

# Evolution of work on the fight against late blight in France within the ministry of agriculture

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## Evolution of the french service

- Since 2009 the Regional Plant protection service evolved in service regional of the Food (SRAL)
- The SRAL has a role of technical support, expertise and control in phytosanitary protection of vegetables
- The SRAL also has a role of Animation of the project Ecophyto 2018.
- The project Ecophyto is set up following grenelle of the environment



## **OBJECTIFS OF ECOPHYTO 2018**

- Reduce of 50 % use of products phytopharmaceutiques in agriculture for 2018, if possible;
- Reduce and secure the usage of products phytopharmaceutiques in not agricultural zone;
- Form the farmers, professionalize the distribution;
- Improve the quality of waters
- Define precise and consensual indicators
- Mobilize the research and the transfer of alternative methods;
- Strengthen the observation on the bio-aggressors and the not deliberate effects of pesticides;
- Communicate on the reduction of the use of products phytopharmaceutiques.

## Implementation in region of the project

## écophyto2018

#### The ecophyto project is declined in 8 axes

- Axis 1: estimate the progress in decrease of the usage of pesticides
- Axis 2: list and generalize the agricultural systems and the known means allowing to reduce the use of pesticides by mobilizing all the partners of the research, the development and the transfer
- Axis 3: innovate in the conception and the development of the systems of low use pesticides
- Axis 4: form in the reduction and in the reassurance of the use of pesticides
- Axis 5: strengthen the networks of observation on the bio-aggressors and on the not deliberate effects of the use of pesticides
- Axis 6: take into account the specificities of the FRENCH OVERSEAS DEPARTMENT
- Axis 7: reduce and secure the usage of products phytopharmaceutiques in not agricultural zone
- Axis 8: organize the national follow-up of the plan and its territorial declension, and communicate on the reduction of the use of products phytopharmaceutiques





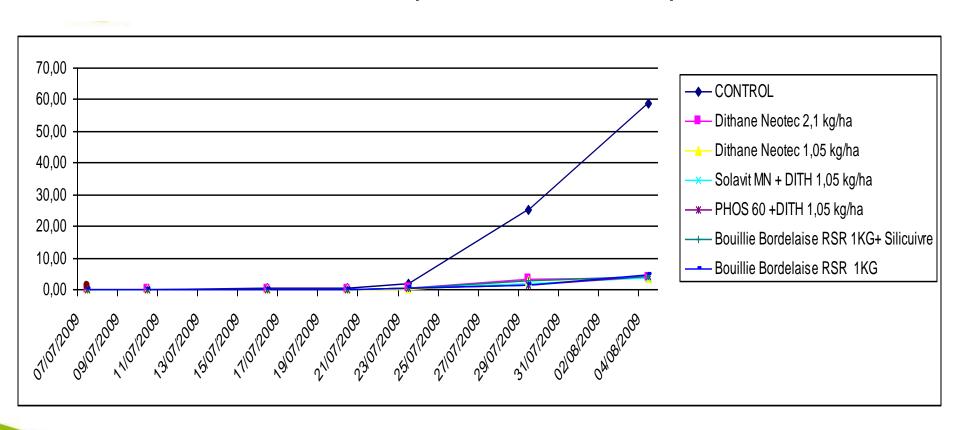
# If we realise a focus on the objectives of the AXIS 3 for the potatoes

- > The AXIS 3 correspond at the innovation
- -develop the regional programs of research and development
- organized trial of reduction of the quantities of Used product
- organized trial of resistance of the varieties in the late blight



#### exemple of result trials

#### -Trial of reduction of the quantities of Used product

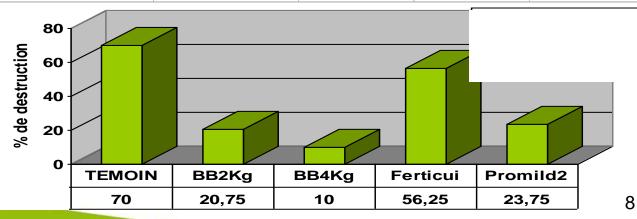




#### exemple of result trials

#### -Trial of reduction of the quantities of copper

	BB 2KG	BB 4 KG	FERTICUIV RE	PROMILD2
Number of traitement	8	8	8	8
Total copper	3.2 Kg/ha	6 Kg/ha	2.1 Kg/ha	2.4 Kg/ha
Reduction of the copper quantity en Kg/Ha	2.8 Kg	référence	3.91 Kg	3.6 Kg
% of réduce copper	46.7 %	référence	65.2 %	40 %





## If we realise a focus on the objectives of the AXIS 2 for the potatoes

#### >The AXIS 2 correspond at :

- -List and generalize the agricultural systems and the known means allowing to reduce the use of pesticides, by mobilizing all the partners of research, the development and the advice
- organized by a network of acquisition of references, of demonstration and network experimental experiment of farms
- and use of DSS for the reasoning of treatments
  - For potato we realised the software miléos











#### A only tool of decision- support-system

#### Mileos ® correspond to the fusion of 2 DSS:



X MilPV =



ARVALIS -Institut du végétal Service de la Protection des Végétaux



# Mileos ® allows to position at best treatments, without risk for the production, according to :

- weather,
- varieties,
- data of plantation of emergence,
- The growth of plants (activate, stabilized)
- The sanitary situation in the field,,
- The realized interventions (treatments and irrigations).









# Mileos ® require hourly data: temperature, Pluviometry and Hygrometry.



It involves a meteorological station in a 7 km.













## Two complementary versions

#### Mileos® « technicien »

- Consultation of the situation of the plots of land
- Accompaniment personalized by the producers in their decisions
- Management of the meteo data





- Creation and follow-up of the plots of land
- Recording of the observations and the interventions (treatments and irrigations)?
- Display(Visualization) of the alerts and the advice(councils)



# An opened and supple functioning

- weather station in closer of needs: precision and reliability of the calculations.
- Visualization)of the data weather reports by the producer and the technician: surveillance of the data.
- Autonomy in the decision-making but not isolation because the technician receives the information.
- Internet: guaranteed to use a tool always up to date.

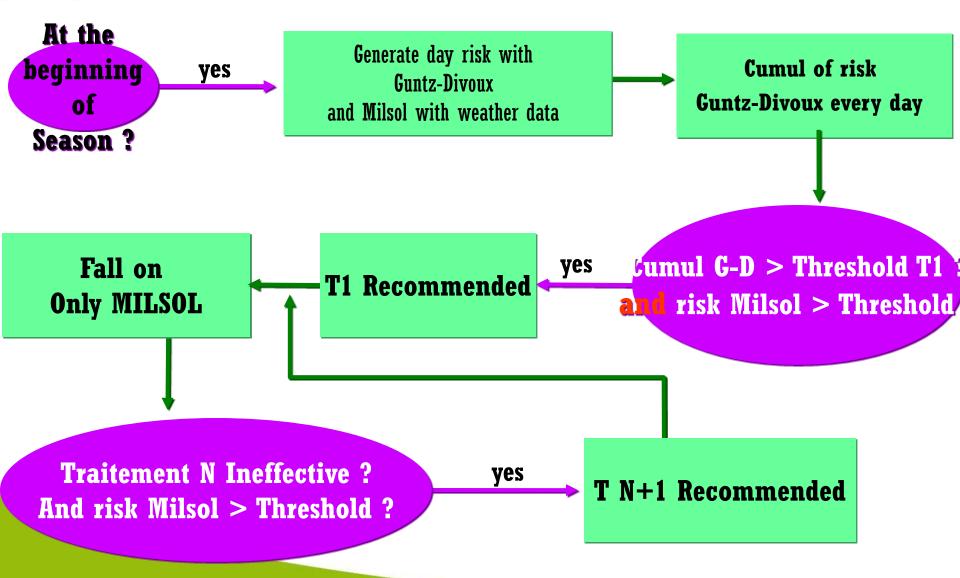


## A very good result

- Forecasts of risk: anticipate treatments according to the meteo forecasts.
- Mutualization of the information on the environment:
   more precision for the release of the first treatment.
- Seized with the other interventions: for the producers who wish it, Mileos ® can be used as tool of fragmented follow-up.



# General principle of calculation





## Map of weather station:









# Mileos® "grower"

www.mileos.fr







## www.mileos.fr

You reach Mileos

® with your
personal access
codes.





Coordonnées de la parcelle - Latitude (en degrés) :	
- Longitude (en degrés) :	
Etat environnement :	☐ en jardin ☐ sur tas de déchets ☐ sur repousses ☐ en parcelles
Etat parcelle :	□ trace □ foyer □ dispersé
ctat partelle ;	☐ sur feuille ☐ sur tige
	☐ en bouquets ☐ en bordure

Partager l'état sanitaire de l'environnnement

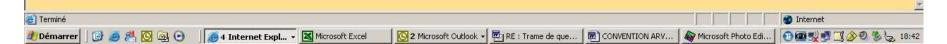
Ajouter
Annuler
\* Champ obligatoire

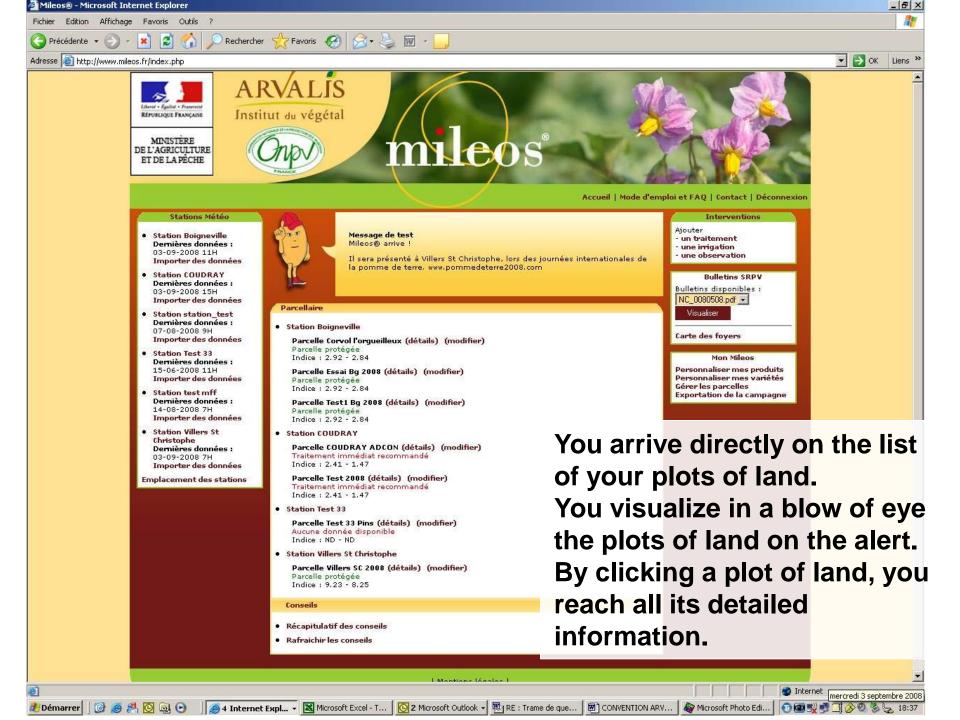
You create your plots of land: name, variety, date of plantation, ...



You have the possibility of selecting the products which you use.

They will so appear in the beginning of list, what will allow you to spare time in the recordings of your interventions in the course of countryside.







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#### Détails de la parcelle (Modifier la parcelle)

Parcelle: COUDRAY ADCON Station: COUDRAY Variété : BINTJE Date levée 26-05-2008 Stade : croissance stabilisée Parcelle sans protection

mm d'eau sur la parcelle depuis le dernier traitement : 5.6 Resistance au lessivage du dernier traitement : 100 mm

#### Conseil



traiter le 03-09-2008 avec un Contact Simple

Les produits suivants peuvent être utilisés : RANMAN, ADERIO, SHIRLAN, DITHANE NEOTEC

#### Indices

			30-08	3-2008	31-08	-2008	01-09	-2008	02-09	-2008	03-09	-2008	04-09	-2008	05-09	-20
		Guntz-Divoux	5	20	52	1.5	52	2.5	52	3.5	5	25	54	48	54	19
	Milsol	Réserve de spores Spores en germination	4.14 3.89	4.03 0	3.92 0	3.67 0	3.43 0	2.85 0	2.73 0	2.85 0	2.92 2.84	2.97 2.95	2.92 2.21	2.83 1.78	2.74 2.65	
	Visualis	Pluie (en mm) ser / Corriger la pluviométrie	o	.2		0		0	1	.4	2	.6	:	3	1.	8
Résistance au lessivage restante (en mm)		20 20		20		18	3.8	Yo	u c	on	su	lt th	16			

Afficher les indices du 03-09-2008

Afficher

Ajouter un traitement

Carte des risques des 3 prochains jours

#### Liste des traitements

ı			
	Date / Heure	Produits / Doses	0
	08-10-2008 11H	SHIRLAN 0.4 l/ha	
	01-10-2008 12H	SHIRLAN 0.4 l/ha	
	10-09-2008 06H	SHIRLAN 0.4 l/ha	
	30-08-2008 15H	DITHANE NEOTEC 2.1 kg/ha	
	22 00 2000 0711	DEMILITING C DEDITE 2 5 lo-/b-	

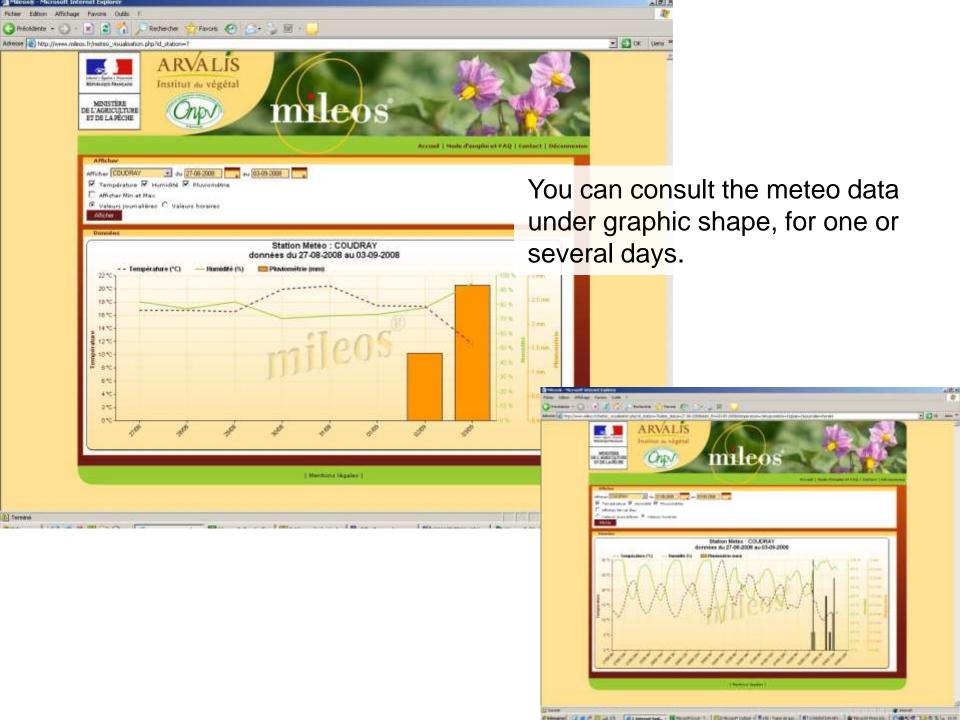
t the risk late blight and the forecasts for the next days.

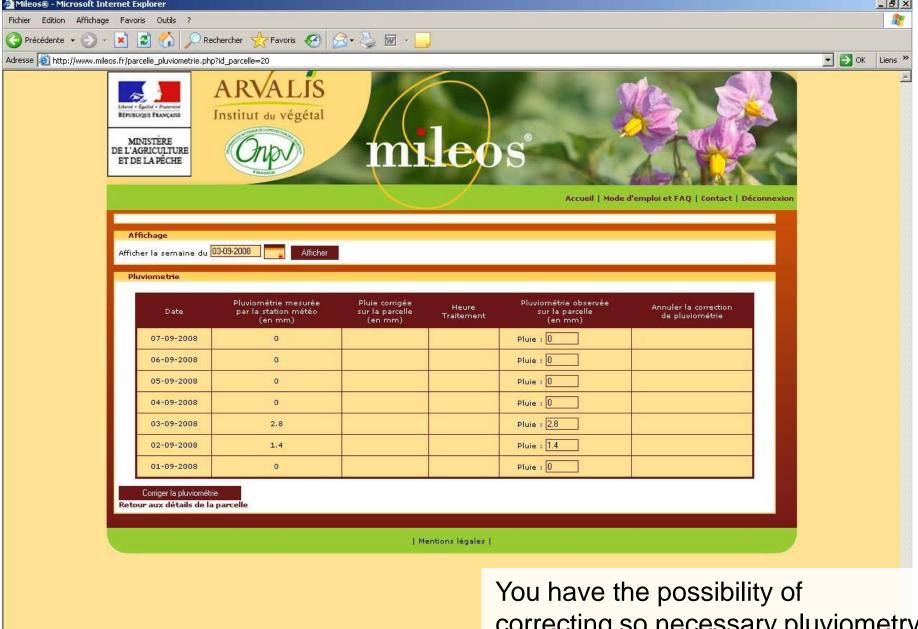
06-09-2008 550 2.32

0.2

In case of risk of late blight, you are alerted on the site Mileos ® and by SMS for each of your plots of land.





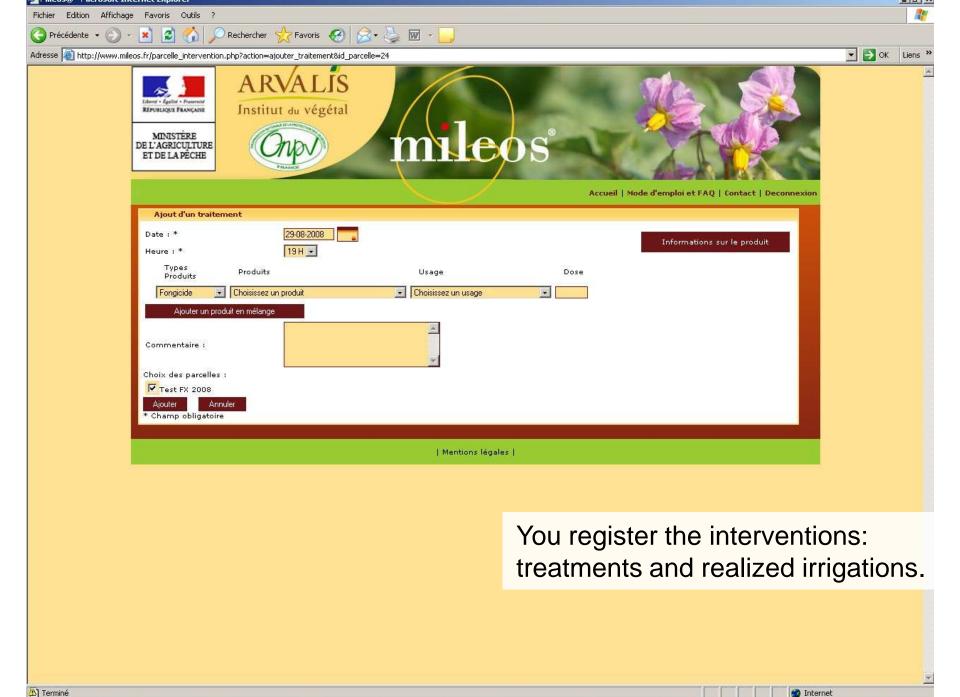


correcting so necessary pluviometry





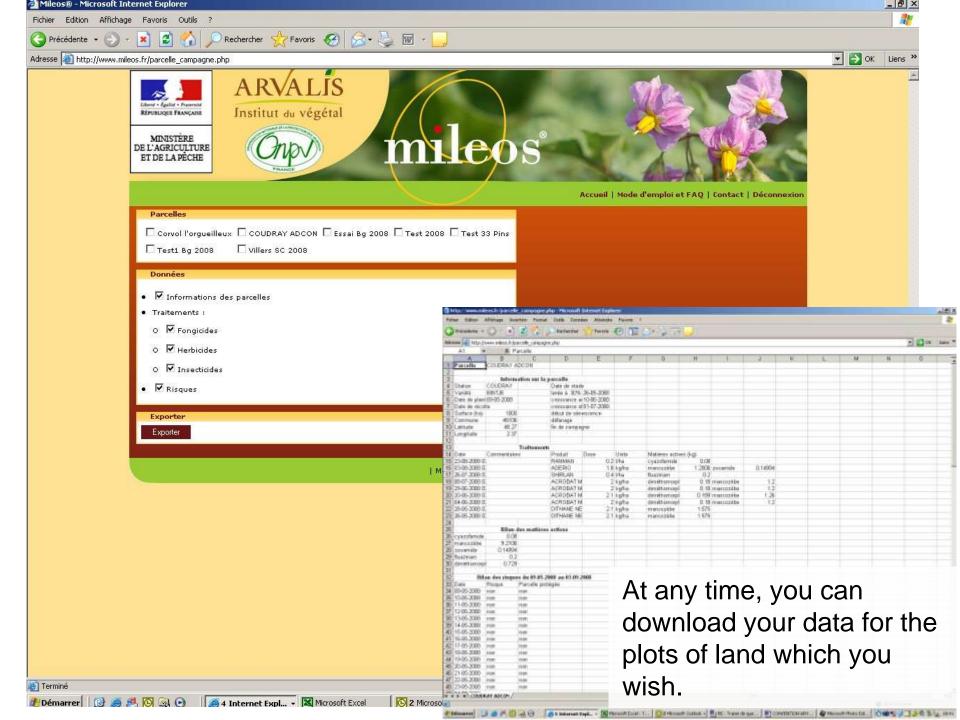
| Mentions légales |



🔯 D:\Mes Document... 🎉 Mileos® - Micro... 📵 Posters Mileos - pr... 📵 Posters Mileos - es...

Microsoft Photo Ed...

Boîte de réception...







# For the technicien version

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voir sa fiche

#### Technicien

arvalis 🕶

Changez

Gestion

Gestion des comptes Gestion des stations

Observations

Gestion des observations

#### Tableau de bord

Situation des parcelles SMS envoyés Pratiques Vigilance Exportation campagne

#### Messages

Listes diffusion Gestion des messages Gestion des pdf

#### Liste des comptes

	Nom Prénom	Raison sociale			
		<u>Co</u>	mpte valides		
	Alliandakies	SOLETS Communication	accès à Mileos	voir sa fiche	supprimer l'abonnement
		ATPPDA	accès à Mileos	voir sa fiche	supprimer l'abonnement
В.		agri	accès à Mileos	voir sa fiche	supprimer l'abonnement
CE			accès à Mileos	voir sa fiche	supprimer l'abonnement
С		GERMICOPA	accès à Mileos	voir sa fiche	supprimer l'abonnement
9		GEDA51	accès à Mileos	voir sa fiche	supprimer l'abonnement
F		<b>G</b> agri	accès à Mileos	voir sa fiche	supprimer l'abonnement
FC		AGENER Bretagne	accès à Mileos	voir sa fiche	supprimer l'abonnement
88	GAUCHER Denis	s des	accès à Mileos	voir sa fiche	supprimer l'abonnement
G	égoire Stéphon	GITEP	accès à Mileos	voir sa fiche	supprimer l'abonnement

accès à Mileos

accès à Mileos

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accès à Mileos

accès à Mileos

accès à Mileos

accès à Mileos

The technicien manages his subscribers: creation, affectation of the meteo stations, the access codes

Compte non valides

ndie

#### Ajout

Ajouter un nouveau compte Importer de nouveaux comptes



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Caix2006

50

oui





modifier

supprimer

importation

données

			Acc	ueil   Mode d'em	ploi et FAQ   Co	ontact   Mon comp	te   Adminis	tration   Déc
chnicien Liste o	des stations							
Changez	Nom	Code	Importation manuel					
Gestion es comptes es stations	Berny2006	53	oui	Accéder aux données météo	Accéder aux modèles	Historique importation données	modifier	supprimer
				Donne	ées:			
ervations								
es observations	Berny2007	54	oul	Accéder aux données météo	Accéder aux modèles	Historique importation données	modifier	supprimer
des parcelles				Donne	ées :	3000000000		
ion campagne  Messages	Berny2008	55	oui	Accéder aux données météo	Accéder aux modèles	Historique importation données	modifier	supprimer
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	Boigneville	4	oui	Accéder aux données météo	Accéder aux modèles	Historique importation données	modifier	supprimer
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В	oigneville Pessl	13	oui	Accéder aux données	Accéder aux modèles	Historique importation	modifier	supprimer
				météo	TOTAL PROPERTY.	données		
				Donne	ies :			
							10	
				Accéder aux		Historique		

modèles

données

météo

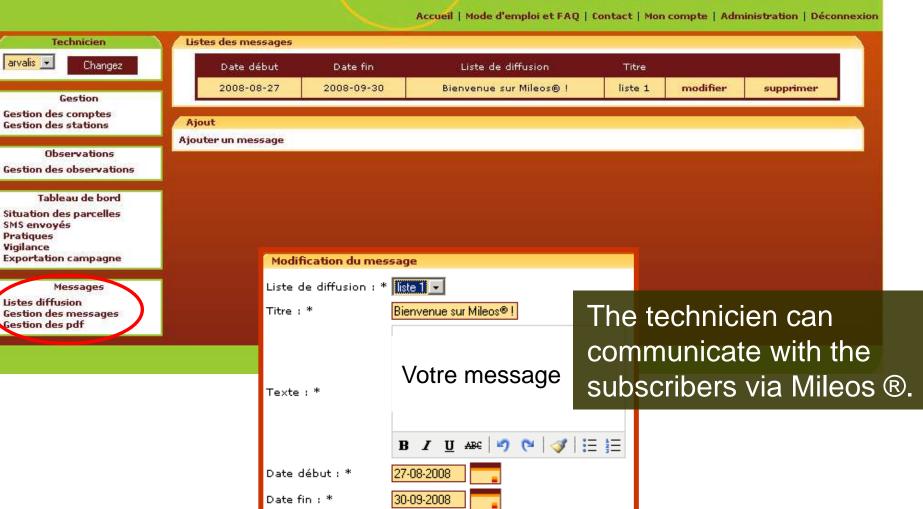
									$\longrightarrow$				
Nom Prenom	Station	Parcelle	Variete	Date levée	Risque J-2	Risque J-1	Risque J	Protection	Alerte en cours	Prévisions risque J+1	Prévisions risque J+2	Prévisions risque J+3	
Allier Sabine	Bolgneville	Amandine	AMAN	25-05- 2008	739.25 0-0 0-0	739.25 0-0 ND-ND	ND ND-ND ND-ND	Non	Oui	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	
		Test	AGAT	25-05- 2008	0 0-0 0-0	0 0-0 0-0	0 0-0 0-0	Non	Oui	0 0-0 0-0	ND ND-ND ND-ND	ND ND-ND ND-ND	
BOUTTET Delphine	Boigneville	Plaine 1	AGAT	15-05- 2008	739.25 0-0 0-0	739.25 0-0 ND-ND	ND ND-ND ND-ND	Non	Oui	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	
		Bintje	BINT	01-05- 2008	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	Non	Oui	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	
CHATOT Catherine	GERMICOPA	Bintje	BINT	Pas levé	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	Non	Non	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	
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FONTAINE nicolas	COUDRAY	Pollux	POLL	27-05- 2008	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	Non	Non	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	
FONTAINE nicolas	station_test	rubis	RUBS	21-05- 2008	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	Non	Non The	ND ND-ND YD-ND	ND ND-ND D-1D	ND ND-ND NI-ND	محالحما
FONTAINE nicolas	station_test	turbo	TURB	03-06- 2008	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	Non				n visua reen a	
FONTAINE nicolas	test mff	qea	ALAS	10-06- 2008	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	Non		ND	I ND	nd the	
FOUILLARON Aliette	Thorigne Fouillard	Bintje	BINT	Pas levé	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	Non	cu	rrent a	alerts.		
GAUCHER Denis	Boigneville	Boigneville 2008	BINT	17-05- 2008	739.25 0-0 0-0	739.25 0-0 ND-ND	ND ND-ND ND-ND	Non	οu	ND ND-ND ND-ND	ND ND-ND ND-ND	ND ND-ND ND-ND	



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Modifier Annuler

\* Champ obligatoire





#### conclusion: Use of the software in France

- In 2009, around thirty groupings were subscribed
- To Mildi-LIS ® or MilPV and more than 700 producers
- Were user in 22 departments for 30 000 ha of potato.
- Since the launch the appreciations of the users are
- Very positive, in particular:
- The supply of a neutral and independent information,
- The possibility of planning better his organization of Work,
- A relevant information,
- A facilitated traceability



# écophyto2018

## Thank you for your attention!



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