



DGV
Direcção Geral
de Veterinária

Ministério da Agricultura,
do Desenvolvimento Rural e das Pescas

Portuguese Experience on Bluetongue Vaccination 2005-2007



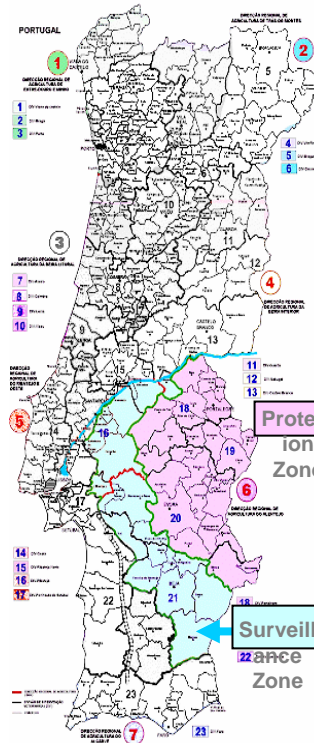
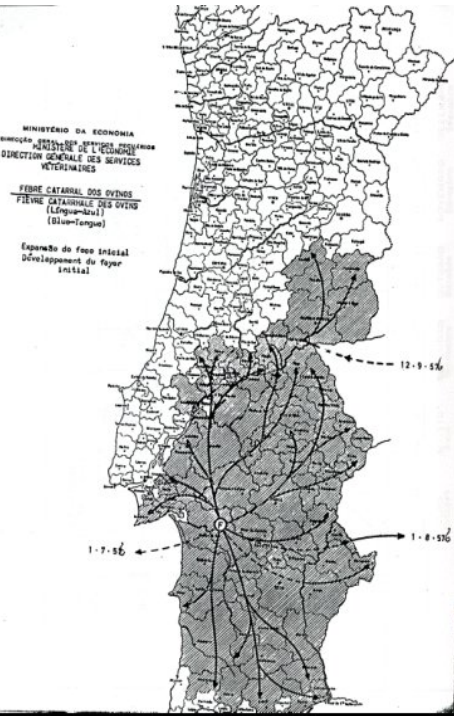
***Direcção Geral de Veterinária
Conference on Vaccination strategy against bluetongue,
Brussels, 16 January 2008***

Portuguese Experience on Bluetongue Vaccination - 2005-2007

- 1 - Evolution of the disease
- 2 - Characterization of control measures
 - 2.1 – Serological and virulological surveillance
 - 2.2 – Entomological surveillance
 - 2.3 – Vaccination
 - BTV4 ovine vaccination
 - BTV4 bovine vaccination
 - BTV1 ovine vaccination
- 3 - Conclusions

1 - Evolution of the disease in Portugal

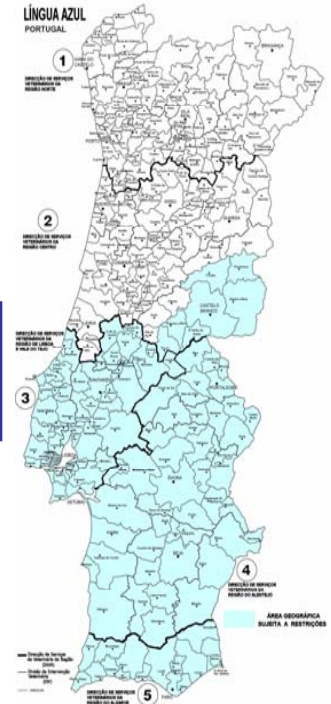
1956-1959: BTV10



2004
BTV4



2008
BTV1,4



		% Population in the restricted area	
		2004	2008
Bovine	Holdings	7%	18%
	Animals	33%	57%
Small Ruminants	Holdings	14%	37%
	Animals	41%	69%

2 - Characterization of the Control Measures for Bluetongue

2.1 – Serological and Virulological Surveillance

2.2 – Entomological Surveillance

2.3 – Vaccination

2.1 – Serological and Virulogical Surveillance

- Definition and adjustment of restricted areas
- Serological and virulogical surveillance

FREE ZONE

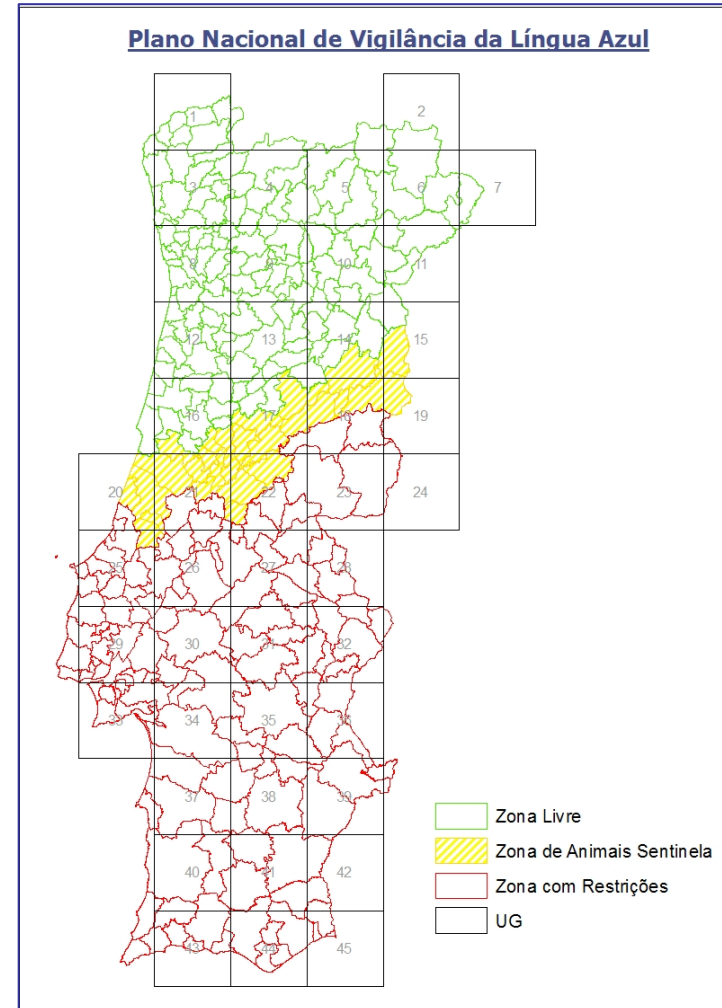
Serological Surveillance

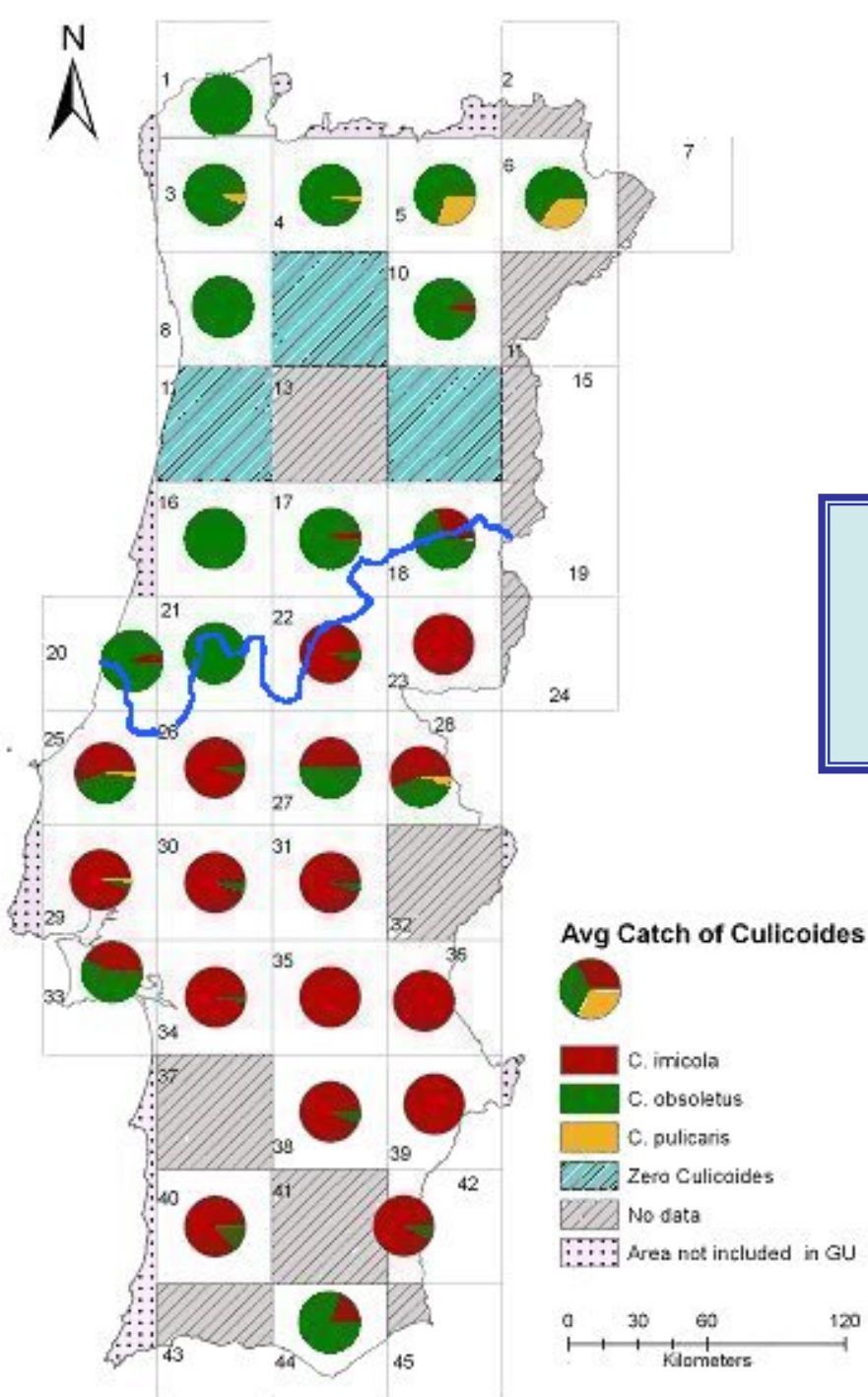
- Random sampling
149 samples / month / region
(seroconversion 2%,c.i. 95%)
- Sentinel Animals in the border counties of the restricted area in the free zone

RESTRICTED ZONE

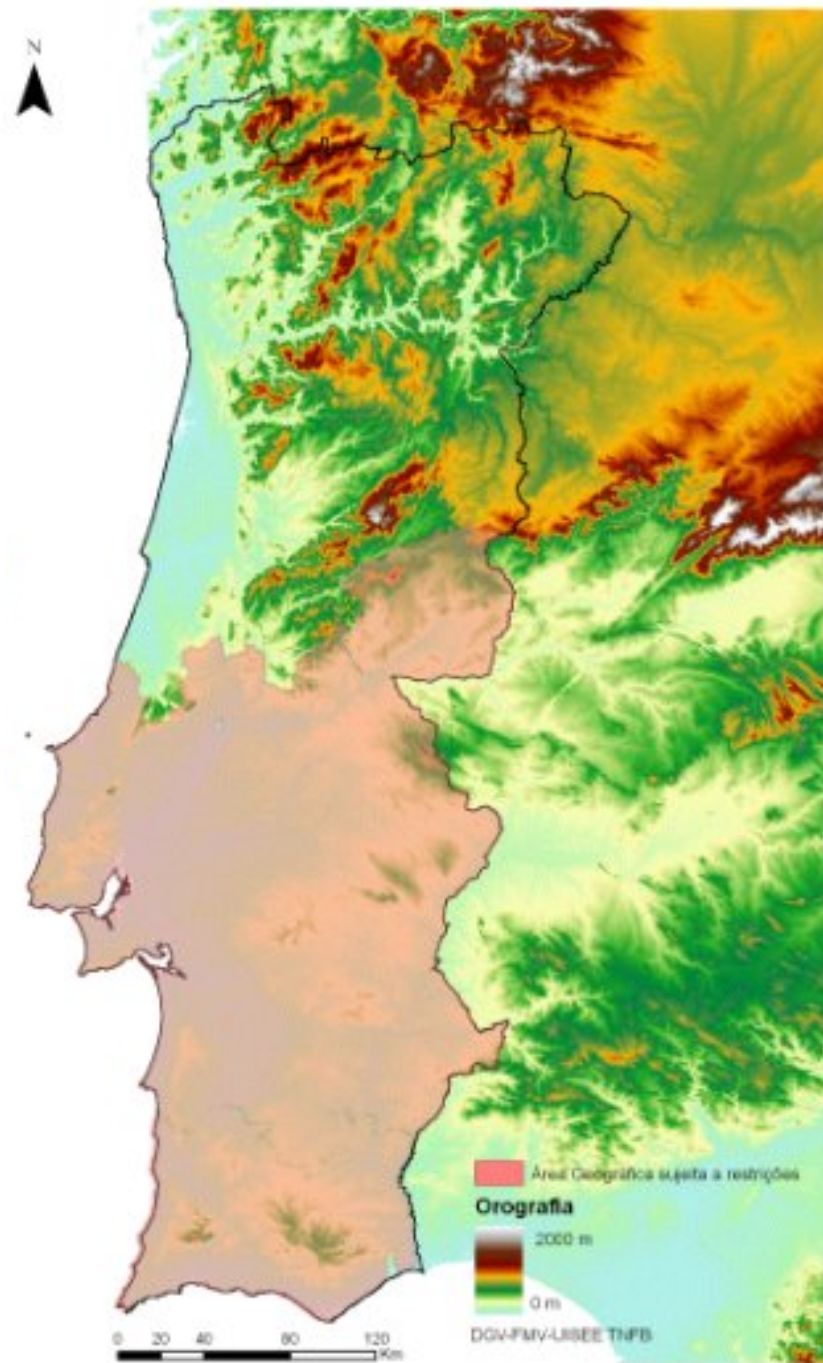
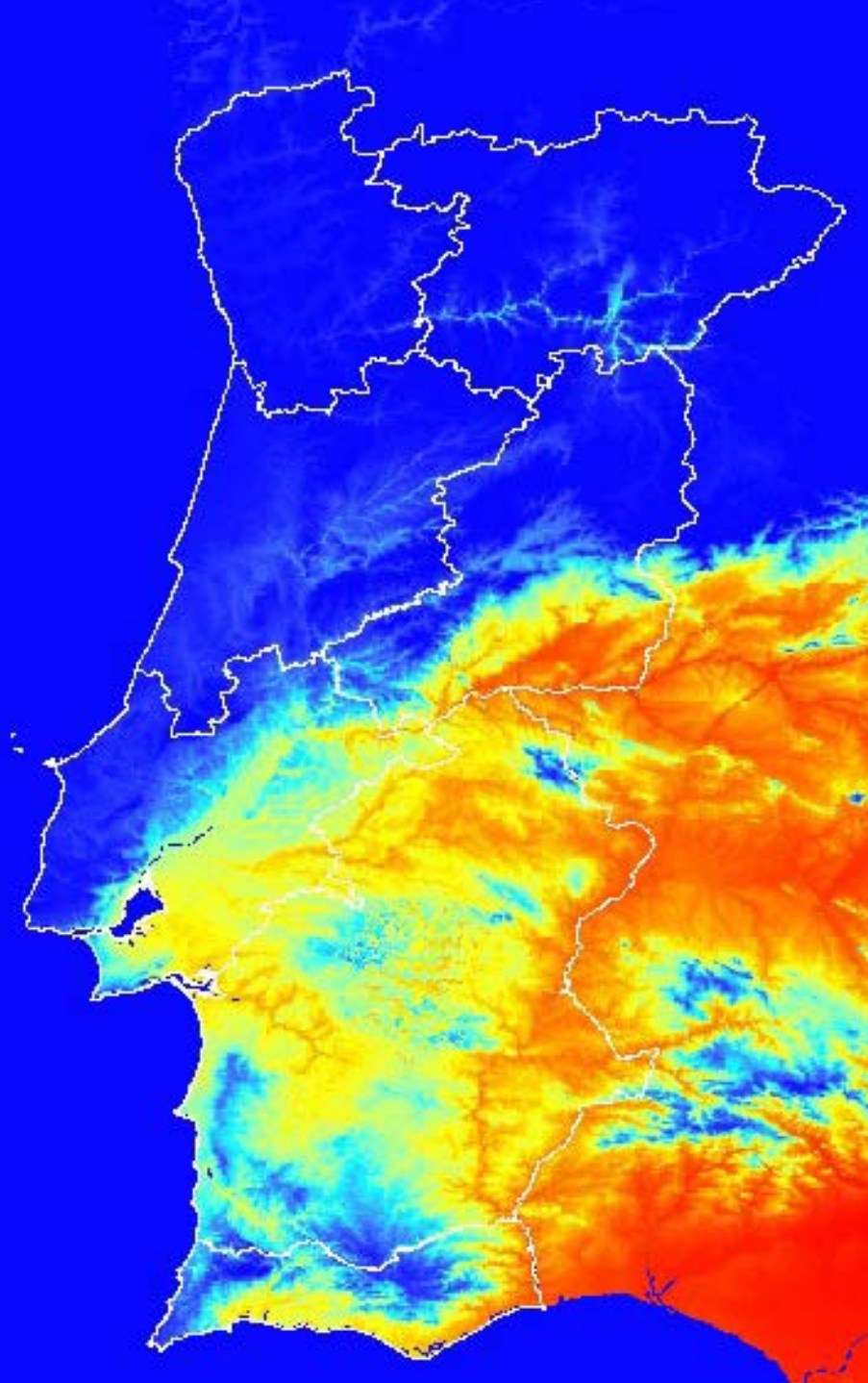
Virulogical and Serological Surveillance

- Pre-movement testing (Regulation CE 1266/2007)

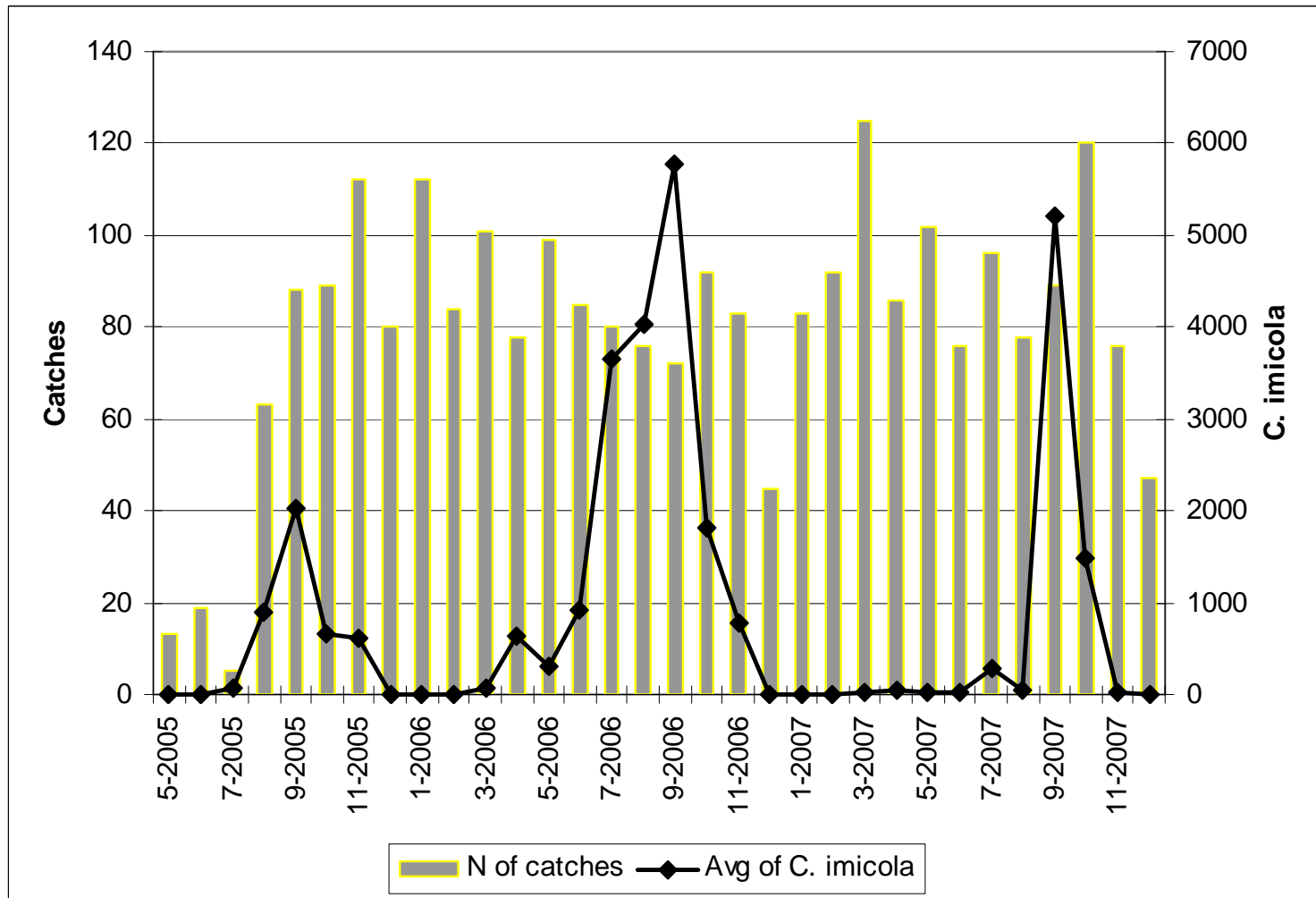




2.2 Entomological Surveillance



2.2 Entomological Surveillance



2.3.Vaccination

Ovine Vaccination campaigns



Vaccination campaigns		
Campaign Period	Serotype	Type of vaccine
7/02/2005 – 9/05/2005	4	Live
10/11/2005 – 24/01/2006	4	Inactivated
24/01/2006 – 2/05/2006	4	Live
6/12/2006 – 7/05/2007	4	Inactivated
10/01/2008 -	4	Inactivated
15/11/20007 -	1	Inactivated

2.3.Vaccination

Organization of vaccination campaigns



Entities involved:

- ✓ Coordination: Central Veterinary Services - DGV
- ✓ Supervision – Regional Veterinary Official Services (DSVR)
- ✓ Field implementation - Sanitary Defense Groups – OPP

Target population:

- ✓ Compulsory for Ovine: adult & replacement stock
- ✓ Ear tag
- ✓ Withholding of animals in the herds for a minimum of 30 days after vaccination

Revaccination

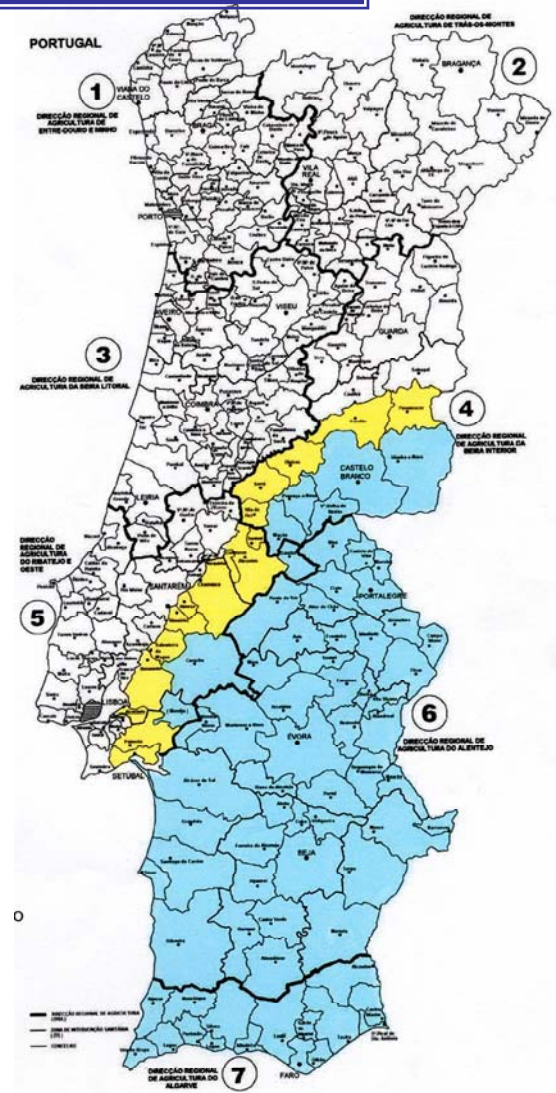
- ✓ Annual

2.3.Vaccination

Ovine vaccination campaign for BTV4 - 7/02/2005- 9/05/2005



- ❖ Protection Zone
- ❖ Live vaccine – South Africa Onderstepoort Laboratory
- ❖ Quality control (LNIV)
 - Immunogenicity
 - Safety
 - 4 herds : 2000 ovine
- ❖ Secondary effects / abortions –2 herds evaluated
- ❖ Complaints: decreased fertility related with severe draw verified in the same period



PROTECTION ZONE VACCINATION

	VACCINATION		% COVERAGE	
	Herds	Animals	Herds	Animals
TOTAL	11.879	1.479.231	99%	97%

2.3.Vaccination

Ovine vaccination campaigns for BTV4 Winter 2005-2006

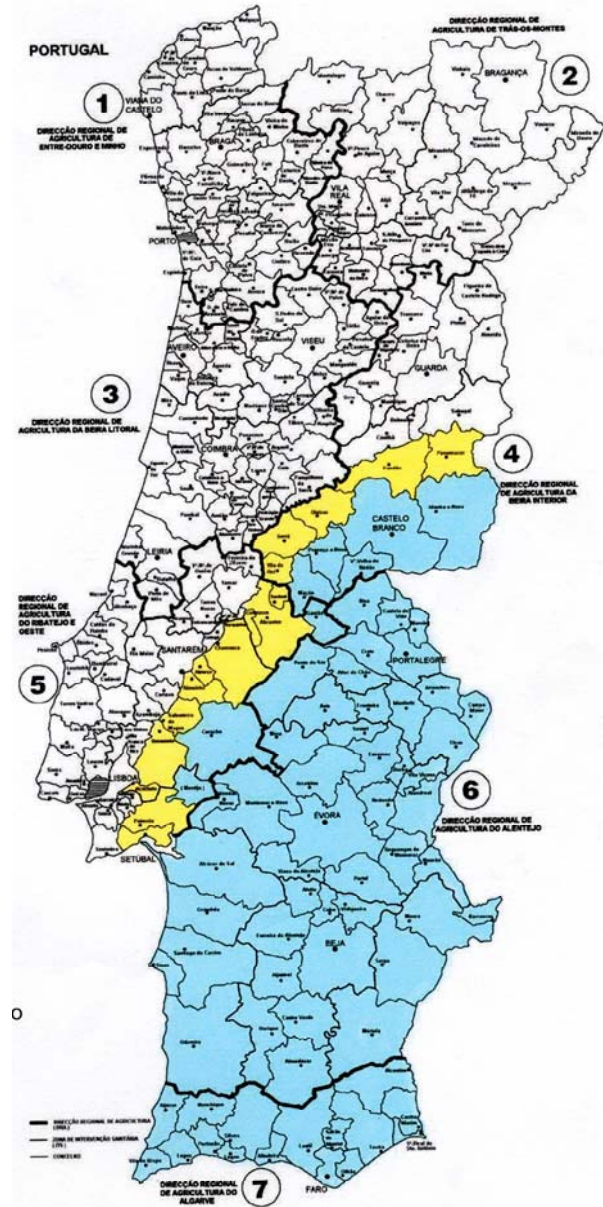


Ex- Surveillance Zone

- 10/11/2005 to 24/01/2006
- Inactivated vaccine serotype 4

Protection Zone

- 7/02/2006 to 9/05/2006
- Live Vaccine – serotype 4 (South Africa)



EX - SURVEILLANCE ZONE VACCINATION				
	VACCINATION		% COVERAGE	
	Herds	Animals	Herds	Animals
TOTAL	2.096	139.585	95%	98%
PROTECTION ZONE VACCINATION				
	VACCINATION		% COVERAGE	
	Herds	Animals	Herds	Animals
TOTAL	10.923	1.324.880	87%	89%

2.3.Vaccination

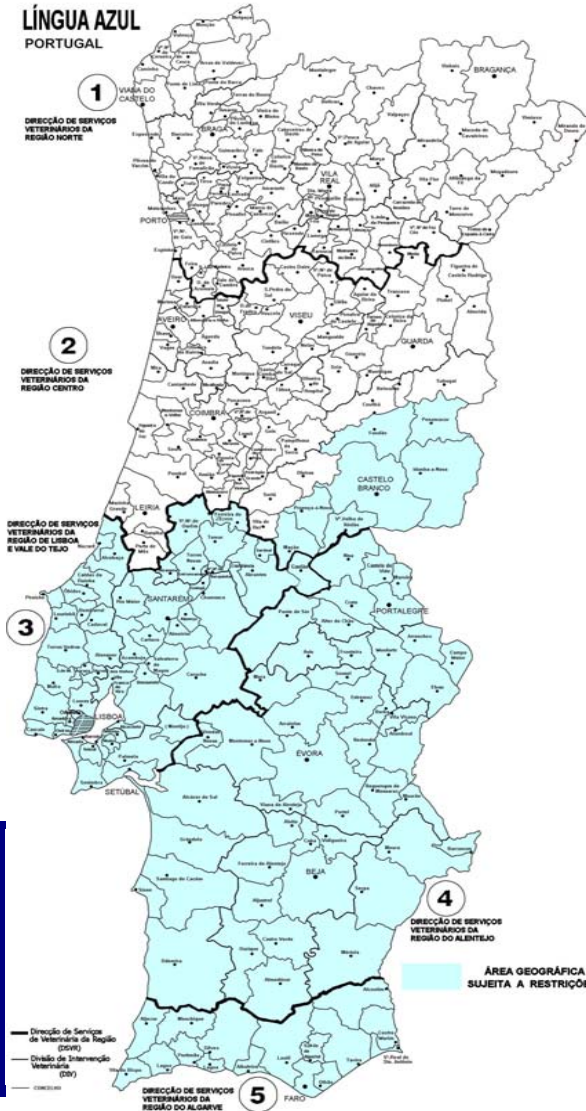
Ovine vaccination campaigns for BTV4

Winter 2006-2007



Restricted Area

6 December 2006 - 7 May 2007
Inactivated vaccine serotype 4



RESTRICTED AREA VACCINATION

	VACCINATION		% COVERAGE	
	Herds	Animals	Herds	Animals
TOTAL	17939	1478875	80%	75%

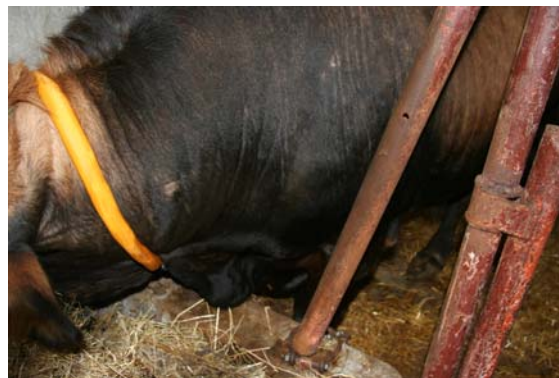
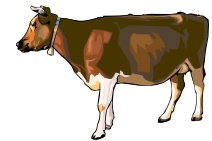
2.3.Vaccination

Bovine vaccination



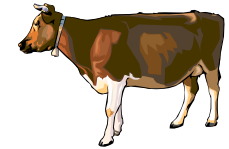
Trial of Inactivated vaccine in Bovine:

- ✓ Efficiency
- ✓ Safety



2.3.Vaccination

Bovine vaccination



Criteria for Bovine Vaccination:

- ✓ Movement of Fattening animals to the Free Zone
- ✓ Primovaccination + 4 months old;
- ✓ 2 inoculations with 21 days interval and movement till 180 days after the first inoculation
- ✓ Registration on the Animal Identification Document
- ✓ Compulsory slaughter of vaccinated animals in national territory

REGION	2005	2006	2007
CENTRO		3.012	1.759
LVT		11.990	2.515
ALENTEJO	3.959	72.897	47.218
ALGARVE		1.089	1
TOTAL	3.959	88.988	51.493

2.3. Vaccination

Ovine vaccination for BTV1



Following the first outbreak of BTV 1 in Portugal in 21 September 2007 in the previous restricted zone for BTV 4

- Spanish Veterinary Authorities provided inactivated vaccine against BTV1



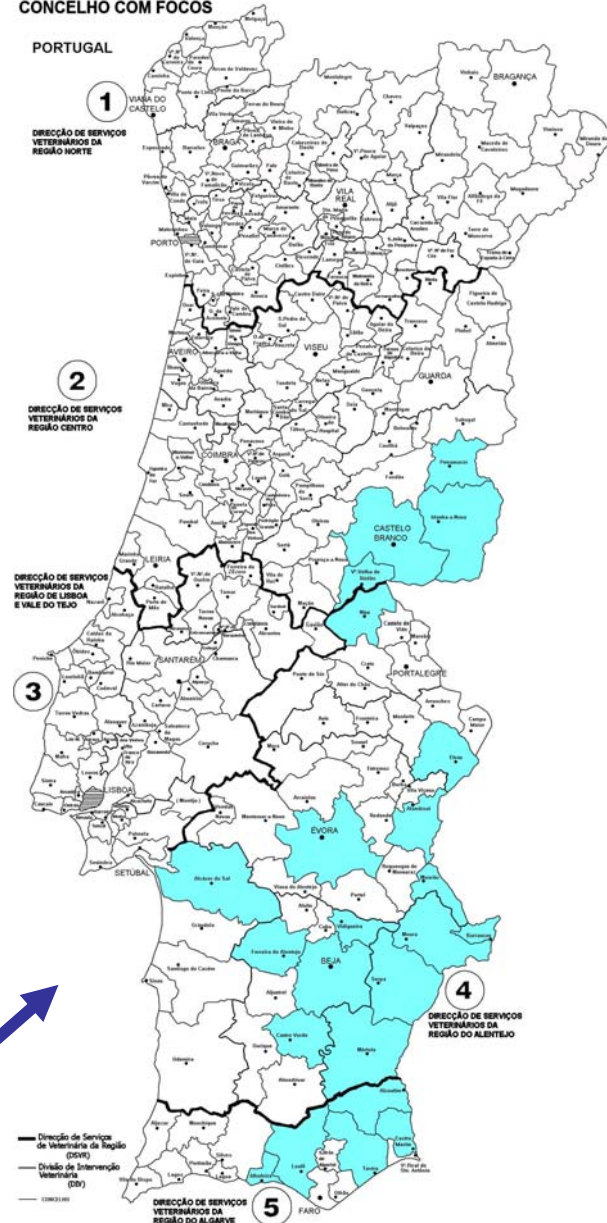
Vaccination trial :

- 1 holding with 1000 animals
- No secondary effects, anaphylactic reactions or abortions

*Councils with
BTV1 Outbreaks 2007*

LÍNGUA AZUL - 2007
CONCELHO COM FOCOS

PORTUGAL

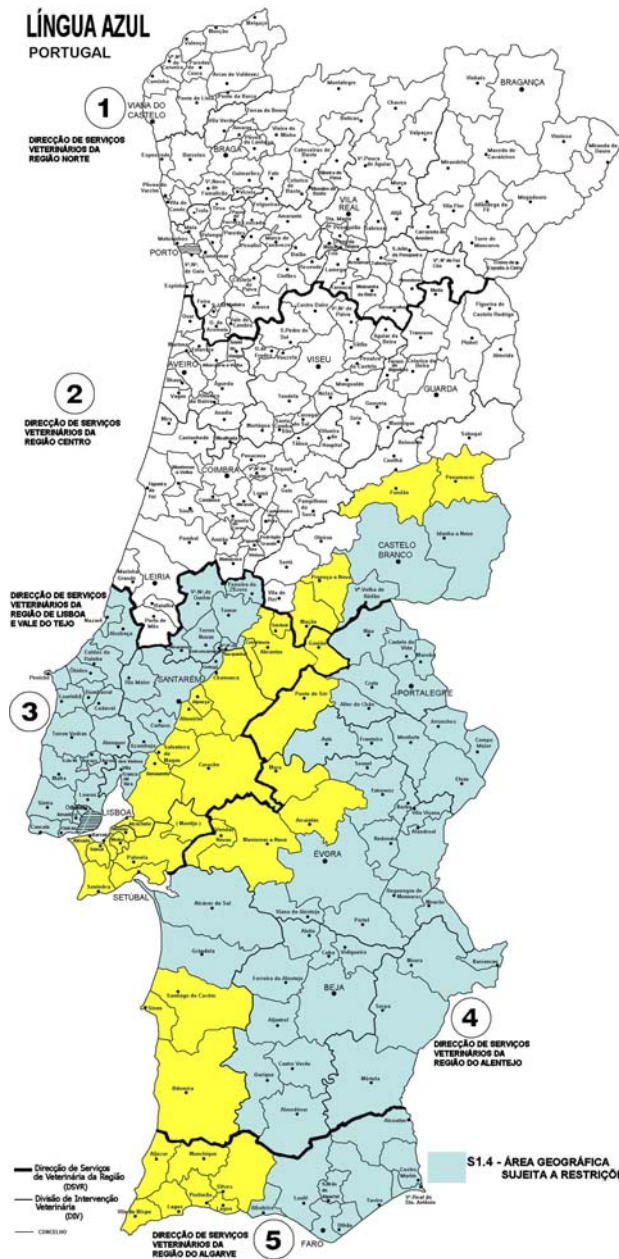


2.3.Vaccination

Ovine vaccination for BTV1



REGION	VACCINATION (1st INOCULATION)		VACCINATION (2nd INOCULATION)	
	Holdings	Animals	Holdings	Animals
CENTRO	810	51.211	457	21.144
LISBOA E VALE DO TEJO	348	24.628	118	9.207
ALENTEJO	694	114.760	36	11.661
ALGARVE	53	7.203	7	835
TOTAL	1.905	197.802	593	42.847



3. Conclusions

Evolution of Bluetongue Outbreaks



Region		BTV serotype	Nº outbreaks	Suspicion Dates	Prevalence rate in the restricted area
2004	ALENTEJO	4	10	November & December 2004	0,12 %
	CENTRO		1		
	TOTAL		11		
2006	LISBOA E VALE DO TEJO	4	1	November 2006	0,01 %
	TOTAL		1		
2007	CENTRO	1	38	September & December 2007	0,64 %
	ALENTEJO		75		
	ALGARVE		45		
	TOTAL		158		

3. Conclusions

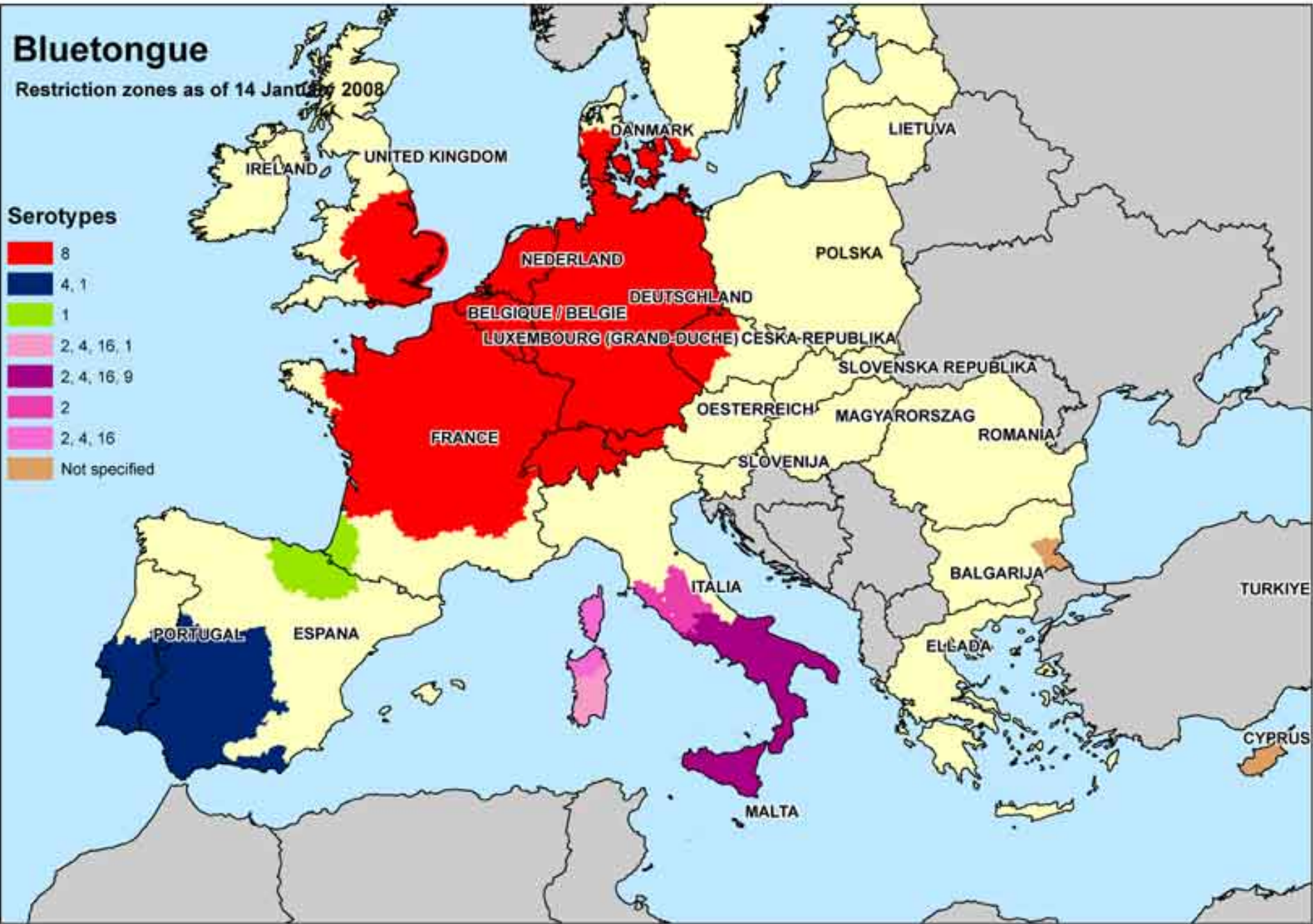
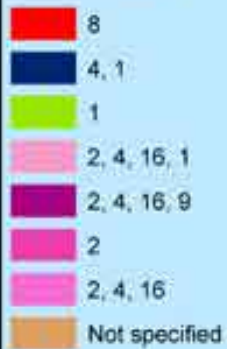
Advantages of the use of vaccines

- Reduction of the economic losses due to mortality and morbidity
- Stops the spread of the disease
- Allow safe animal movement from the restricted to free areas
- Socio-economic benefits – better engagement of the people involved (farmers, vets)

Bluetongue

Restriction zones as of 14 January 2008

Serotypes



**Thank You
for your attention!**