farmers as part of the correct usage	
	Vasso: uptodate information for key decisions						Vasso: need to create account for log in, farmer may be confused due to plethora of technologies	average age of farmers - difficult to get farmers with a very long-term vision	Vasso: platform sustainability, project is over, who is going to handle from now on	

Barriers for farmers

Possible barriers for farmers?

Group 1

| No additional support | language barier | Knowledge to use tools | |
| Security Issues | Connection in the field | Cost | Entry of data/ Time to do this |

Group 2

how to choose best DATS (there are many of them in the market)	Lack of co-design. What designers THINK farmers want vs what they ACTUALLY want	Frequent update of program	literacy (written outputs)
farm data is in different DATs. no integrated system	Too complicated user interface	online only use	Time (to research, learn how to use, data input etc.)
Cost	digital literacy	Competing interests/priorities - where to focus?	Difficult/impossible to get a holistic whole farm overview

Group 3

| Time | Skills | Data security worry |
| Complexity of the tools | Fear of mistakes | Connection in the field |

Exploring motivation f

Possible motivations for farmers?

Group 1

| free tool | Efffective tools to help make better decisions -earlier, more details | Reccomendation/ obligation of suppliers/ processors/ managing authorities |
| Easy to use | Tools that support individual contact | Support to use tools - individual advisors or training |

Peer to Peer learning (farmer reccomendations)

Financial/ policy support

Group 2

Co-design and co-development of DATS	community- if everyone uses, farmer will use too	Increse efficiency of the farm	little effort to start using - intuitive, makes life easier	Easy to use/ simple design
Infrastructure/policy (e.g. integrated systems)	Helps to save money and other resources	Financial support	Clear, useful outputs	Training/support
Informs/supports farmer priorities/ problems as perceived by them	decision support	Advisory support the friendly local advisor		

Group 3

| Clarity of outputs and how to use the DATS in day to day decisions | a communication tool that helps advisors to reach the "hard to reach" farmers (for example mountain areas etc) |
| Other farmers and friends with good experiences /stories | Small success in doing some simple repeditive tasks on line and progressing to more challenging tasks and DATS |

What is your insight with respect to motivation of farmers?

2b. What is your insight with respect to motivation of farmers?

farmers need to be involved, because they are end user, and they know best what they need	when involved in co-design, expectations should be managed	DATs Must provide timely information and be user-time friendly - than we will have feedback and exchange		Flexibility of use
Farmers bring different experiences/needs	when farmers learn better decisions, they dont use it no more	All farmers are differnt and have different experiences and expectations Advisers have to cater for all types , co-creation may not work for all only those who make the effort	depends on the stage of use: inflated expectations of disillusion	DAT must provide clear benefits in order to be used by farmers/should be easy to use/plethora of DATs , selection
solve farmers problems on time (to suggest what they need now)	normally buyers force use, later farmers get motivated	Sometimes farmers don't seem 'motivated' because the DAT is useless...	fanrmers dont listen to colleague pioneers,: the dont want to lose money	It is not linear - two-way exchange and mutual respect is needed!

Co-Creation: "Seeding, growing and harvesting"

- Analyze need of farmers, what DATS do they need?
- Analyze sustainability problems in region
- Co-Create train the trainer programs
- Choose (co-created) DATS
- Differentiate basic or advanced users
- Depending on DATS it needs more technical support or help with interpretation
- Find testimonials of farmers and advisors, create short videos (learning processes)
- Highlight the benefits for farmers
- Build and maintain relationships, trust, credibility
- Cover the whole learning process (problem solving, impact, behavior change)
- Monitor learning processes and case studies
- Organise Follow-Up after course, provide support during "the valley of tears"

4. Conclusions and next steps

- Positive feedback on Pilot trainings
- choose as practical a focus as possible and the need to challenge trainees to be as interactive as possible and leave plenty of space for this interaction.
- Exchange of experiences stemming from the trainers, the advisors or from testimonials coming from farmers, advisors and developers is essential
- personal story of each participant at the beginning. check difference at the end of the training
- extra time is needed for each participant to voice opinions and experiences
- advisors need to understand the motivations and barriers of farmers to be able to plan a training
- a 'background/how to booklet' so that this background must not be presented and the training can stay compact;

Next steps

- FAIRshare project till October 2023,

- *Supporting advisors to support farmers using DATS*

- Trainings till end of project, trainers will continue support of advisors

- Continuous evaluation and adaption

- Learnings from cases: WP on novel DATS use cases

- Extracting Best Practices: WP on good practices, delivering badges

- Communication, dissemination: WP, includes recommendations

Conclusion: Quality of advisors is combination of knowledge exchange and personal involvement

WILEY

Soil Use and Management

BRITISH SOCIETY OF SOIL SCIENCE

FIGURE 6 Farmer field day: using everyday language and storytelling in an informal setting to share knowledge (video still)

FAIRshare will keep those qualities, and facilitate and deepen the exchange and augment interaction

FIGURE 6 Farmer field day: using everyday language and storytelling in an informal setting to share knowledge (video still)

Findable, Available, Interoperable, Reusable and Shareable

Thanks for your attention!

Tom Kelly

Patricia Fry

Peter Paree