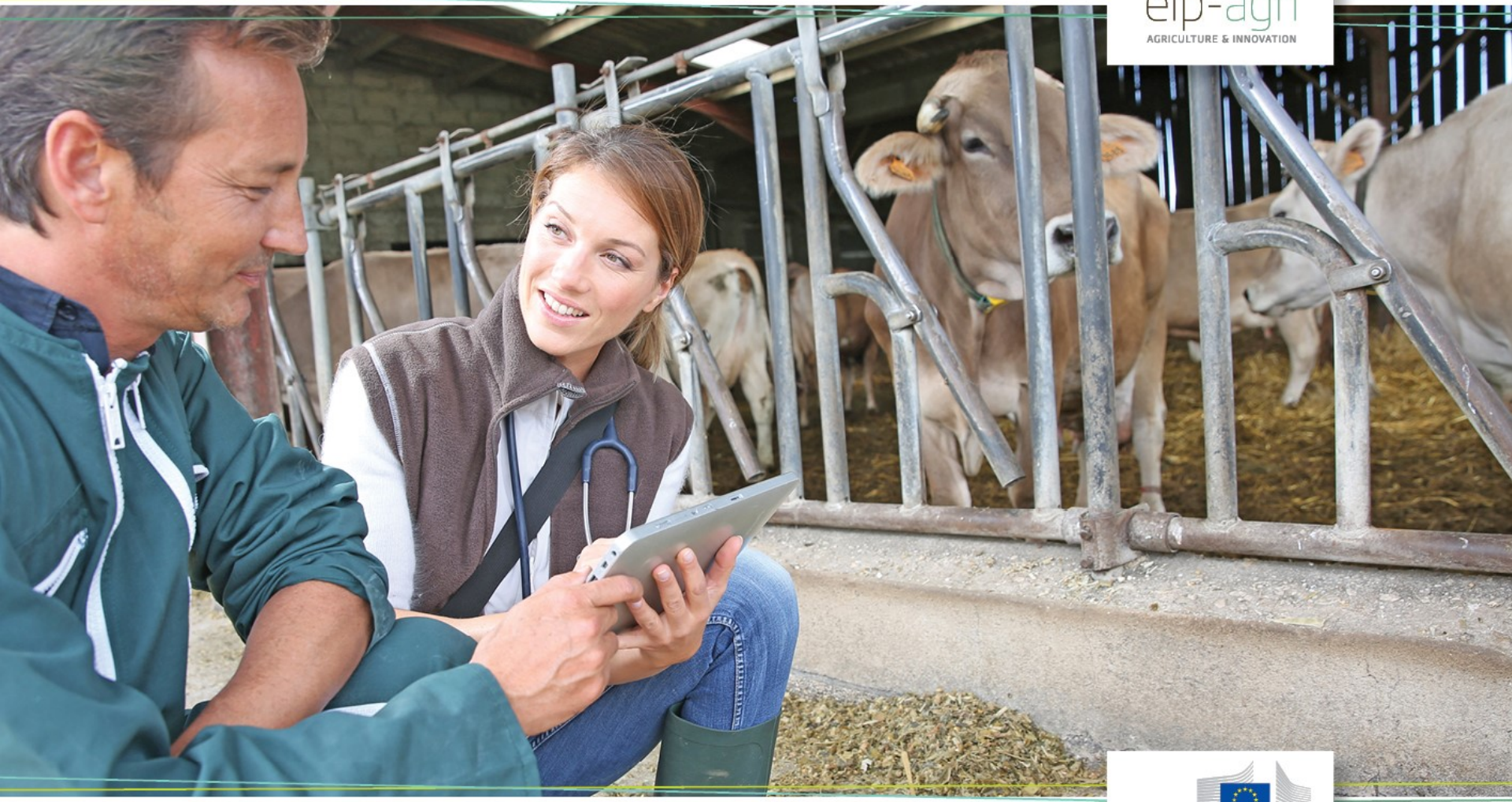
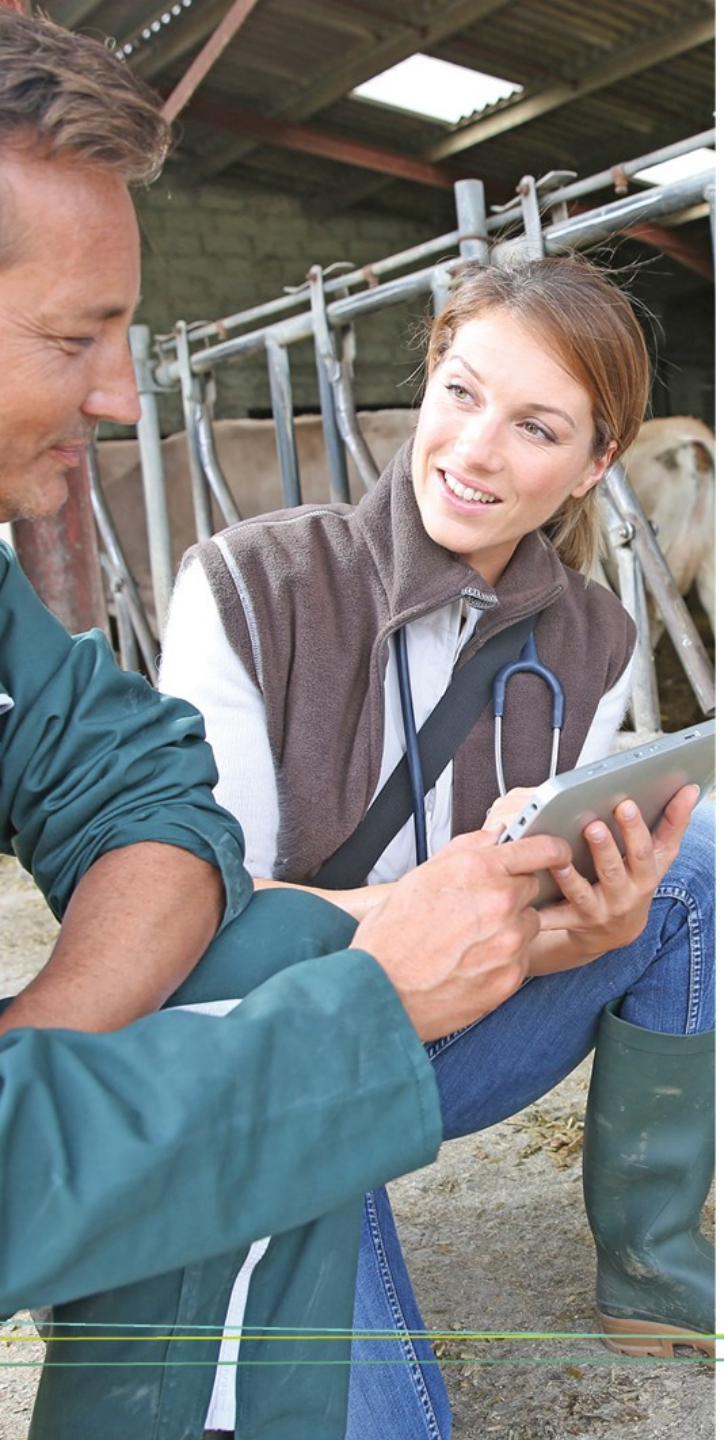
EIP-AGRI Workshop
Tools for environmental farm performance

7 - 8 February 2017 – Zagreb, Croatia

eip-agri
AGRICULTURE & INNOVATION



funded by European Commission



EIP-AGRI Workshop
'Tools for environmental farm performance'
Tuesday 7 February 2017, Zagreb - Croatia

12:00 – 13:00 Registration and buffet lunch

13:00 – 13:10 Welcome words

- *Iman Boot, DG Agriculture and Rural Development*
- *Krešimir Ivančić, Croatian Ministry of Agriculture*

13:10 – 13:20 Icebreaker

13:20 – 13:40 Introduction to the theme of the workshop by DG AGRI

13:40 – 14:00 Setting the scene by the coordinating experts of the workshop

14:00 – 14:45 Elevator pitches, highlighting the three main reasons for which farmers may use sustainability tools (farm initiative, food chain, legislation)
Consecutive panel reflections

- *Martijn Buijsse, Skylark, The Netherlands*
- *Vincenzo Angileri, Joint Research Centre, European Commission*
- *Simon Miller, Cool Farm Tool, UK*

14:45 – 15:45 Presentations of existing environmental sustainability tools

- *John Lynch, TEAGASC, Ireland*
- ***Romain Dieulot, FNCIVAM, France***
- *Kathryn Green, LEAF, UK*
- *François Lerin, CIHEAM-IAMM & HNV-Link Thematic Network, France*
- *Josien Kapma, Boer & Bunder, The Netherlands*
- *Dóra Mészáros, SMART, Hungary*

15:45 – 16:15 Coffee break

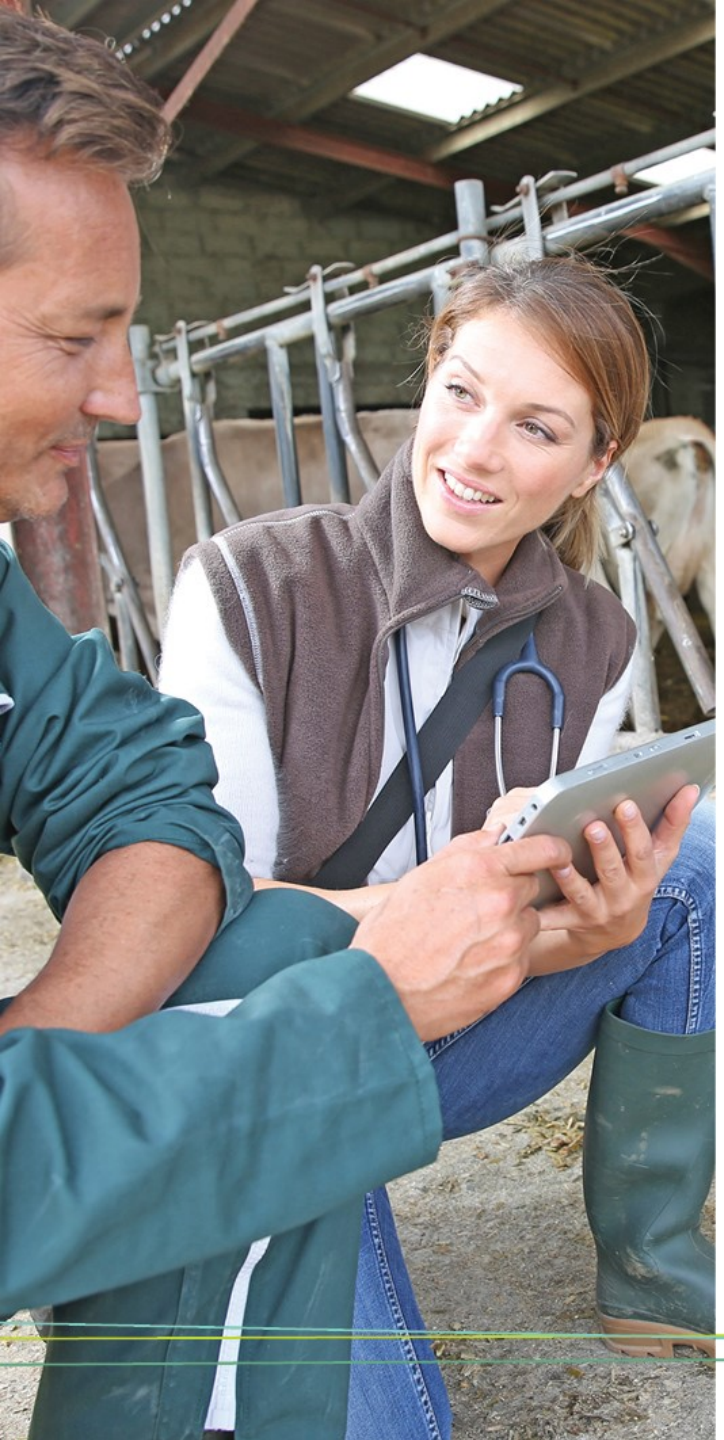
16:15 – 18:00 Break-out sessions

19:00 Networking dinner

#EipAgri
#EnvirTools

funded by the European Commission

eip-agri
AGRICULTURE & INNOVATION



EIP-AGRI Workshop
'Tools for environmental farm performance'
Wednesday 8 February 2017, Zagreb - Croatia

09:00 – 09:30 Energiser exercise
Summary of previous day and conclusions by coordinating experts Janet Dwyer and Marta Pérez-Soba

09:30 – 10:30 Break-out session

- What does the ideal tool look like to you?
- What can you do to make such a tool become a reality?

10:30 – 11:00 Coffee break

11:00 – 11:45 Break-out session (continued)

- If you would start an EIP-AGRI Operational Group to design the ideal tool, what would be the main problem to solve or opportunity to take, who would be the partners and how would you design the project?

11:45 – 12:00 Harvesting

12:00 – 12:30 Plenary session

- What happens after the event? Concrete ideas for follow-up actions

12:30 – 13:30 Lunch and departure

#EipAgri
#EnvirTools

funded by the European Commission

eip-agri
AGRICULTURE & INNOVATION

SUSTAINABILITY TOOL OF RESEAU CIVAM
THE “DIAGNOSIS OF SUSTAINABILITY”

FOCUS ON
ENVIRONMENTAL FARM PERFORMANCE

WHY MEASURING SUSTAINABILITY ?

- Alarming global context regarding environment => questions agricultural model

- 'Réseau Civam' = farmer's organization for farm's sustainability improvement
  - Based on **economical and autonomous farming system**.
  - Supports farmers in their changing system by capitalization of technical and economic baseline from collective groups, and diffusion for adaptation in each territorial particularities.
  - To promote the interest of those farming systems, it is necessary to measure their results and knowing if they are performant and in what are they performant ?

  ⇒ **Are they a relevant answer to the identified stakes, especially regarding environmental sustainability ?**

- System of sustainability performance assessment with **2 main objectives**:
  - Create reference for benchmarking and reporting performances of sustainable farming systems.
  - Increasing decision-making autonomy of farmers

WHAT IS THE TOOL ABOUT ?

METHODOLOGY

- **Global approach of :**
  - sustainability : 3 pilars => economic, social, environmental
  - farming system : systemic analysis
- **Indicators**
  - selected by farmers themselves
  - 2 kinds : quantified/subjectives

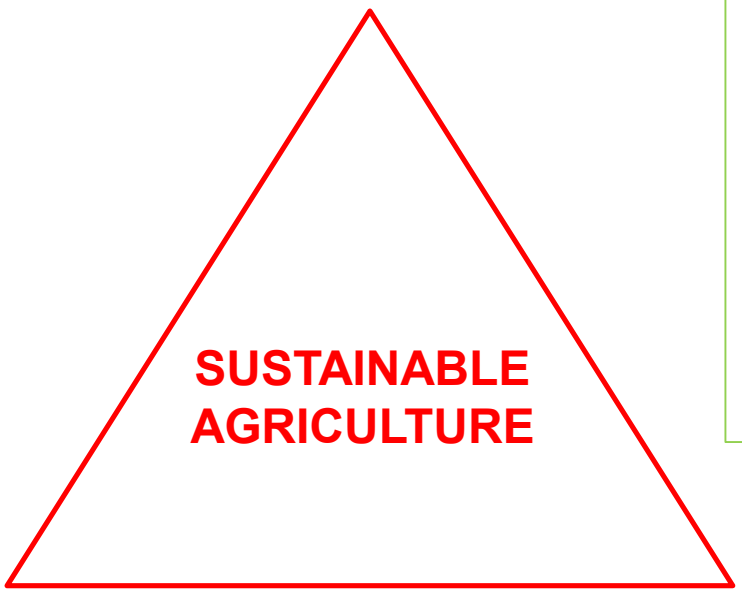
TOOL : DIAGNOSIS OF SUSTAINABILITY

- **Exchange facilitation tool** // description of reality
- **Easily usable by advisors, farmers, students :**
  - 3 sections x 7 performance criteria calculated by indicators.
  - 3-4 hours to fulfill
- **Data accessible** : accountability + interview
- **Appropriable indicators** : calculation explained => pedagogy
- **Results** : 3 radars and a scoring scale + comments (SWOT, obj.)
- **Raw data are collected** for benchmarking and analysis
- **Tool open source** : scoring can be adapted

HOW TO USE IT

- **Collective meetings** : Analysis to initiate exchanges and discussions
  > Advisors = facilitators trained + exchange groups of users
- **Collection => reference** for farmers, students, advisors, authorities…
- **Education** : obligatory tool in agricultural classes

WHAT IS THE TOOL ABOUT ?



1. **Nitrogen balance**
   ⇒ N unite per hectare (input – output)
   ⇒ N polluting potential of the system
2. **Pesticides**
   ⇒treatment frequency index
3. **Biodiversity**
   ⇒environmentally beneficial farming practices
4. **Lengths of hedges**
   ⇒nb of meters
5. **Soils conservation**
   ⇒rotation and practices
6. **Energy dependency**
   ⇒nb of MJ units spent
7. **Climate change contribution**
   ⇒CO2 and CH4 units released

1. **Economic efficiency** => good valorisation of input
2. **…**

…
Use of the land
6. **Efficiency of land use to create income**
7. **Land footprint**

HOW DOES IT WORK ?

USER GUIDE

Performance criteria

Meaning, interest & limits

◆ 1er critère : Bilan des minéraux ou apparent

Utiliser l'onglet « calcul bilan N » du **tableur** pour calculer ce critère.

Indicateur	*Barème*	Points	
Unités d'azote par ha de SAU	> 100 uN/ha	0	Traduit l'importance globale des excédents d'azote par un bilan entre les entrées et les sorties, c'est à dire l'efficacité de l'utilisation de l'azote par le système de production. L'excédent est un potentiel polluant, qui sera piégé, lessivé ou volatilisé selon les pratiques et les formes de l'N.
	80 à 100 uN/ha	1	
	60 à 80 uN/ha	2	
	40 à 60 uN/ha	3	
	20 à 40 uN/ha	4	
	< 20 uN/ha	5	

Indicator

☞ *Bilan des minéraux = entrées (engrais organiques et minéraux, concentrés, achats d'animaux, fixation par légumineuses, fourrages grossiers) - sorties (produits laitiers, viandes ou cultures, fourrages grossiers, engrais organiques).* ***Il faut ajouter au résultat 10 uN liés aux dépôts atmosphériques.***

☞ *NB : les quantités d'azote atmosphérique fixées par les légumineuses peuvent être relativisées au regard des économies d'ammonitrates qu'elles permettent (Quantité N atmosphérique x 1,033 = Tonnes d'ammonitrate économisées).*

Calculation

Scoring Scale

HOW DOES IT WORK ?

CALCULATOR

Bilan des minéraux

		N	P	K
Entrées		kg N	kg P	kg K
E1 - Engrais chimiques		0	0	0
E2 - Engrais organiques		0	0	0
E3 - Azote atmosphérique par les légumineu		3166		
E4 - Aliments		836	156	173
E5 - Animaux		0	0	0
	Total entrées	4001	156	173

		N	P	K
Sorties		kg N	kg P	kg K
S1 - Engrais organiques		0	0	0
S2 - Végétaux		0	0	0
S3 - Légumes		0	0	0
S4 - Lait et œufs		1710	294	480
S5 - Animaux		190	55	32
	Total sorties	1900	350	512

SAU (ha)		N	P	K
		kg N	kg P	kg K
	Solde du bilan	2102	-193	-339
46,6		kg N /ha SAU	kg P/ha SAU	kg K/ha SAU
	Solde du bilan / ha	45	-4	-7
	dont N atm / ha fixé par les lég.			*68*
	T ammonitrates "économisées" par la fixation d'N atmosphérique			*3,3*

Nature de l'intrant	Quantité utilisée	Energie dépensée par unité	TOTAL MJ	CO2 émis par unité	Total kg CO2 émis
FIOUL de la cuve et/ou CUMA eta	6 948	45,6 MJ/litre	316806	3,24 kg éq CO2/litre	22510
Electricité	10 935	10,4 MJ/kWh	113724	0,078 kg éq CO2/kWh	853
Gaz	0	55,7 MJ/kg	0	3,41 kg éq CO2/kg	0
Engrais azoté	0	54,3 MJ/kg N	0	5,334 kg éq CO2/kg	0
Céréales achetées	0	2,7 MJ/kg	0	0,354 kg éq CO2/kg	0
Tourteau de soja	0	5,7 MJ/kg	0	1,579 kg éq CO2/kg	0
Tourteau de colza	11 300	3,3 MJ/kg	37290	0,460 kg éq CO2/kg	5198
Tourteau de tournesol	0	3,2 MJ/kg	0	0,294 kg éq CO2/kg	0
Luzerne deshydratée	0	13,2 MJ/kg	0	0,961 kg éq CO2/kg	0
Concentrés composés - farine	0	2,5 MJ/kg	0	0,3 kg éq CO2/kg	0
Concentrés composés - granulés	7 200	4 MJ/kg	28800	0,6 kg éq CO2/kg	4320
Poudre de lait	0	43,3 MJ/kg	0	0,11 kg éq CO2/kg	0
Bâches ou enrubannage	150	87 MJ/kg	13050	2,59 kg éq CO2/kg	389
		Total MJ	509 670	Total kg CO2	33 269
		Total EQF	14 271		
		Total EQF/ha SAU	306		

Ce calculateur utilise les données du logiciel Dia'Terre®. Pour en savoir plus : www.ademe.fr

TOTAL GES EMIS SUR LA FERME	
TOTAL tonne CO2	33,26933
TOTAL tonne CH4	7,2673
TOTAL tonne éq. CO2	236,75373
TOTAL tonne éq. CO2/ha SAU	6,1

Calcul émissions CH4	Nb d'animaux	Total kg CH4 émis
Porcs, truies, verrats		0
Vaches laitières	49	5767
Veaux moins de 1 an *hors veaux de 8-15 jours*	15	375
Génisses 1-2 ans (bovin lait)	15	932
Mâles 1-2 ans (bovin lait)		0
Génisses +2 ans (bovin lait)	5	194
Vaches allaitantes		0
Femelles 0 - 9 mois (bovin viande)		0
Femelles 9-12 mois (bovin viande)		0
Génisses 1-2 ans (bovin viande)		0
Génisses +2 ans (bovin viande)		0
Mâles 0 - 9 mois (bovin viande)		0
Mâles 9 - 12 mois (bovin viande)		0
Mâles 1-2 ans (bovin viande)		0
Mâles +2 ans (bovin viande ou lait dt taureau)		0
Béliers		0
Brebis laitières		0
Agnelles laitières		0
Agneaux		0
Brebis allaitantes		0
Agnelles allaitantes		0
Chèvres		0
Chevrettes		0
Boucs		0
Total kg CH4	7 267	

Data

HOW DOES IT WORK ?

RESULTS

N°	1	2	3	4	5	6	7
CRITERES	Bilan des minéraux	Pesticides	Biodiversité	Linéaire de haies	Gestion des sols	Dépendance énergétique	Contribution au réchauffement climatique
Indicateurs	Unités d'N / ha de SAU *cf. calculateur*	IFT : voir guide	voir guide	linéaire haies mètres / ha	voir guide	Total EQF / ha SAU *cf. calculateur & annexe du guide*	Total TeqCO2 / ha SAU *cf. calculateur*
Valeur	45+10=55	4,5	3,5	75	5+3	306	5,1
0	> 100	0	0	< 20 m	0	> à 600 EQF	> 6 TeqCO2/ha
1	80 à 100	1	1	20 à 40 m	1	500 à 600 EQF	5 à 6 TeqCO2/ha
2	60 à 80	2	2	40 à 60 m	2	400 à 500 EQF	4 à 5 TeqCO2/ha
3	40 à 60	3	3	60 à 80 m	3	300 à 400 EQF	3 à 4 TeqCO2/ha
4	20 à 40	4	4	80 à 100 m	4	200 à 300 EQF	2 à 3 TeqCO2/ha
5	< 20	5	5	> 100 m	5	< à 200 EQF	< 2 TeqCO2/ha
NOTE	3	4,5	3,5	5	4	3	1

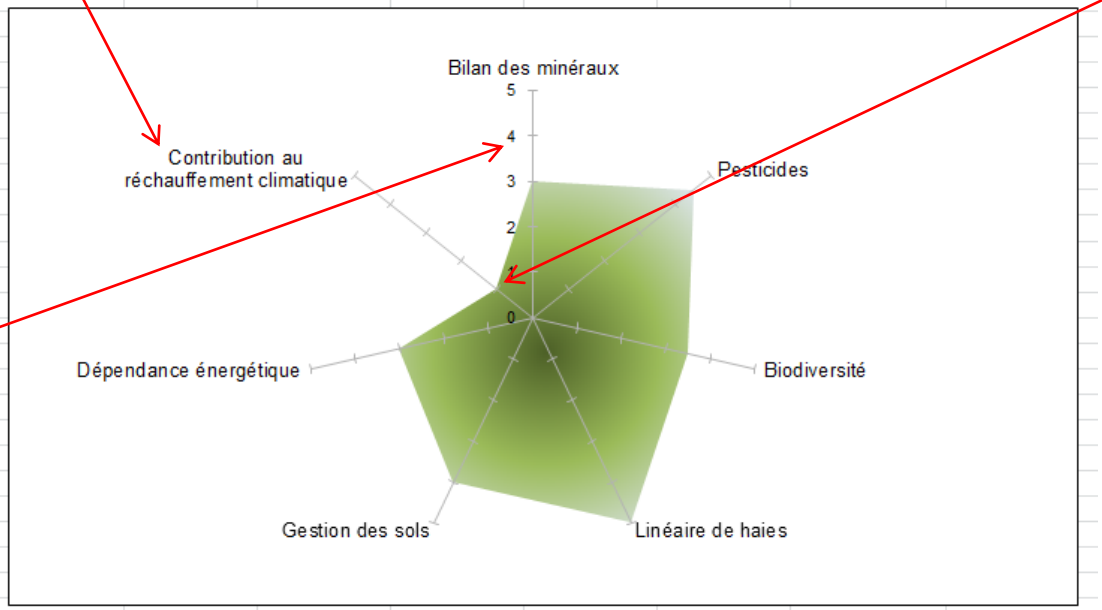
Performance criteria

Indicator

Data

Score

Scoring scale



- Visual presentation = 3 radars
- Scoring scale can be adapted
- Disaggregated results (inter + intra)

=> **Management tool** more than rating tool

WHAT ARE THE BENEFITS ?

For the farmers :

- To step back and to adopt a global approach of their farming system
- To benchmark their data to share practices and experiments
- To determine relevant indicators that meet their personal expectations and then define quantify target to evolve
- To have their environmental practices recognized and valued

For the environment :

- To consider environmental approach of sustainability as important as the other.
- To make links between economic, social and environmental concerns .
  - ⇒ global approach in the analysis. Ex : environ^{tal} efficiency => economic efficiency.
- To measure environmental impacts in agroecology state policies.
  - ⇒ diagnosis identified for : Ecophyto II, GIEE, MAEC (CAP 2nd pillar)

For the students :

- 1st sustainability tool used by students in France (50 visits/day)

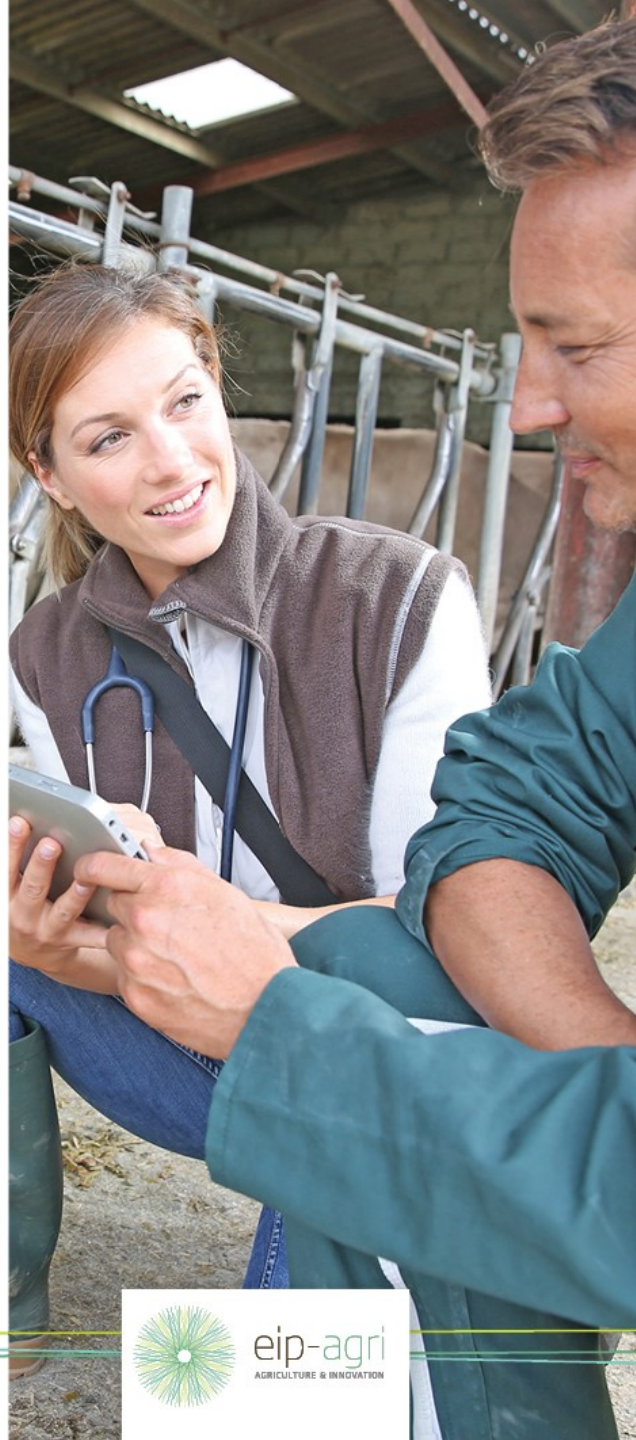
KEYS TO BE USEFUL ?

- Adopt a **global approach**
  - ⇒ environmental sustainability is linked to economic and social
- Allow **appropriation** by farmers => ↗ self-made decision
  - ⇒ to select relevant indicators to define their own objectives
  - ⇒ open source, adapted scoring scale
- **Cooperation** model :
  - ⇒ Collective discussions are more important than the data to make a decision and change
- Role of **advisors** => accompany, **facilitate** discussion and exchange
- Ressources to change their system : short and long-term management

EIP-AGRI Workshop
'Tools for environmental farm performance'

All presentations & background documents are available on the event webpage.

www.eip-agri.eu



funded by the European Commission