

French program
CASDAR Robotic milking and
grazing
State of the situation

Valérie BROCARD and Vincent CORBET

Lelystad 10 oct 2010

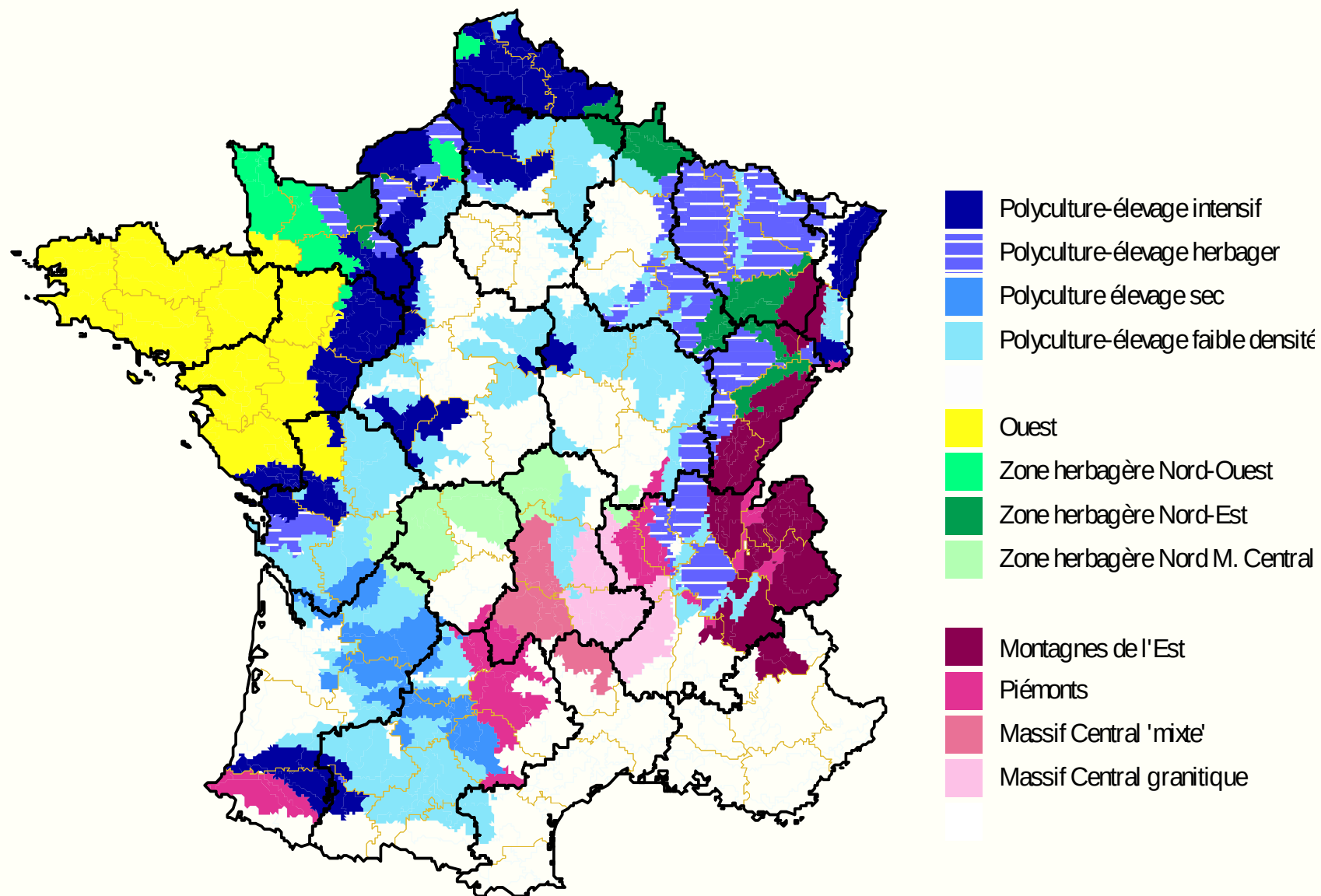
Aims of the project

- CASDAR 2010-2012

"Adaptating robotic milking to French production systems using grazed grass (in plains and mountains) "

- Target : to study adequacy of robotic milking with the variuous breeding systems in France - in plains as well as in mountain areas.

Diversity of French production backgrounds



Grassmilk

Genesis

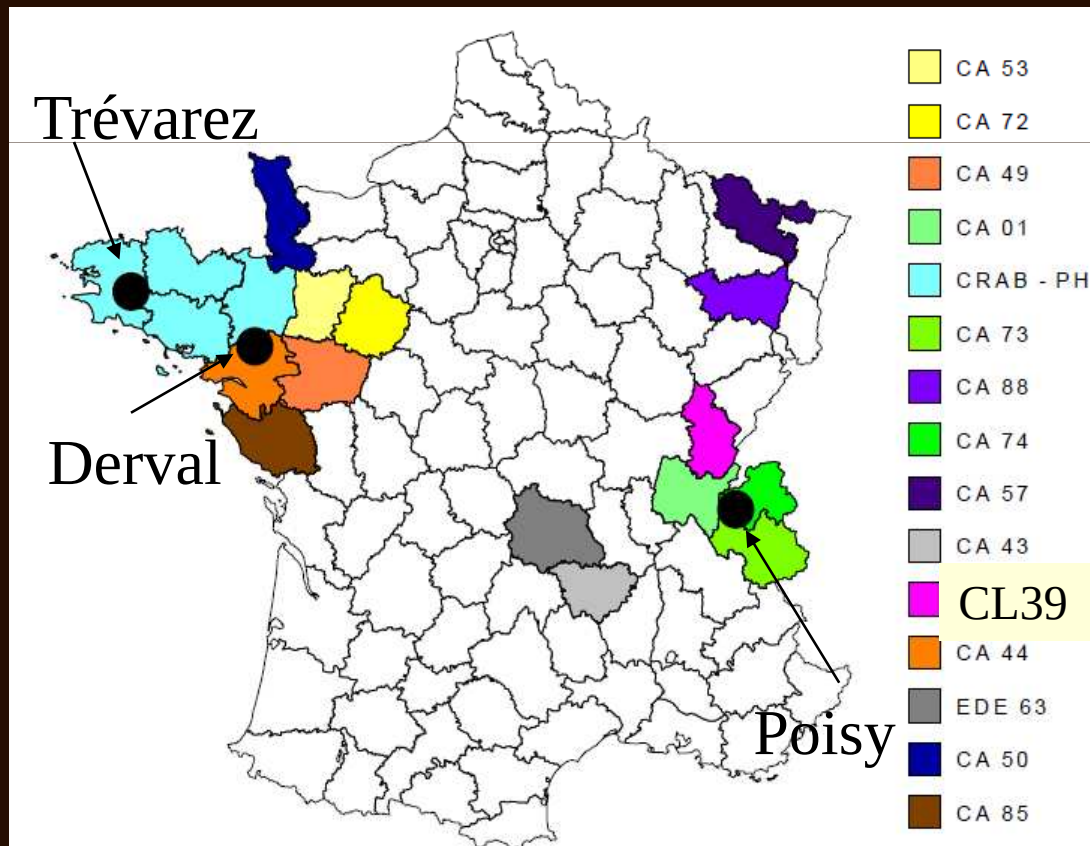
SME project
***"grazing strategies based on
robotic milking"***

Casdar 07
Casdar 08

CASDAR 2009

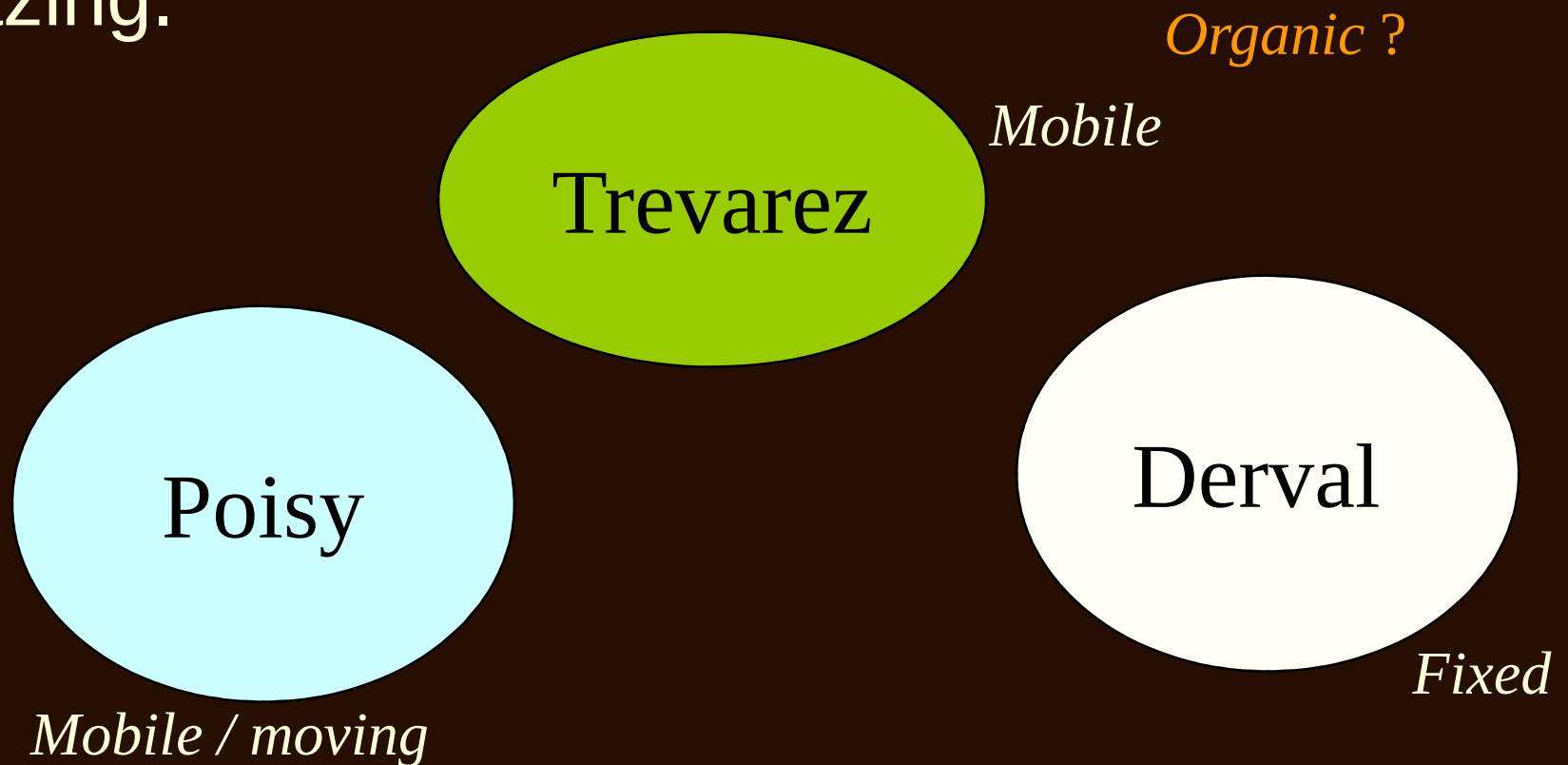
Work packages

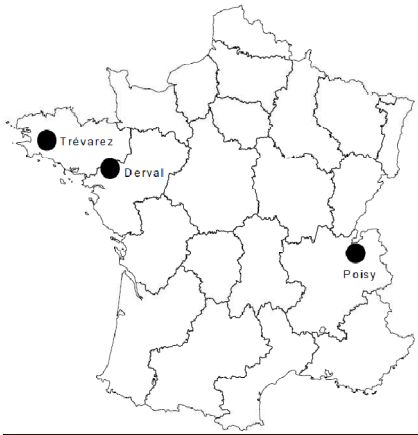
- WP A : experimental farms
- WP B : network of commercial farms
- WP C : transfer



WP A : experimental farms

- Experimenting and improving an innovative breeding system linking robotic milking and grazing.



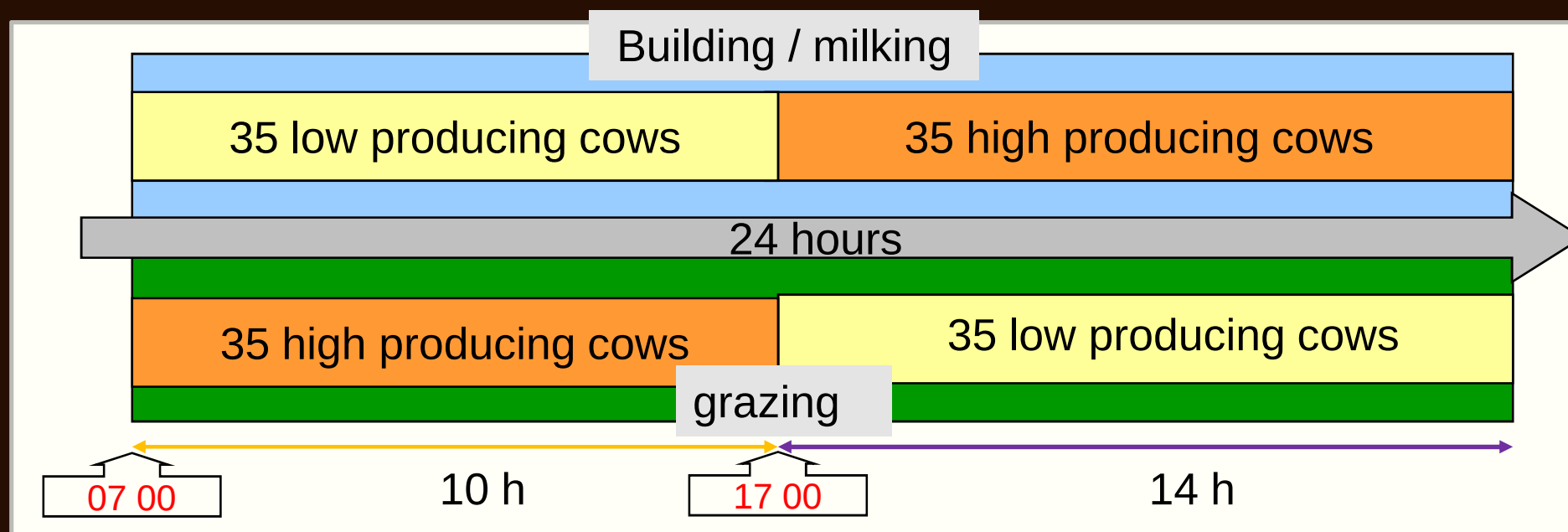


Complementarity of the 3 experimental sites

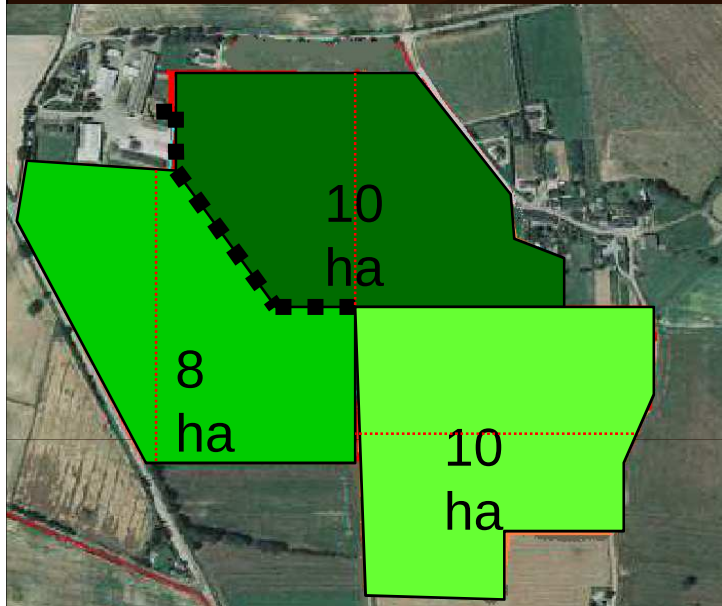
	WP A1	WP A2	WP A3
Experimental Site	Derval (44)	Poisy (74)	Trévarez (29)
Context	Plain, dry	Semi mountain	Plain, wet
Type of robot	Fixed, standard	Standard made mobile	Mobile Prototype

Derval : Grazing season 2010

- Simplified rotational grazing on 28 ha - 3 paddocks
- Herd management : 2 groups alternating
- With or without buffer feed



Derval : results 2010 – yr2



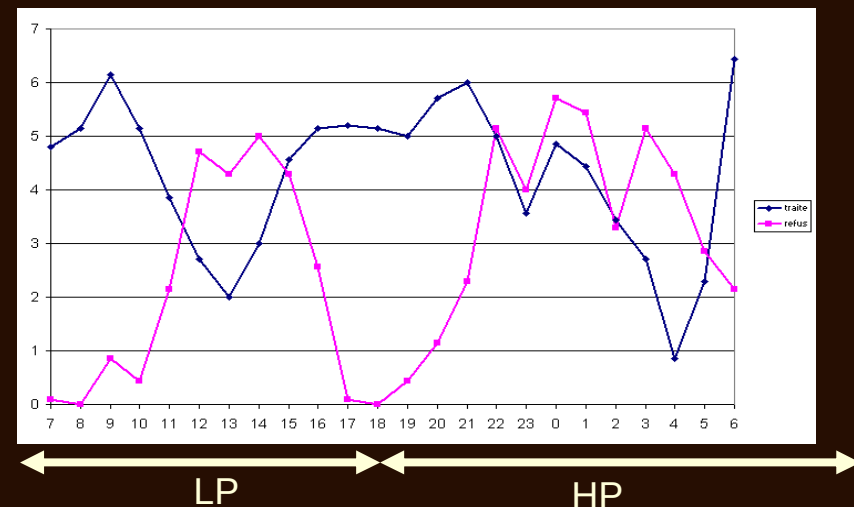
	Day grazing (61d)	100 % grazing (16 d)
cows	71.3	70.1
milking	147	114
Frequency	2.07	1.62
Prod per cow	33.2	25.8
Prod per day	2366	1811

0.36 ha per cow
700 m max

Min inter val= 6h

M

R



Derval : results 2010- yr2

- Drop in milking frequency : milking interval allowance from 6 to 5 hours
- 40 minutes to change groups
- Respect times and cows adapt grazing/milking behaviour
- Check cows individually
- Loss in milk production : 8 kg for high yielders, risk of dry off for low yielders.
- Decrease milking interval allowed to 4 hours ?



Trévarez

Experimental pattern

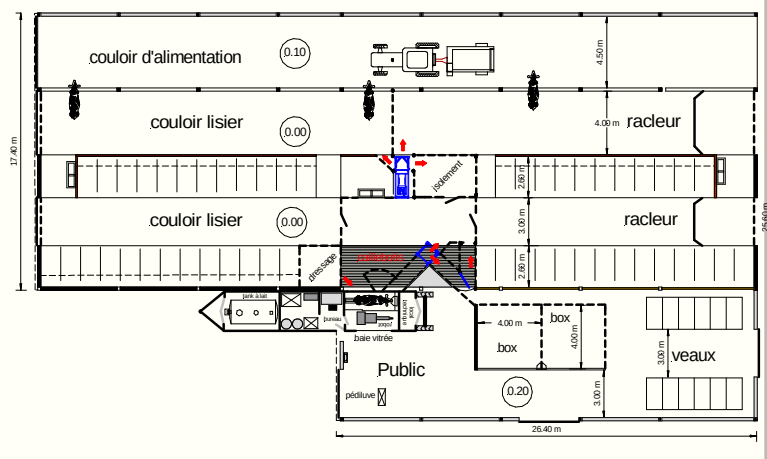
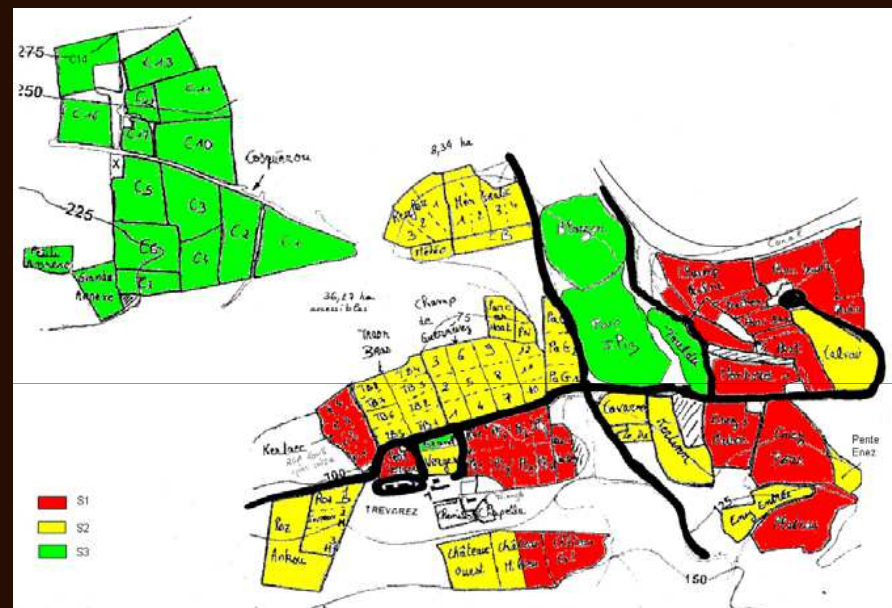
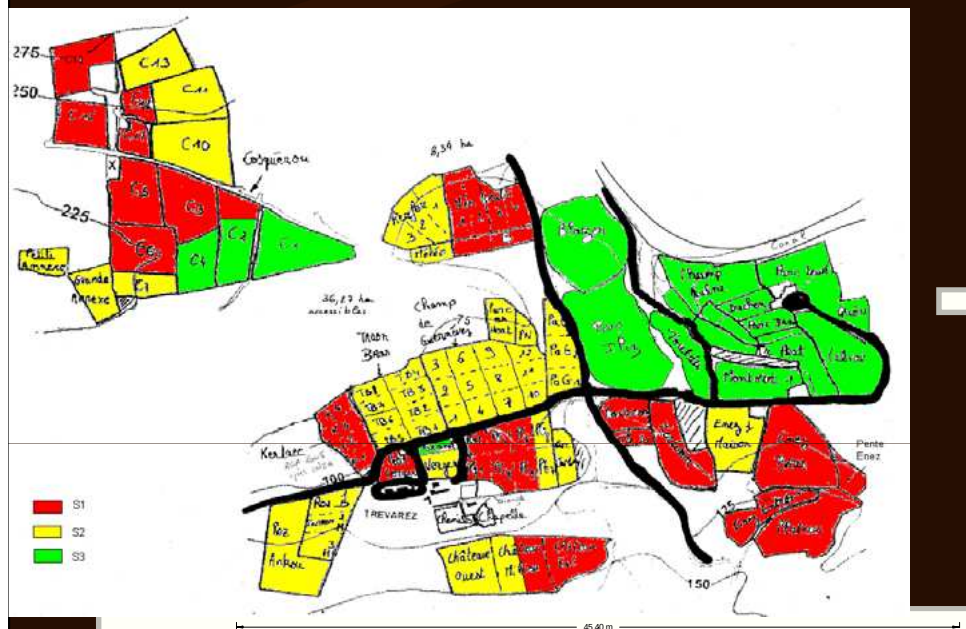
Quota : 1 030 000 litres
155 ha, 145 cows

2009 to 2011 and+	S1	S2	S3
Nbr of cows	48	54	50
Grazed grass per cow (ha)	0.15	0.38	0.38
complementary analytic experiments	Extended lactations (12-18m)	Simplified grazing	Grazing with a mobile robot



Dairyman

Allocation of fields and cows to each system

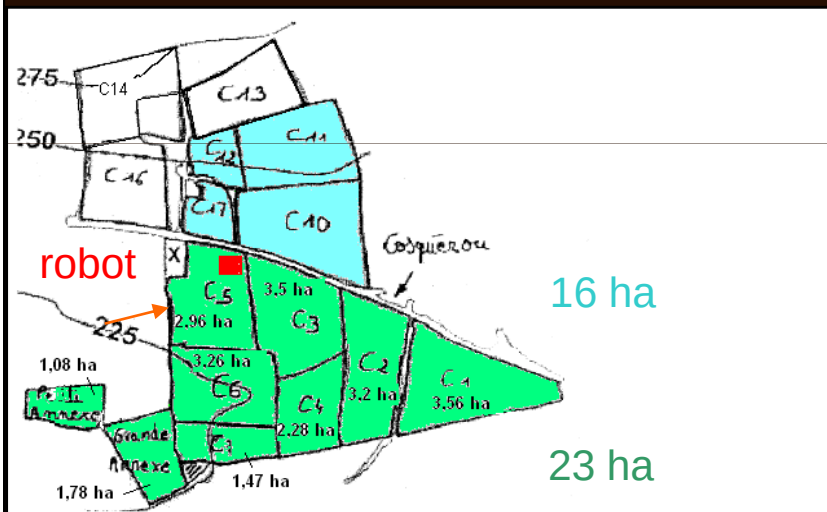


Choice of the summer site /2
Winter site with new building

The mobile AMS for the S3 group



- mobile robot on a platform
- specifications written – call for tenders to be open
- Political + technical agreement
- Funding not completed yet (400.000 €)

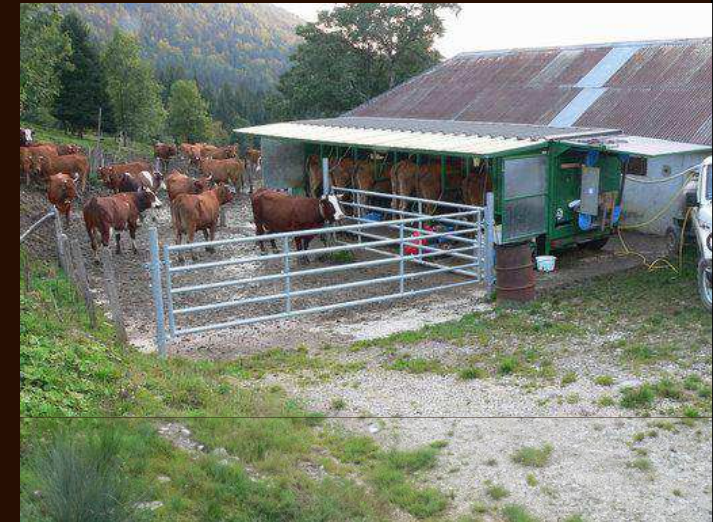


Summer
site

Current projects

- 1 group of 50 cows
- Winter building to be built : winter site
- Summer location : 4.5 Km away – grazing

Poisy : modern version of the mobile milking machines for mountains



AMS

work



tradition

Territory
PGI cheese

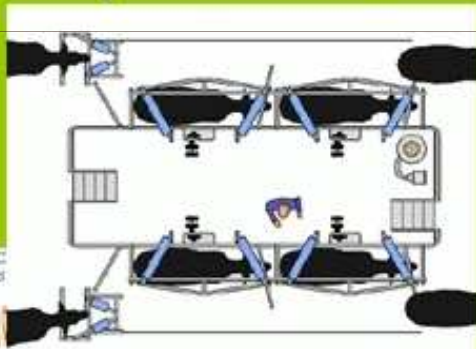


Poisy : focus milk quality and cheese processing

The herd will be split into 2 groups

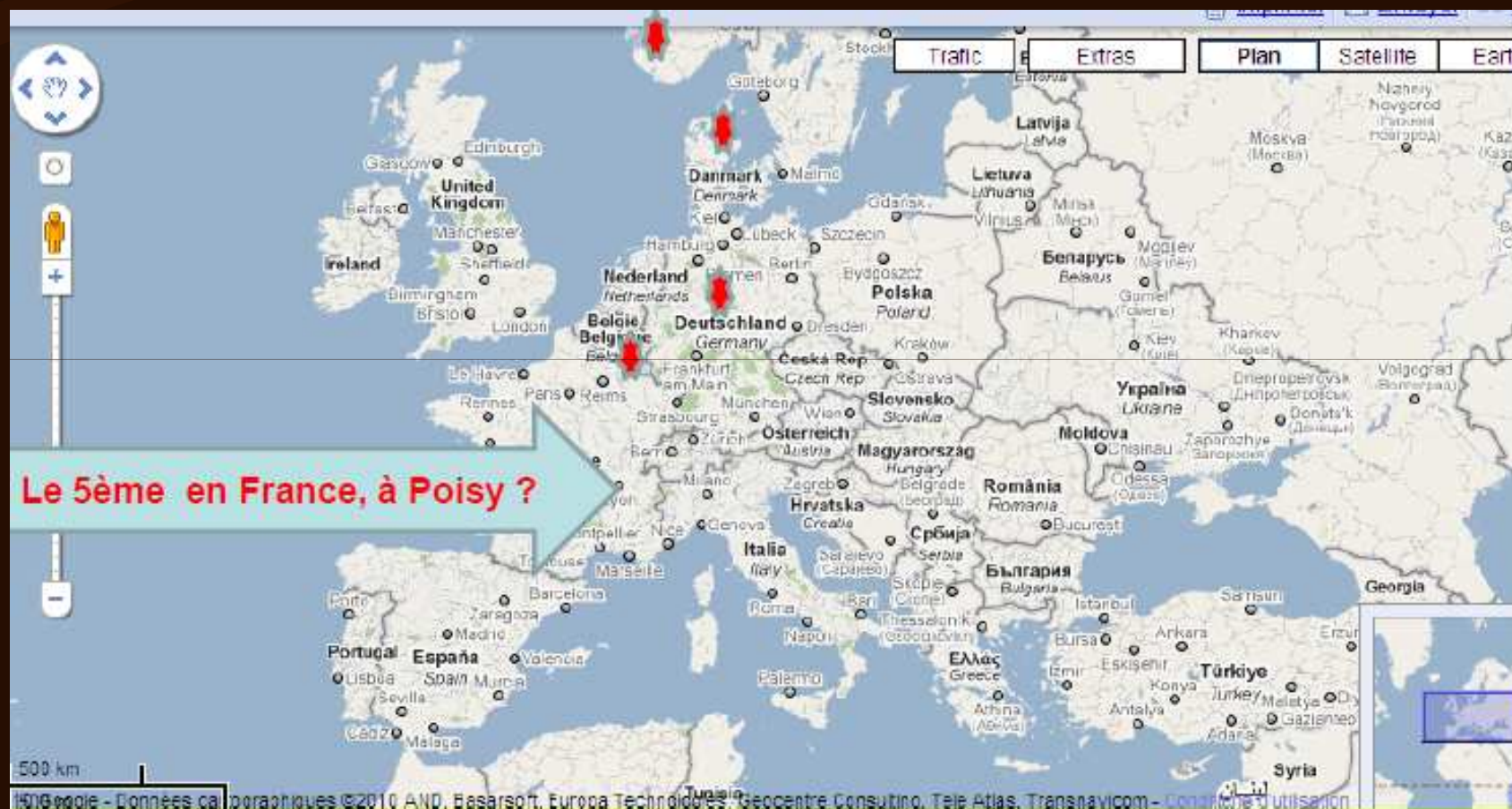
Milking Parlour

Robot



- mobile robot on a platform ?
- specifications written – call for tenders ready
- Political + technical agreement
- Funding not completed :
260.000 €
⇒ delayed

Poisy's team trip accross Europe to see the 4 prototypes



WP B : network of pilot farms (fixed robot + grazing)

Creating a network of pilot farms using well-known technics and implementing new technical solutions tested in experimental farms

Bretagne

Manche

Moselle-Vosges

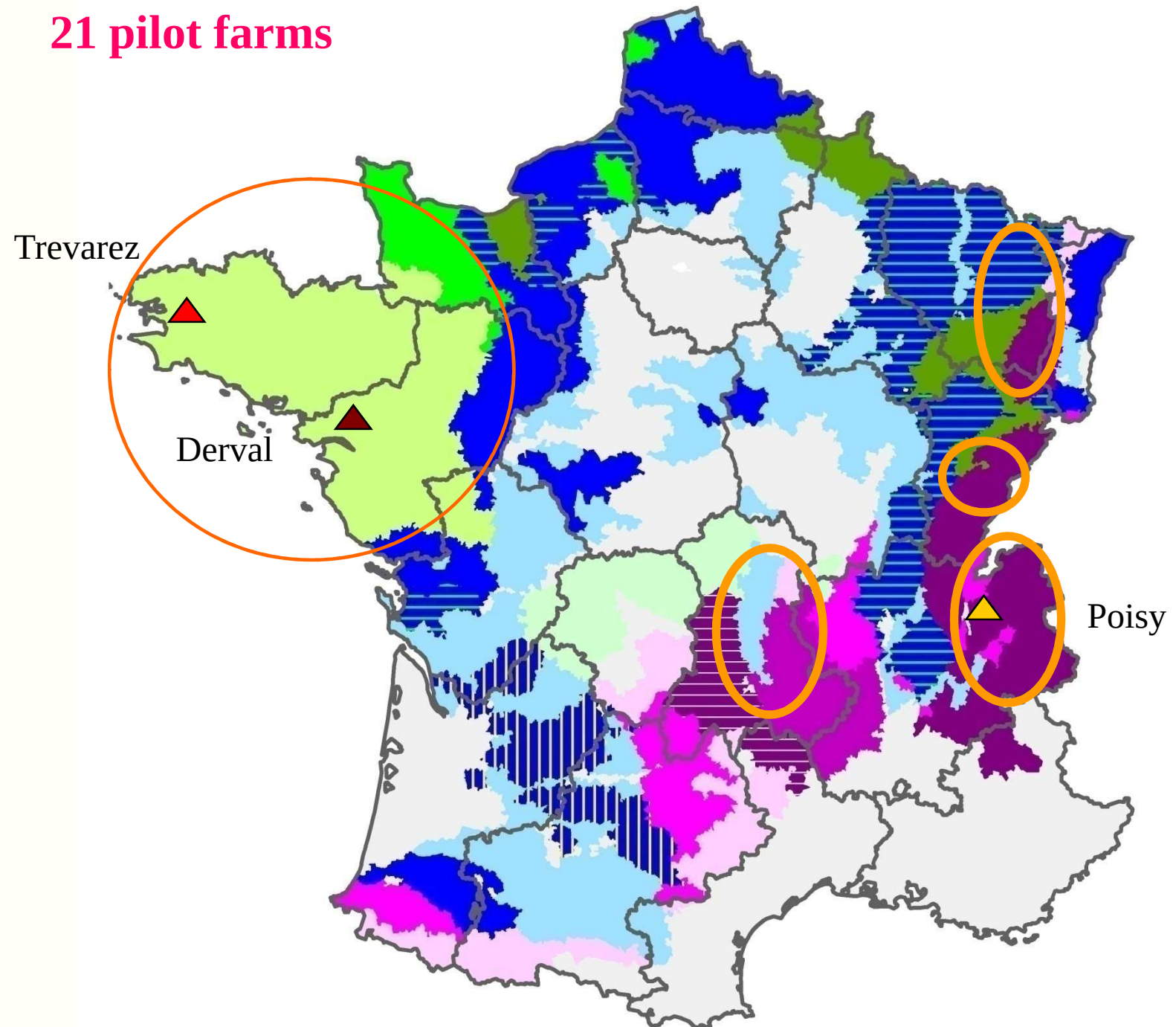
PdLoire

Jura

Puy de Dôme-
Haute-Loire

Savoies-Ain

21 pilot farms



WP C : transfer -communication

**Transferring knowledge :
User's guide for the robot owner to develop a rearing
system based on grazed grass**

Leaflets, books
Open doors
Scientific Communications
Training

...

WP D : adequacy of robot with productions under restrictions (PDO, Organic, PGI)



WP D. Can robotic milking live together with specifications for high added value cheese processing (IGP, PDO, organic)

Refused by board of examiners : Political and « hot » issue

**INTERREG program with Switzerland
started 2010**



Parterships (pilot group)

- ***partners in the pilot group***

*Association of milking machines companies, Milk performance recording, Dairy industries, national House of milk, Regional Chambers of Agriculture of Rhône-Alpes, Brittany, Auvergne et Pays de Loire
INRA : UMR PL, UMT RIEL, RMT « buildings of the future »*

- ***associated partners***

Partners of Grassmilk project + Teagasc and DairyNZ Limited (Greenfield Project)

Funding

Titre des actions	action A	action B	action C	Total général
Coût total en €	520450	229245	83276	832.971
Dont total hors salaire public	520450	229245	83276	832971
Dont total salaire public				
Aide sollicitée CAS DAR	312270	137547	49966	499.783
Autres concours financiers				
Autofinancement	208180	91698	33310	333188

Obtained : 95%

Back to WP C : transfer and communication

- Search for a high level of interactivity between experimental and commercial farms
- Links with training centers (Poisy)

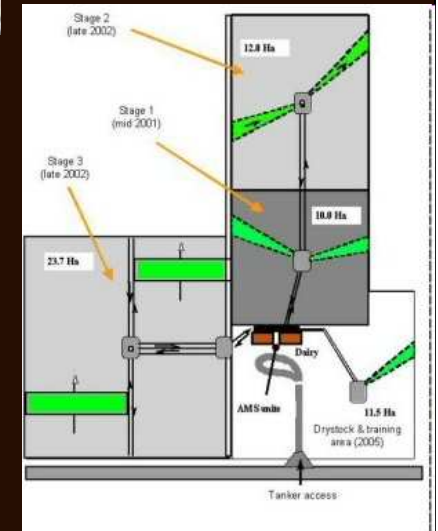
Transfer projects

- With foreign partners associated to the program

– Greenfield Project
Dr Jenny JEGO



- 2 trips to France to visit the 3 experimental sites and a commercial farm belonging to network
- Presentation of the GP



Transfer projects

- With foreign partners associated to the program

Groups of French advisers / researchers / farmer visited :

Denmark , Netherlands, Sweden



Denmark : SAC Christensen



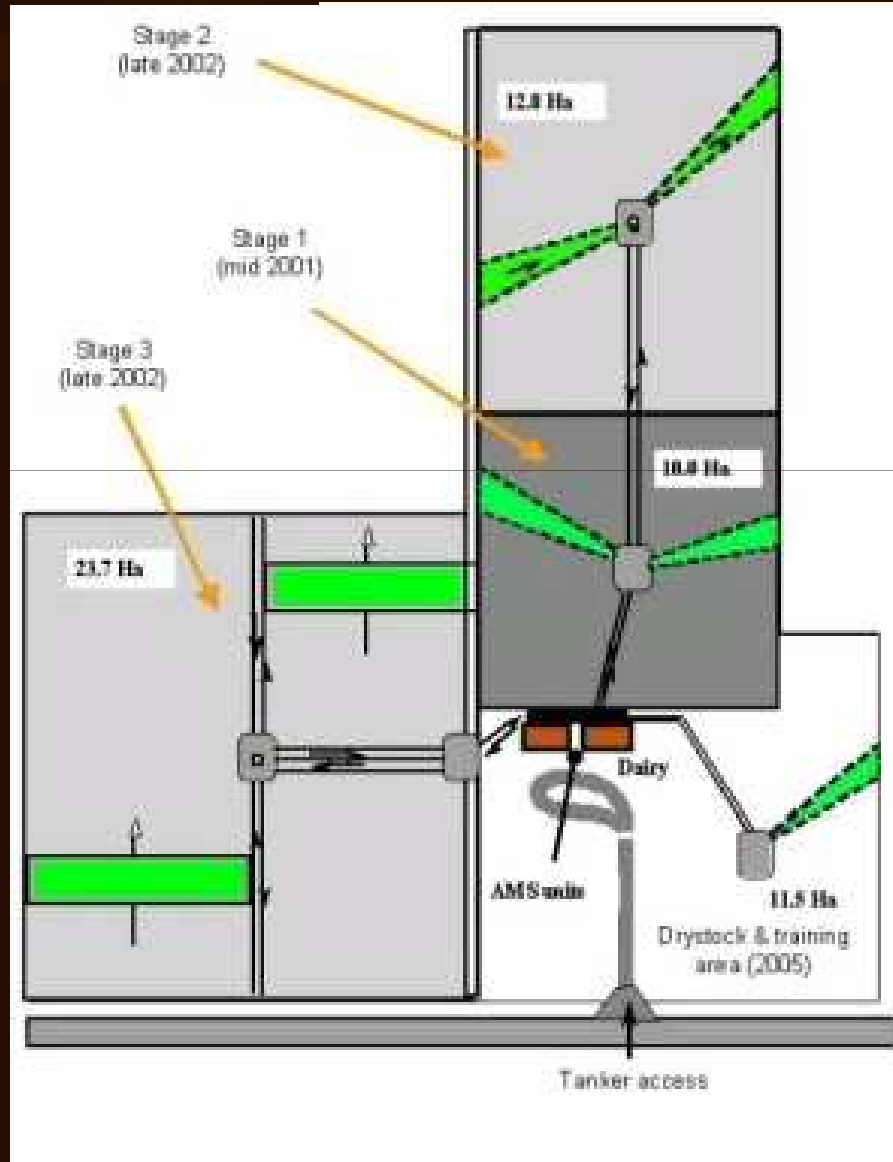
Netherlands : Natureluur



Norway



New Zealand : Greenfield Project



DairyNZ



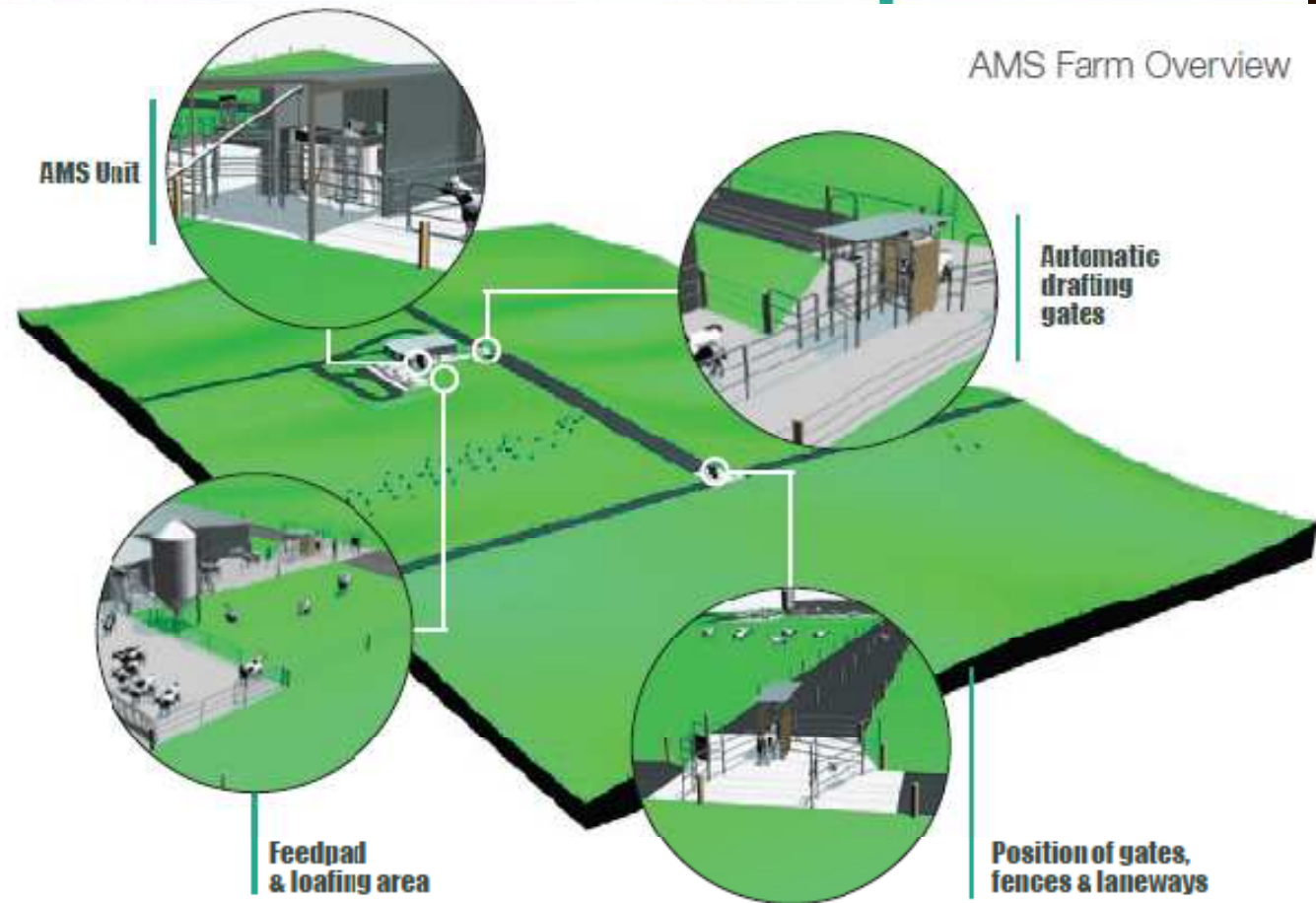
dexcel
Partners in profitable dairying™

Australia : Camden



Management Guidelines for Pasture-based AMS farms

AMS Farm Overview



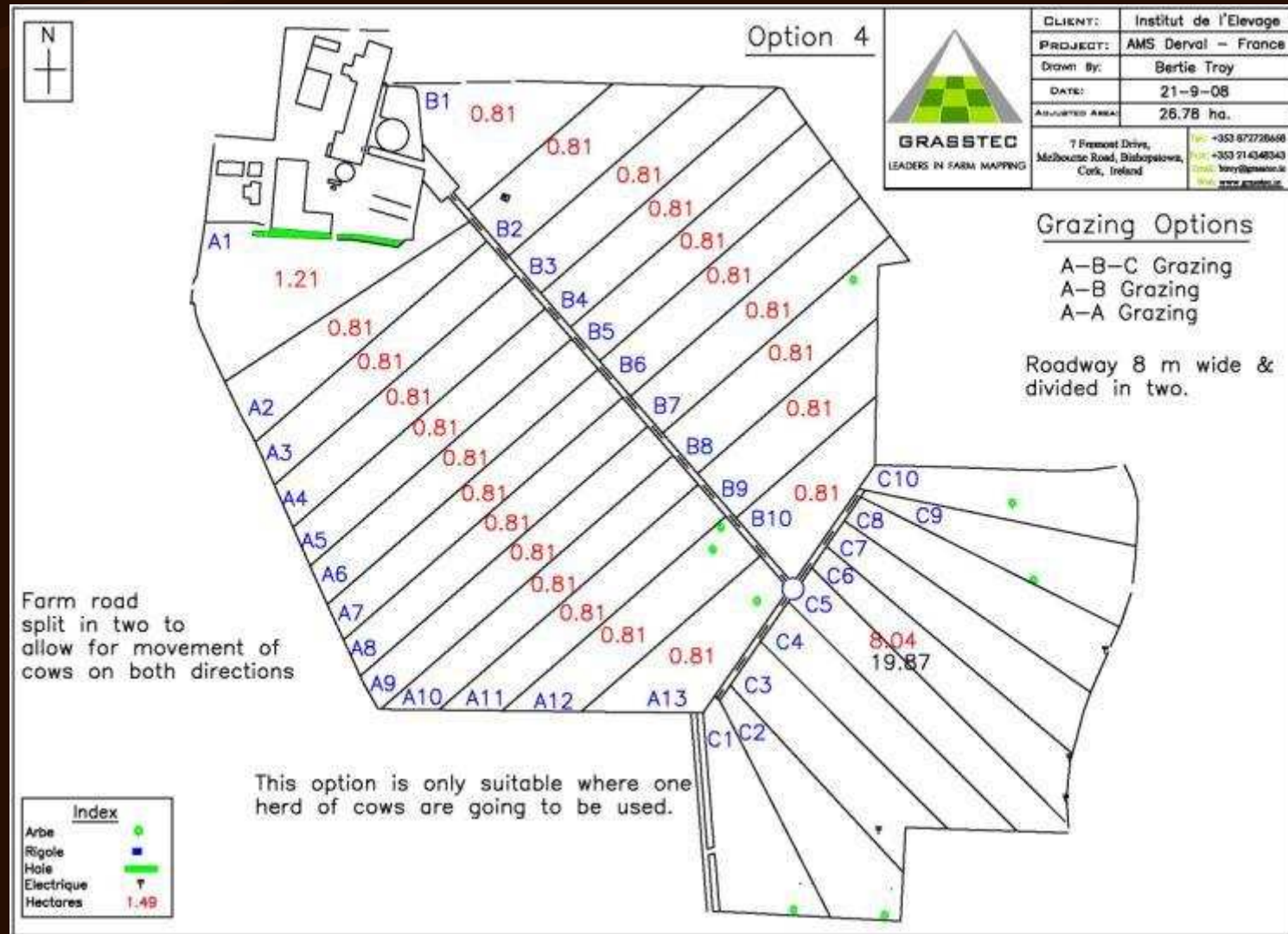
Germany – Kiel University



AMS + grazing in Germany



Ireland : Grasstec in Derval





L'histoire d'un robot mobile ou la conciliation de la tradition et de la modernité

Duf拉斯ne I., Robaye V., Knapp E., Istasse L.

Et tout le service de nutrition ..



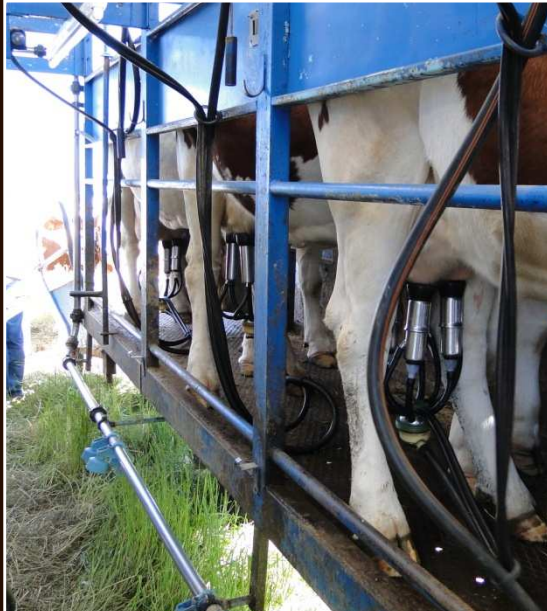
Liège : Grazing location



Switzerland

INTERREG

With French Eastern mountains



Our questions to the group

- AMS and grazing or **mobile** AMS and grazing ?
Or **mobile milking** and grazing ?
- How to increase implication of PMEs ?
 - New fields like sensors, fences, **precision agriculture**.
Use of data from robots for herd monitoring
 - Dairies promoting milk from grass or good profiles in FA - Organic dairy companies
 - Retailers making mobile milking machines
- How can we find funding for **investments** ?
 - Projects delayed as local « governments » have no money left (regions, counties)