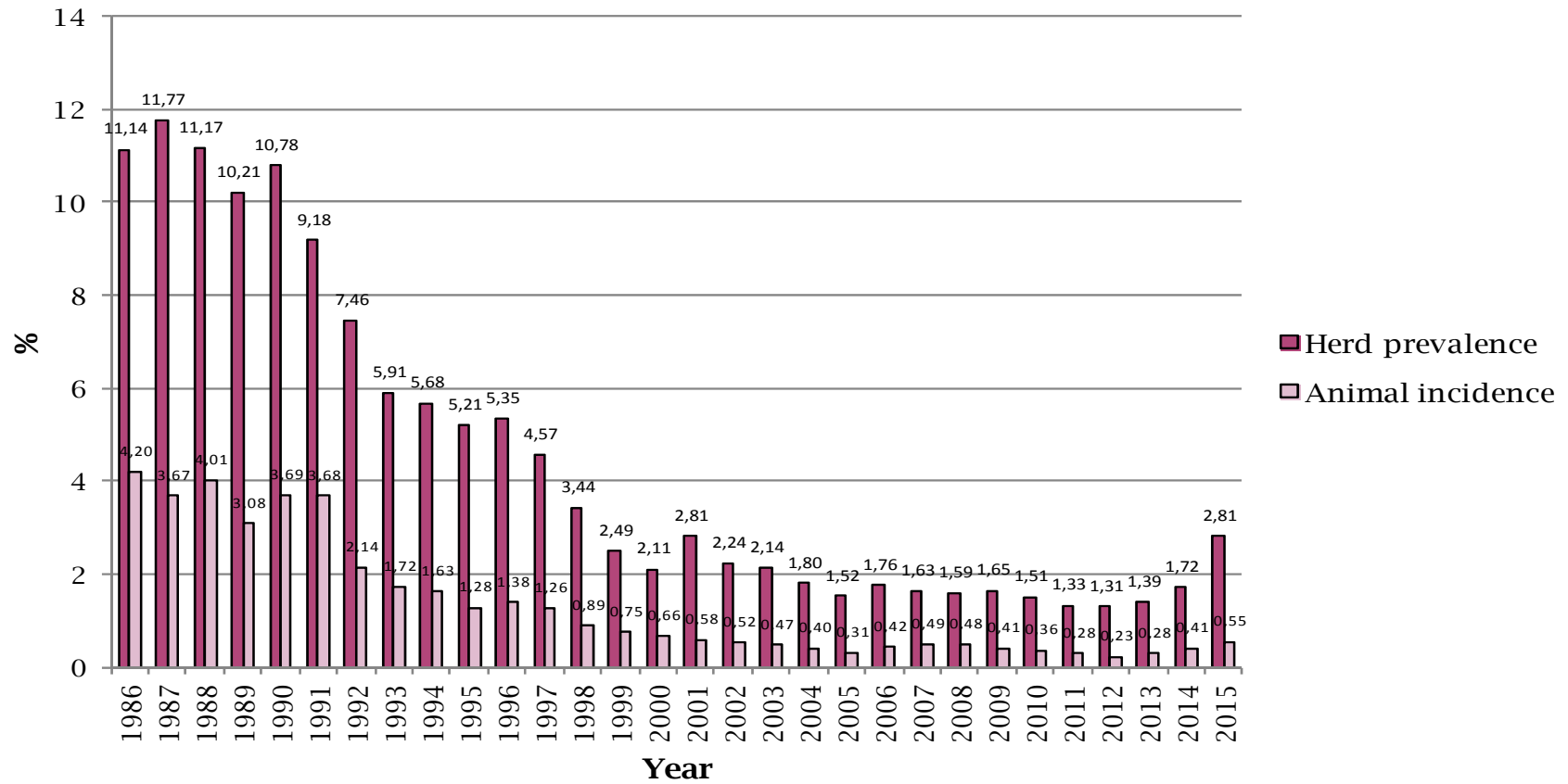# Analysis of the evolution of the National Eradication Programme on Bovine Tuberculosis in Spain 2015. Epidemiological situation.

Brussels, 5-6th July 2016

Epidemiological Evolution

Evolution of prevalence by regions and provinces

CCAA	PREVALENCIA DE REBAÑO													
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ANDALUCÍA	9,65	8,47	6,73	5,32	5,76	4,15	5,80	8,94	8,54	6,16	5,69	5,94	11,51	17,24
ARAGÓN	3,14	2,75	2,03	1,56	1,96	3,65	0,75	0,70	1,22	1,62	1,38	0,71	0,58	0,81
ASTURIAS	0,32	0,22	0,24	0,18	0,17	0,24	0,22	0,21	0,18	0,14	0,19	0,20	0,21	0,28
BALEARES	0,92	1,02	0,65	0,65	0,22	0,21	0,00	0,00	0,17	0,00	0,40	0,60	0,41	0,60
CANARIAS	0,34	1,05	2,40	1,00	0,36	0,37	0,24	0,00	0,00	0,00	0,00	0,00	0,00	0,00
CANTABRIA	1,00	1,34	1,41	1,16	1,05	2,25	1,57	0,91	0,79	0,74	0,89	0,88	0,70	1,38
CASTILLA LA MANCHA	7,69	3,36	7,19	7,02	7,71	9,51	11,62	10,27	7,11	5,35	3,54	3,33	7,21	7,63
CASTILLA Y LEÓN	5,10	5,66	3,78	3,37	5,11	4,16	3,71	2,75	2,62	2,57	2,66	2,88	2,22	1,93
CATALUÑA	1,93	1,74	1,78	1,70	1,65	1,08	0,85	0,83	0,59	0,81	0,25	0,04	0,16	0,32
EXTREMADURA	7,45	5,95	5,57	4,05	4,84	3,74	3,37	3,78	3,04	3,11	3,29	4,53	4,62	12,23
GALICIA	0,52	0,43	0,46	0,31	0,20	0,19	0,11	0,22	0,28	0,19	0,21	0,12	0,11	0,08
LA RIOJA	2,05	2,70	2,76	1,31	0,72	0,70	1,45	0,75	1,14	0,38	0,36	0,37	0,72	2,81
MADRID	3,69	3,92	1,99	2,58	2,59	3,41	5,72	5,54	5,45	7,22	6,13	4,51	3,55	3,86
MURCIA	5,79	1,48	7,59	4,46	4,96	8,05	3,29	3,51	1,59	0,33	1,40	1,84	0,94	1,66
NAVARRA	0,52	0,82	0,36	0,38	0,27	0,33	0,40	0,30	0,67	0,65	0,30	0,66	0,67	0,50
PAÍS VASCO	0,06	0,17	0,22	0,64	0,19	0,14	0,20	0,57	0,37	0,33	0,25	0,17	0,25	0.16
VALENCIA	12,47	5,56	2,63	2,16	1,61	1,14	1,41	1,38	3,84	1,94	1,55	2,88	3,06	2,73
TOTAL	2,24	2,14	1,80	1,52	1,76	1,63	1,59	1,65	1,51	1,33	1,31	1,39	1,72	2,81

Reasons identified

Epidemiological studies:

-spatial epidemiology

- molecular epidemiology

- risk factors

- Epidemiological analysis (Guta et al, 2014): main risk factors: residual infection(22%), wildlife (13%), movements (12%), unknown (41%)*
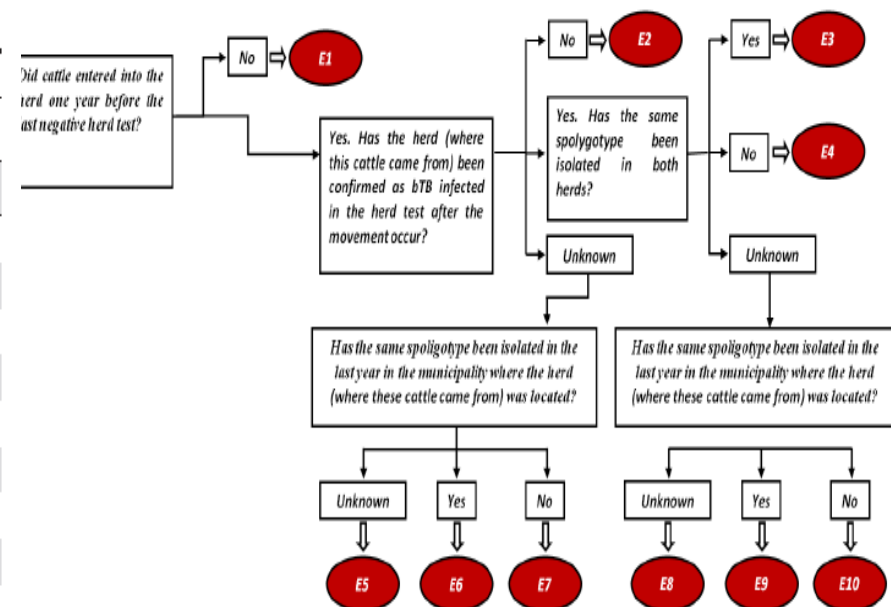

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Epidemiological Investigation of Bovine Tuberculosis Herd Breakdowns in Spain 2009/2011

Sintayehu Guta[1,2], Jordi Casal[2,3], Sebastian Napp[2], Jose Luis Saez[4], Ariadna Garcia-Saenz[2], Bernat Perez de Val[2], Beatriz Romero[5], Julio Alvarez[6], Alberto Allepuz[2,3]*

Table 3. Most likely causes of bTB breakdowns.

Causes of breakdown	Most likely		
	Herds	Proportion	95% CI
Residual infection	153.5	22.3	19.4–25.6
Introduction of infected cattle	35	5.1	3.7–7.0
Presence of infected goats	17	2.5	1.6–3.9
Contiguous spread	55	8	6.2–10.3
Sharing of pastures	48.5	7.1	5.4–9.2
Interaction with wildlife	90	13.1	10.8–15.8
Contact with infected humans	2	0.3	0.1–1.1
Unknown (a)	286	41.6	38.0–45.4
Total	687		

(a) In 185 herds the likelihood of all the causes was below 5 and in 101 there were more than three plausible causes.

Training 2012-2015

- More than 2.400 field vets trained, including a validation exam of the SIT
- Training courses started in 2014 for Official Veterinary Services

Perspectives/ new measures 2015-2016

- Audits by the Ministry to the regions on the implementation of the eradication programme

- Special protocol of official controls on field veterinarians

- Guide on non-compliances and penalties for field veterinarians

- Increase in the official declaration of "zones of emergency in wildlife" and action plan PATUBES

- Random post-movement tests (origin UVLs >1%)

Conclusions

- Integral control of compliance of the implementation of the National Eradication programme at all levels

- Consequences in case of non-compliance

- Some puntual increases in epidemiological indicators can be expected in next years, followed by a decrease of them after the correct implementation of all measures in all regions and at all levels at the same time

- Confidence in the desing of the reinforced programme, 1-2 years more to obtain results