

REPUBBLICA ITALIANA



REGIONE SICILIANA
ASSESSORATO SANITA'
Ispettorato Regionale Veterinario
Servizio di Sanità Animale



Istituto Zooprofilattico Sperimentale della Sicilia "A. Mirri"
Area Sorveglianza Epidemiologica

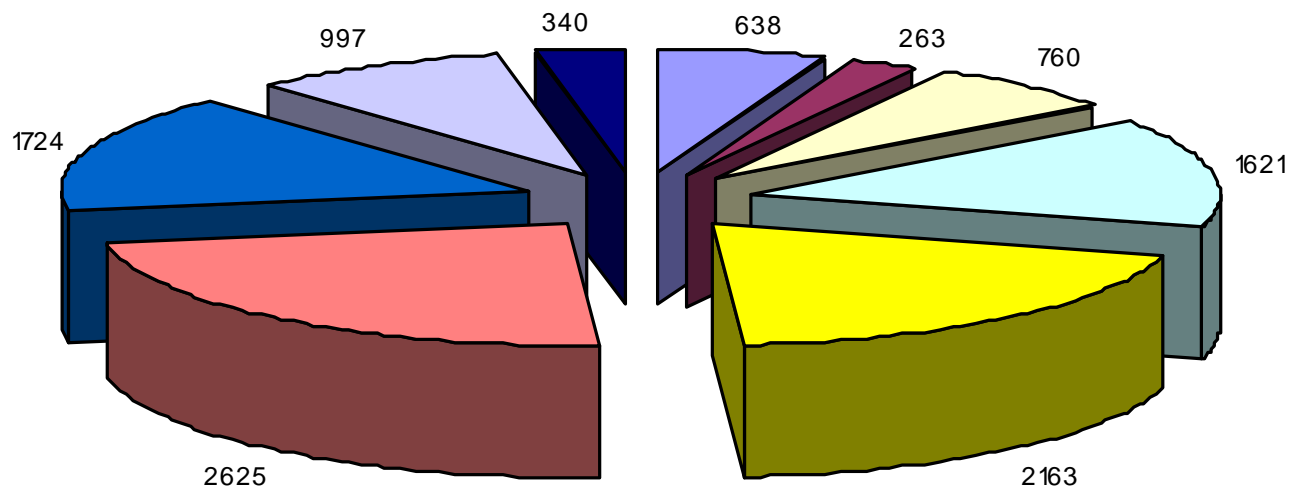
BOVINE BRUCELLOSIS IN SICILY (2001 - 2006)

Assessorato Regionale Sanità: *M. Bagnato, A. Vario, V. Bonomo*
IZSSi: *C. Di Bella*



BOVINE BRUCELLOSIS - HERDS TO TEST N. 11.131

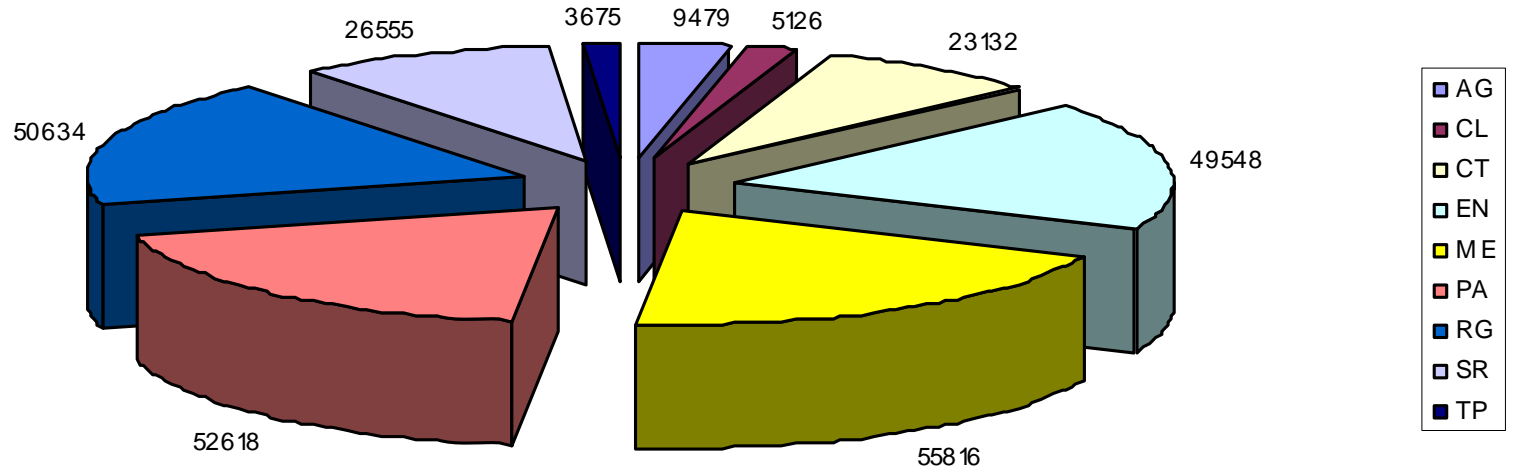
Year 2006





BOVINE BRUCELLOSIS - ANIMALS TO TEST N. 276583

Year 2006



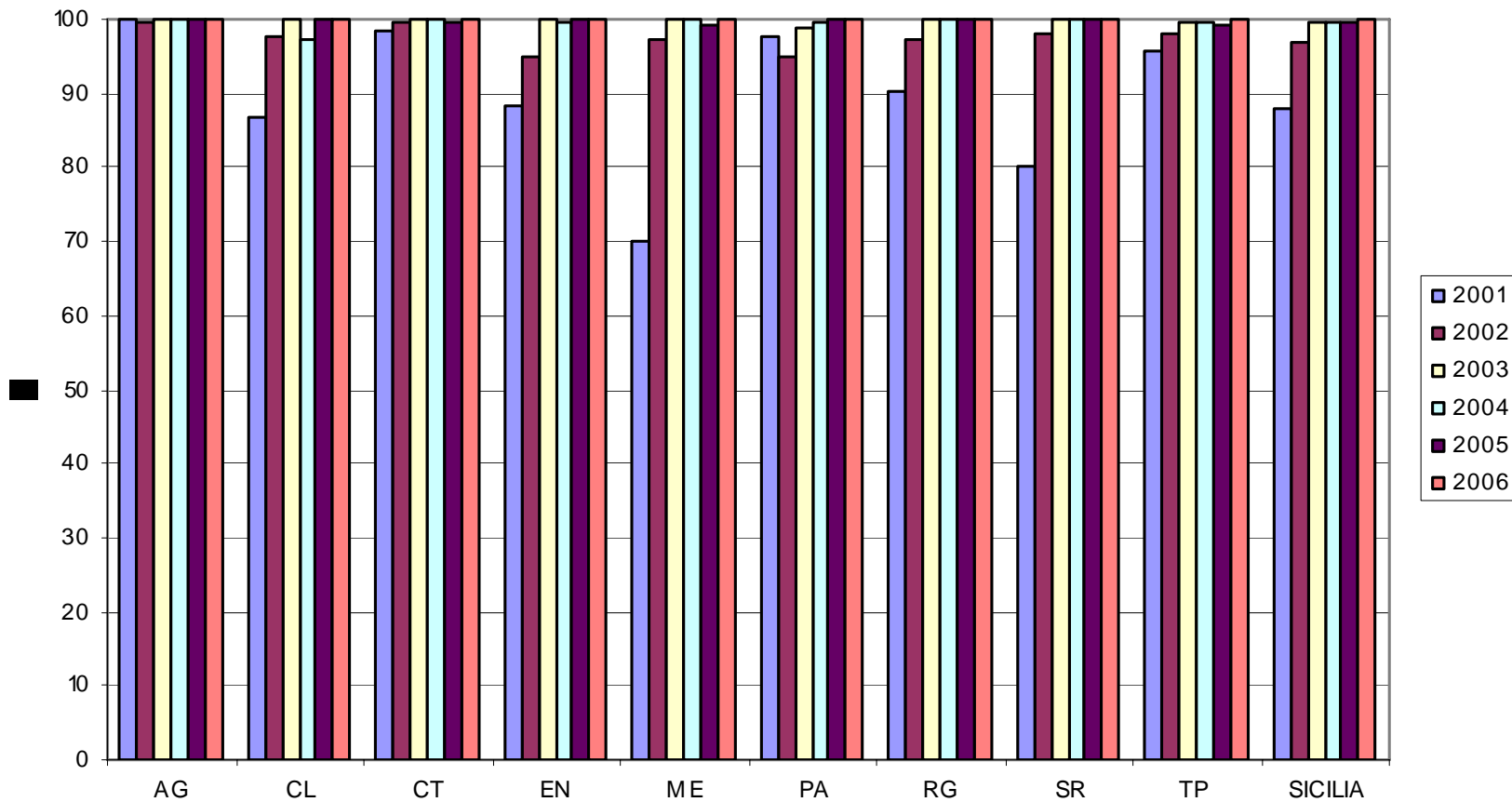


European Union, National and Regional Goals

- Test at least 95% of the bovine animals within the first 6 months of 2002, and 100% of animals within 2003 and the following years.
- Carry out serological tests at least twice a year on cattle herds certified as Brucellosis free.
- Carry out any measures necessary to cure those herds infected by Brucellosis, within the time limits set out by the regulations in force, in order to ensure regular controls by the end of the Programme.

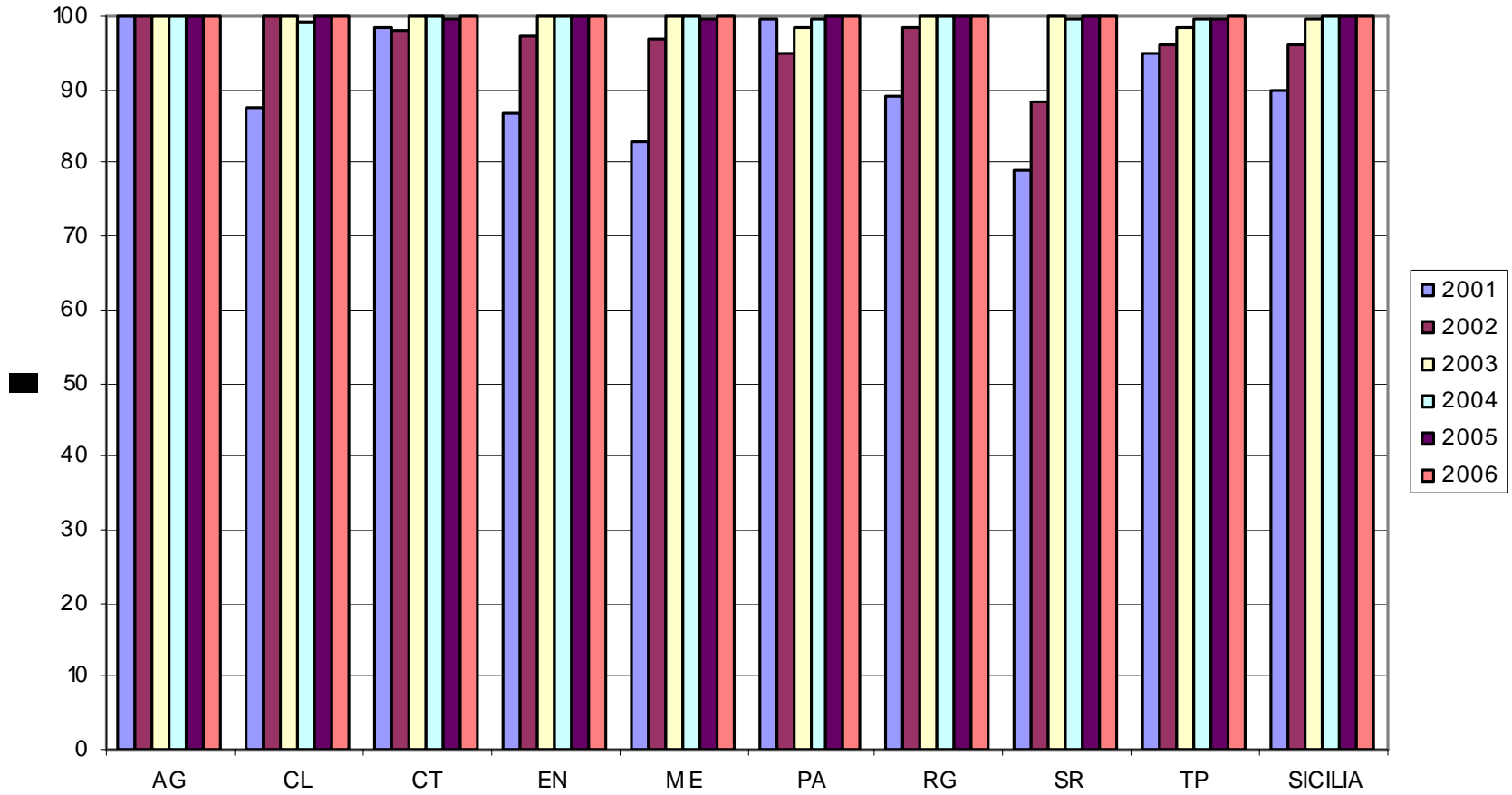


% TESTED HERDS



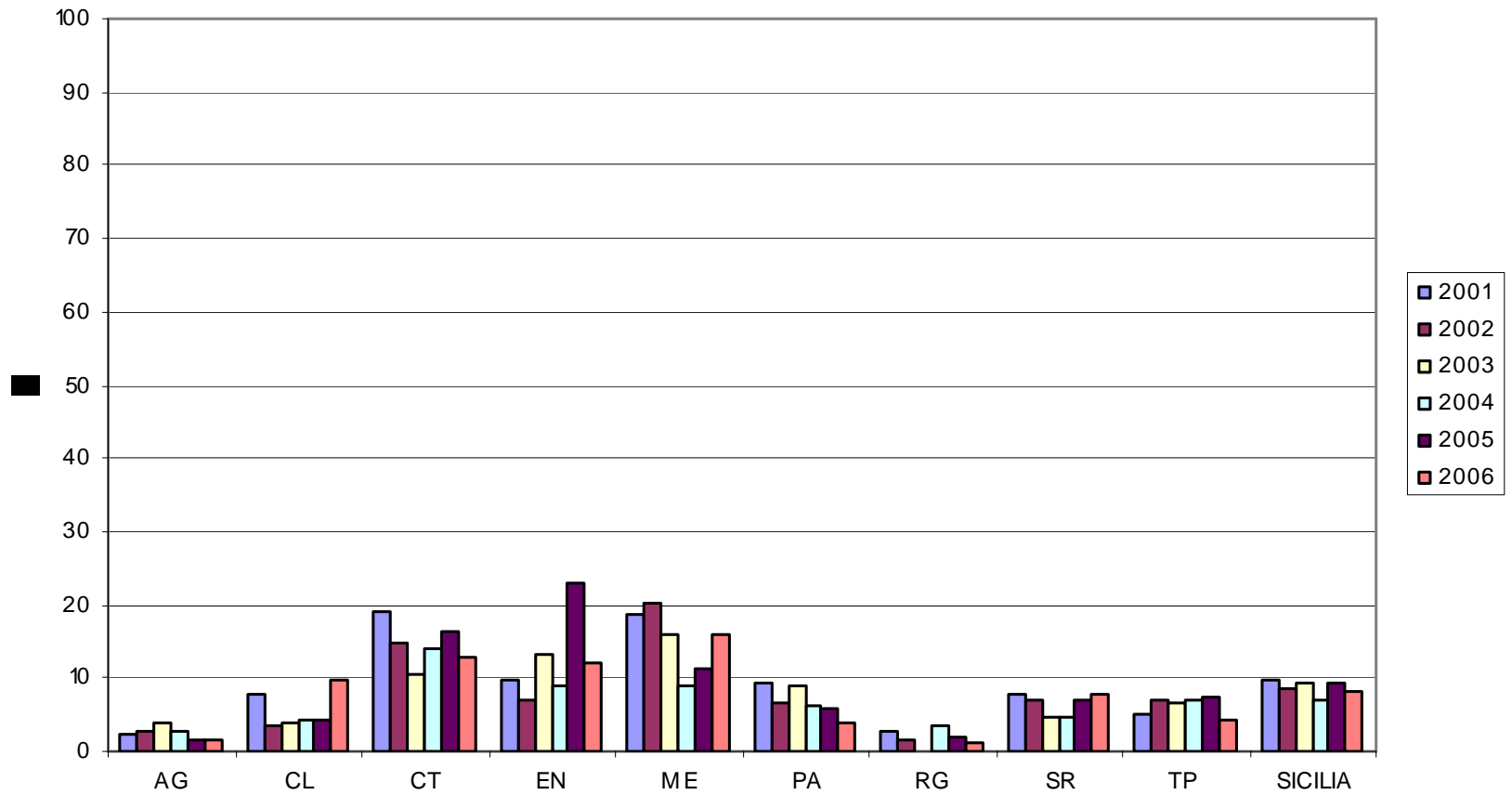


% TESTED ANIMALS



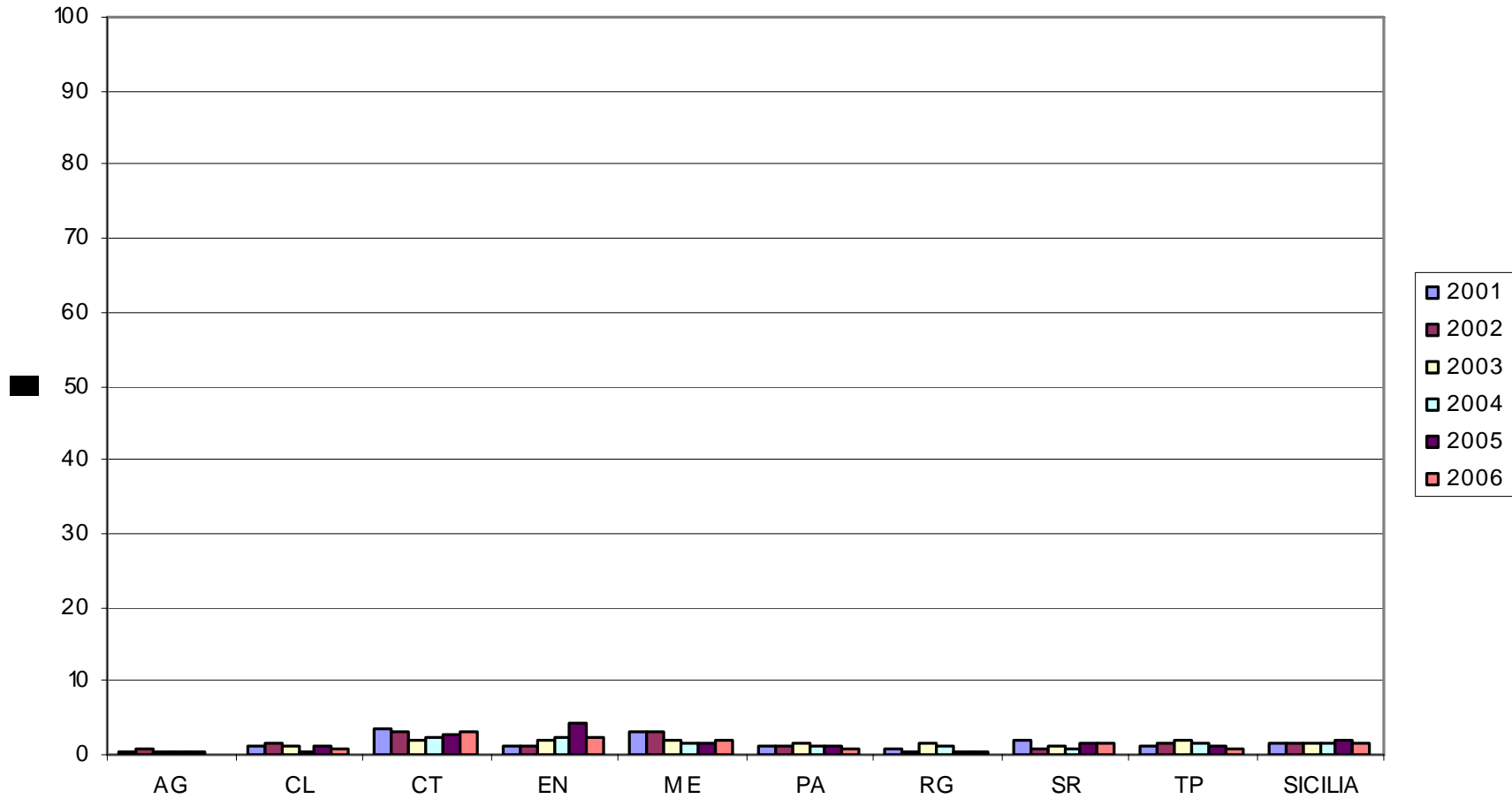


% POSITIVE HERDS



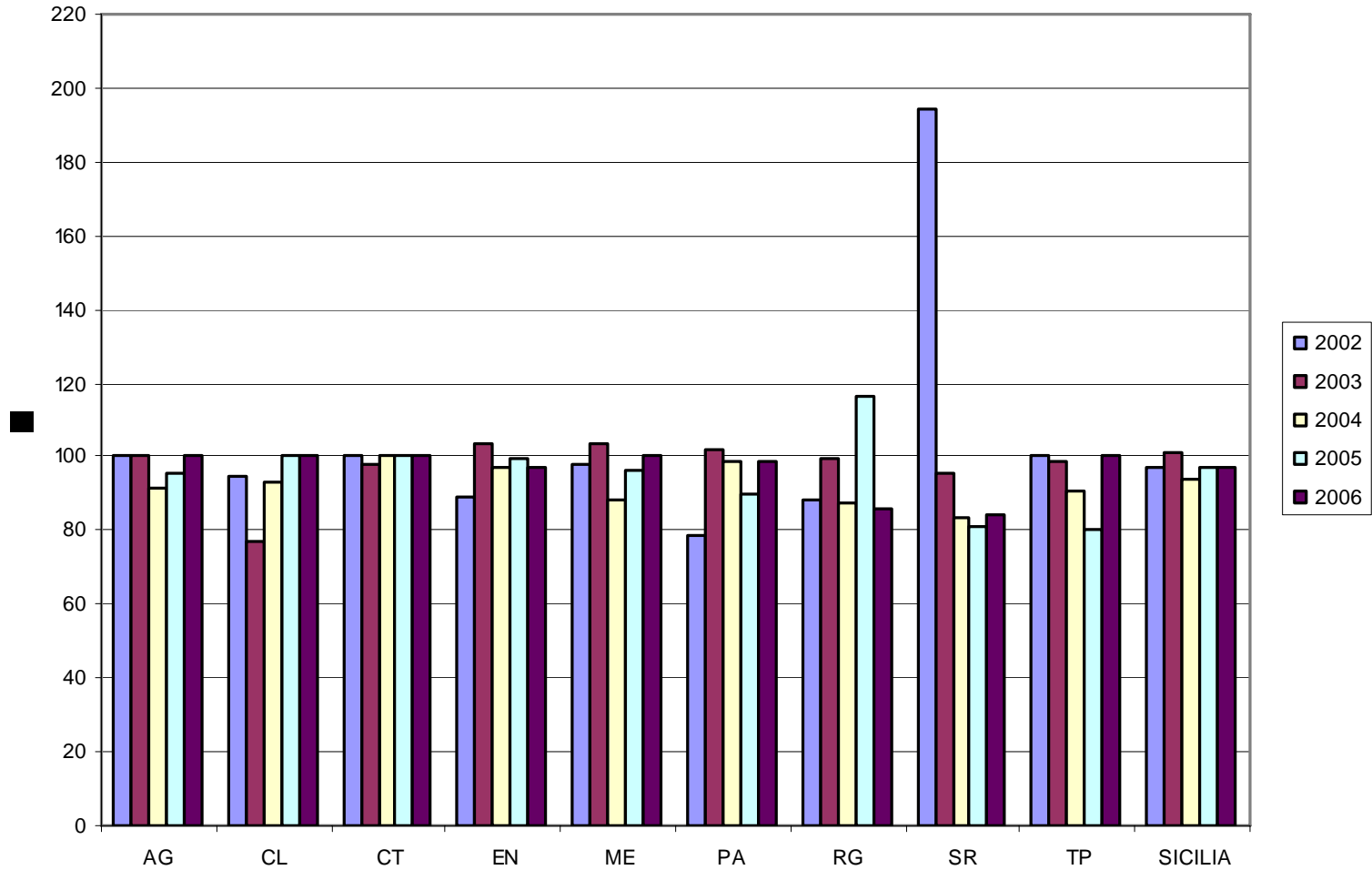


% POSITIVE ANIMALS



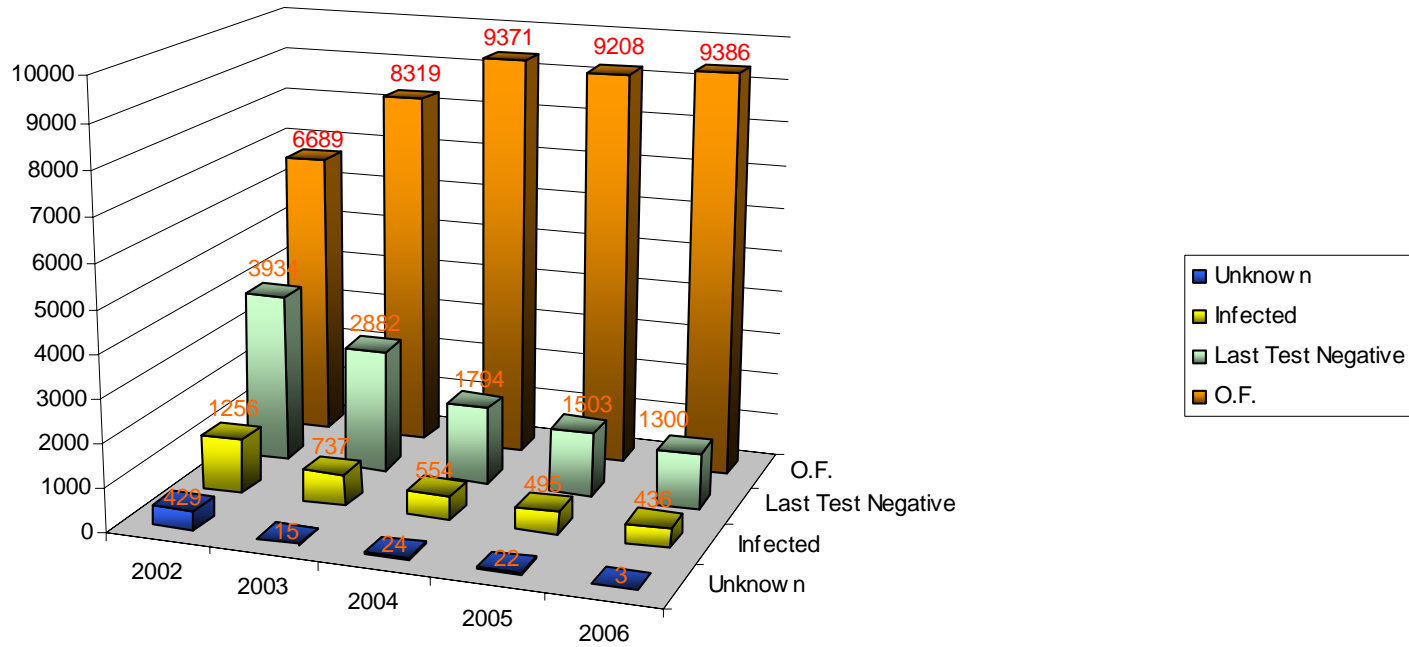


% OF SLAUGHTERED ANIMALS 2002-2006





Enclosure V Dec. 02/677/CE
Bovine Brucellosis



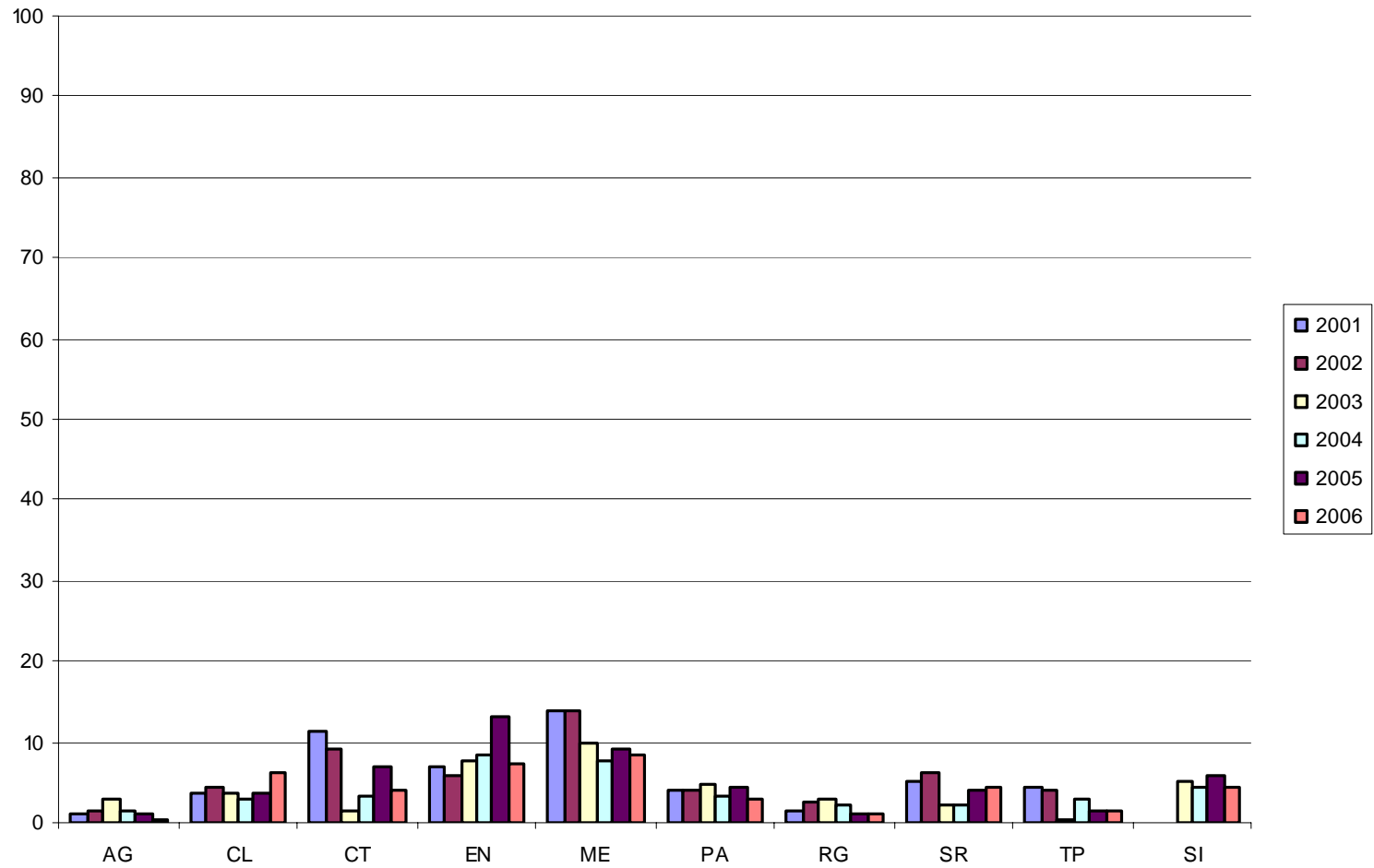


Enclosure V Dec.02/677/CE

	Unknown	Infected	Last Test Negative	O.F.
2002	429	1256	3934	6689
2003	15	737	2882	8319
2004	24	554	1794	9371
2005	22	495	1503	9208
2006	3	436	1300	9386
%Diff. 06/02	-99,3	-65,3	-67,0	+40,3



INCIDENCE





FOLLOW-UP OF INFECTED FLOCKS (TIME IN DAYS) (DB IZSSi)

PR	2001	2002	2003	2004	2005	2006
AG	142	149	145	136	150	143
CL	96	142	150	138	138	129
CT	120	145	139	145	142	132
EN	152	167	150	152	136	150
ME	118	149	138	149	148	149
PA	102	133	134	136	131	134
RG	90	134	138	138	140	139
SR	141	149	149	152	146	146
TP	110	150	162	146	159	149
SICILIA	146	142	141	143	140	142

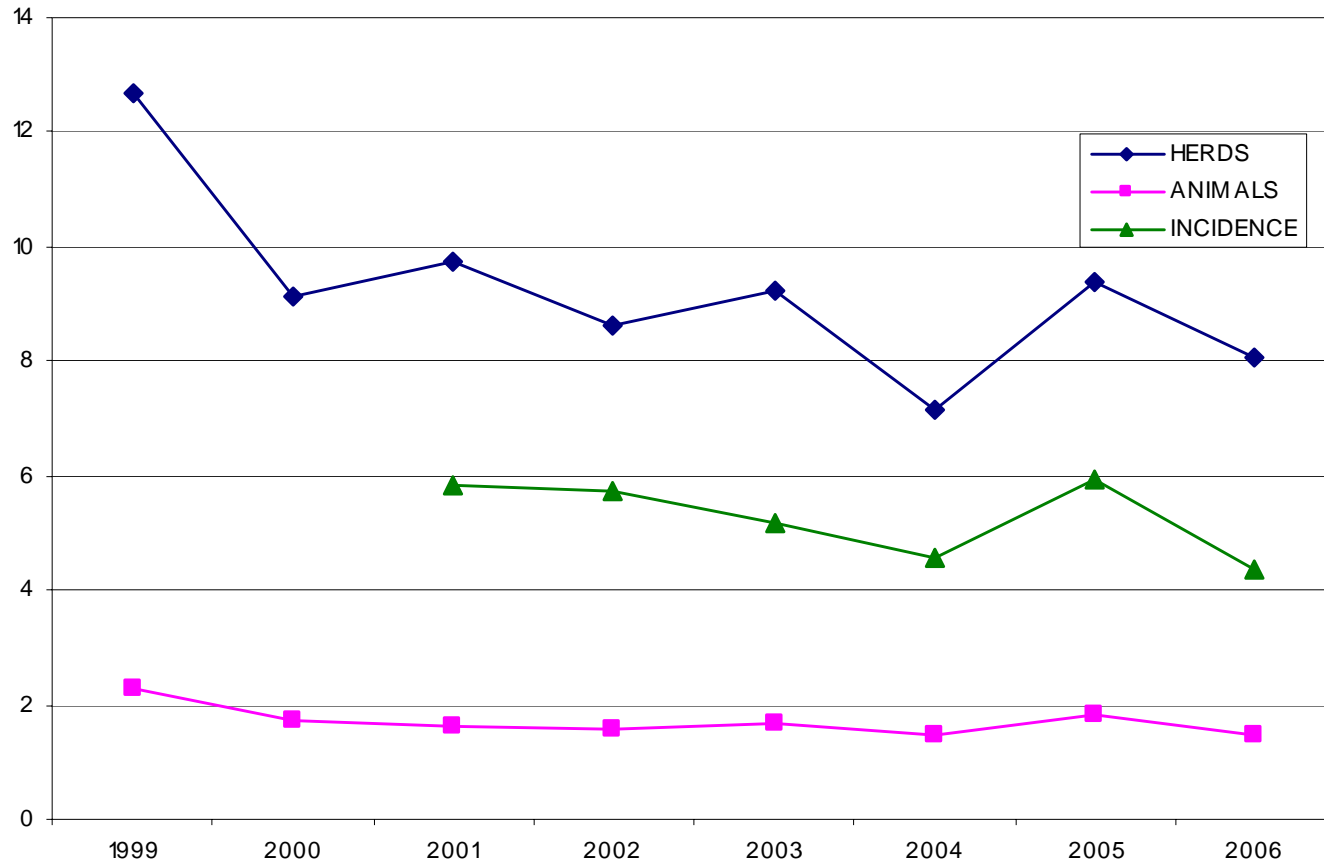


(DB IZSSi) TIME IN DAY FROM SERA RECEPTION DATE - TO PRINTED RESULT DATE

PR	2001	2002	2003	2004	2005	2006
AG	12	14	7	6	4	4
CL	5	7	4	3	2	2
CT	7	8	8	8	6	4
EN	7	9	8	6	3	3
ME	7	7	5	5	3	2
PA	11	12	9	7	4	5
RG	2	2	3	3	3	4
SR	6	7	7	6	5	4
TP	10	11	8	7	5	4
SICILIA	7	8	7	6	4	4



PREVALENCE AND INCIDENCE 1999 - 2006





EPIDEMIOLOGICAL INDICES (REGIONAL)

Positive Herds 06 / Positive Herds 02

- 54.3 %

Positive animals 06 / Positive animals 02

- 13.7 %



INCIDENCE INDEX BETWEEN 2001 AND 2006

	2001	2002	2003	2004	2005	2006	% 01/06
AG	1,22	1,49	3,07	1,52	1,26	0,31	-74,6
CL	3,48	4,2	3,76	2,79	3,57	6,08	74,7
CT	11,29	9,11	1,56	3,26	6,81	4,08	-63,9
EN	7,01	5,86	7,81	8,33	13,29	7,22	3,0
ME	13,83	13,84	9,71	7,5	9,04	8,29	-40,1
PA	4,16	3,93	4,86	3,35	4,45	2,86	-31,3
RG	1,55	2,55	2,96	2,37	1,02	0,93	-40,0
SR	5,15	6,32	2,28	2,36	4,08	4,31	-16,3
TP	4,5	4,16	0,52	2,95	1,5	1,47	-67,3
SICILY	5,82	5,74	5,18	4,54	5,93	4,35	-25,3



Isolated Brucella strains 2002-06

	<i>B melitensis</i> 3					<i>B abortus</i> 1					<i>B abortus</i> 3					<i>Brucella</i> spp				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
AG																				
CL		2																		
CT													1	3						
EN																				
ME		3																		
PA						1		4	1											
RG							1	3					1							
SR																1				
TP			4																	
TOTALE	0	5	4	0	0	1	1	7	1	0	0	0	2	3	0	1	0	0	0	0



CONSIDERATIONS

- **Almost all targets have been achieved**
- **Overall incidence and prevalence decreased**
- **Monitoring performance in terms of percentage by Veterinary Services have reached a steady level**

CRITICAL POINTS

- **Follow-up monitoring time is still high**
- **Complete information management of eradication programme is not yet achieved**



ACHIEVED TARGETS WITH REGARDS TO CONTROL ACTIVITIES

- ❖ **Proposed creation of a centralised slaughter of infected animals**
- ❖ **Periodic reports communicated to peripheral units**

SPATIAL DISTRIBUTION OF CATTLE BRUCELLOSIS IN SICILY FROM 2001 TO 2006 (Prevalence)

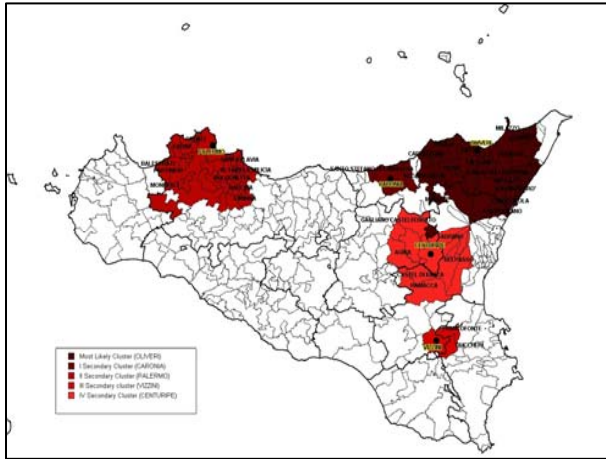


Figure 13: clusters in 2001 (prevalence)

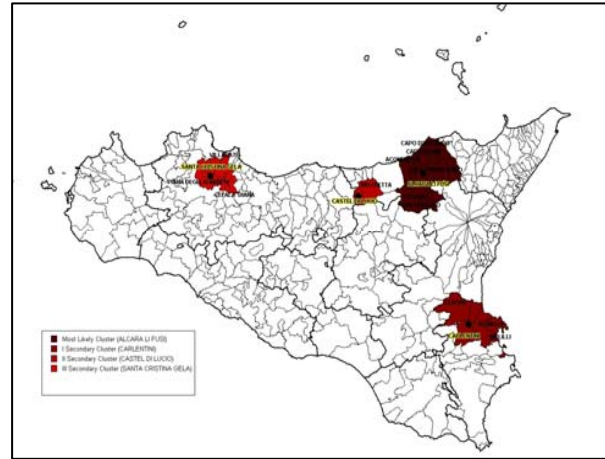


Figure 14: clusters in 2002 (prevalence)

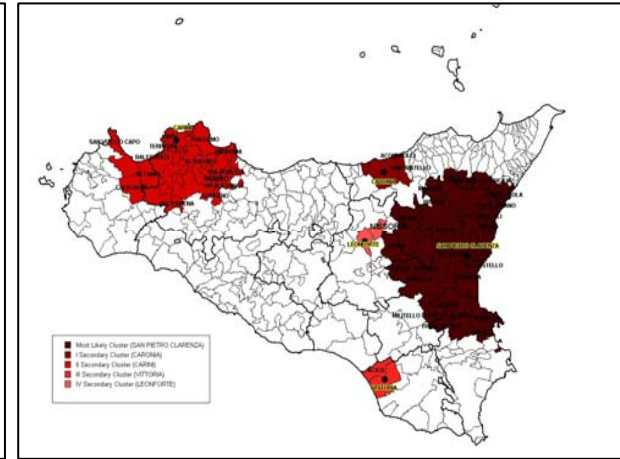


Figure 15: clusters in 2003 (prevalence)

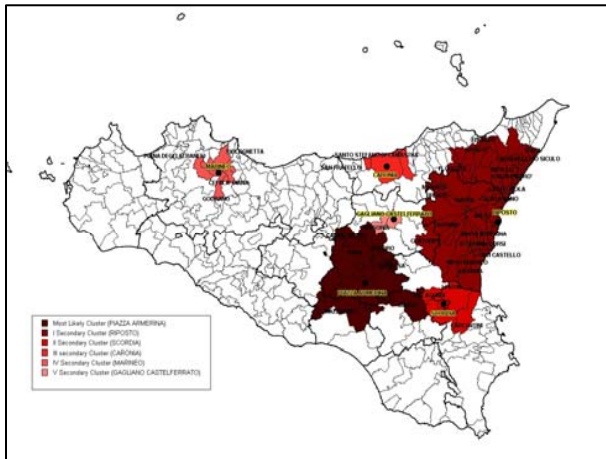


Figure 16: clusters in 2004 (prevalence)

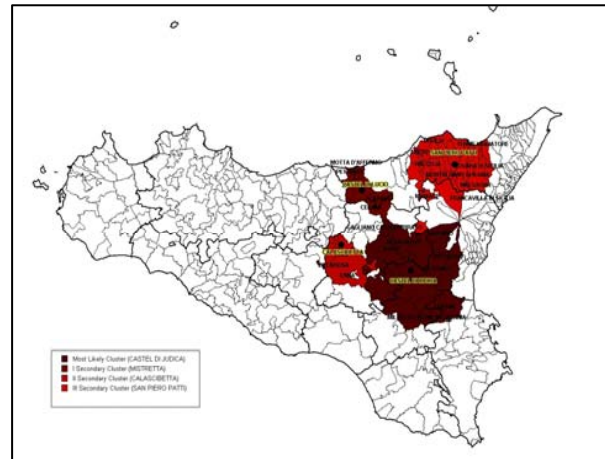


Figure 17: clusters in 2005 (prevalence)

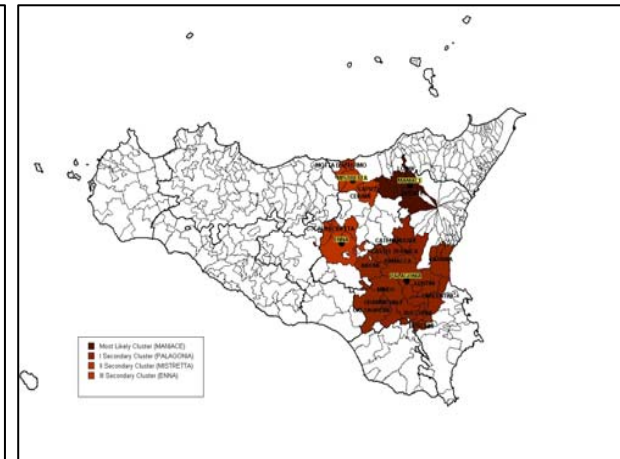


Figure 18: clusters in 2006 (prevalence)





- From 2001 to 2006 the first and the second cluster varied in term of its position and size over the years
- During last the two years there was greater prevalence to east of the Sicily

SPATIAL DISTRIBUTION OF CATTLE BRUCELLOSIS IN SICILY FROM 2001 TO 2006 (Incidence)

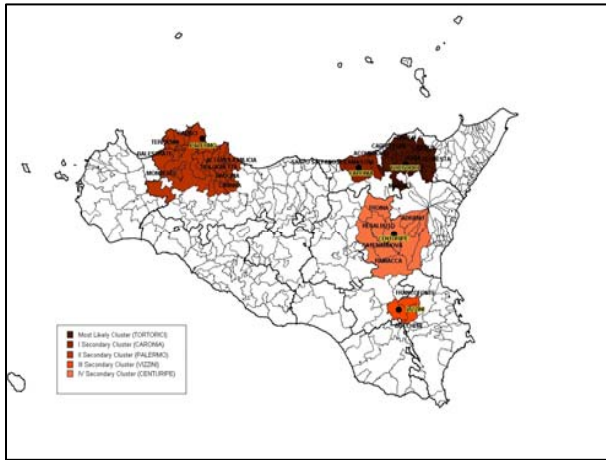


Figure 19: clusters in 2001 (incidence)

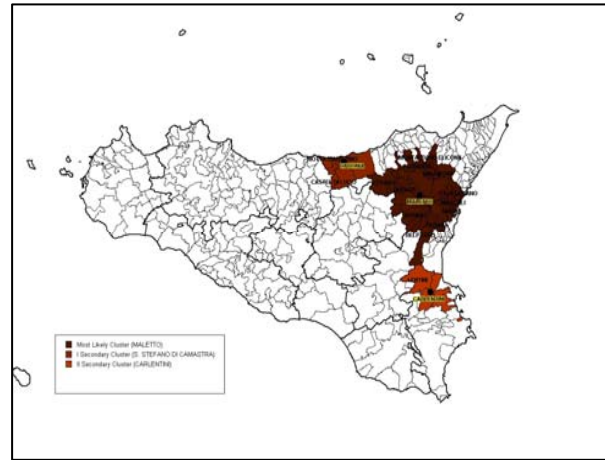


Figure 20: clusters in 2002 (incidence)

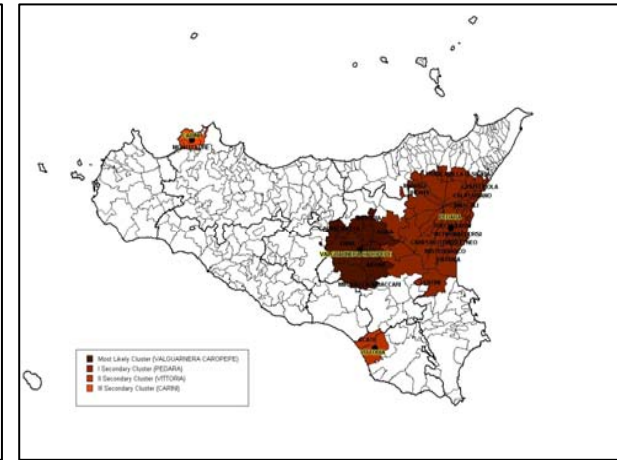


Figure 21: clusters in 2003 (incidence)

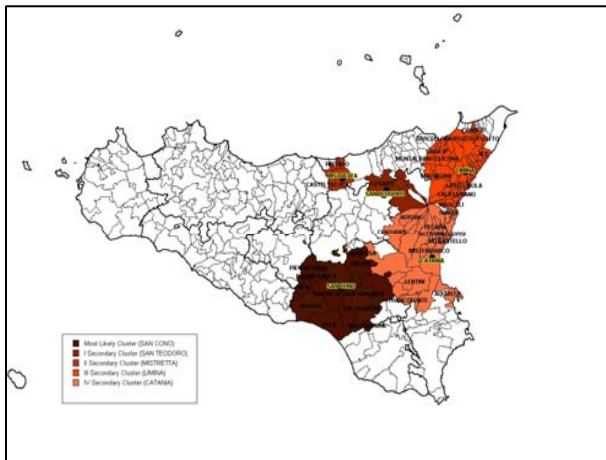


Figure 22: clusters in 2004 (incidence)

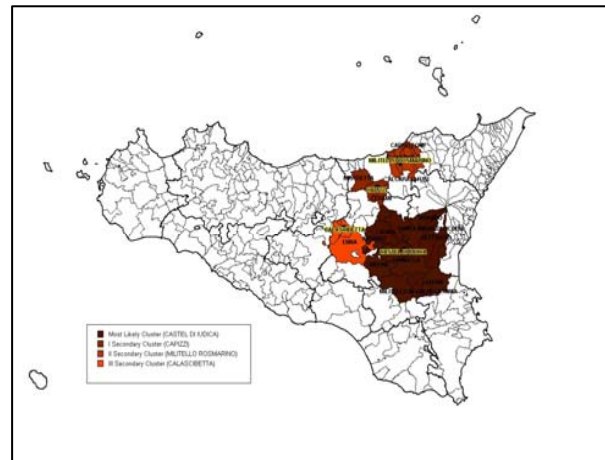


Figure 23: clusters in 2005 (incidence)

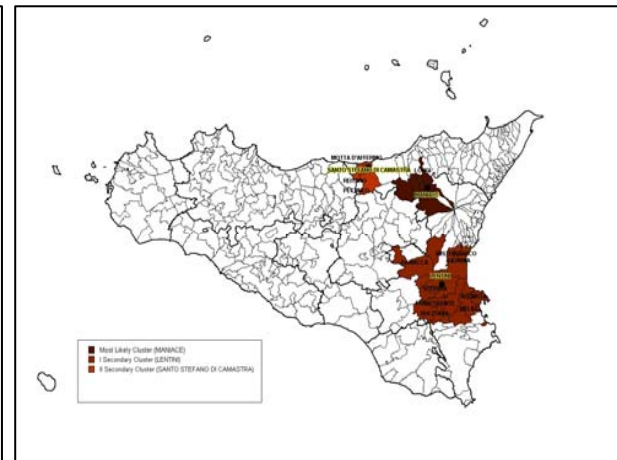


Figure 24: clusters in 2006 (incidence)





- The phenomenon over the years involved mainly the est part of Sicily with the exception of the year 2001 in which there was a cluster
- The First cluster of incidence (fig.24) and the first cluster of prevalence (fig 18), identified during the year 2006, were the same ones



BOVINE BRUCELLOSIS IN SICILY (Genuary – February 2007)



BOVINE BRUCELLOSIS

	N° of herds 2006	N° of tested herds (January- February 2007)	% of tested herds	N° of infected herds (January- February 2007)	Prevalence (January- February 2007)	N° of new infected herds (January- February 2007)	Incidence (January- February 2007)
AG	638	138	21,63%	0	0,00%	0	0,00%
CL	263	85	32,32%	5	5,88%	4	4,71%
CT	760	194	25,53%	17	8,76%	7	3,61%
EN	1621	381	23,50%	36	9,45%	12	3,15%
ME	2163	468	21,64%	41	8,76%	21	4,49%
PA	2625	649	24,72%	28	4,31%	16	2,47%
RG	1724	512	29,70%	7	1,37%	3	0,59%
SR	997	234	23,47%	18	7,69%	7	2,99%
TP	340	66	19,41%	2	3,03%	1	1,52%
SICILIA	11131	2727	24,50%	154	5,65%	71	2,60%



BOVINE BRUCELLOSIS

	N° of animals 2006	N° of animals (January-February 2007)	% of tested animals	N° of infected animals (January-February 2007)	Prevalence (January-February 2007)
AG	9479	1563	16,49%	0	0,00%
CL	5126	1660	32,38%	12	0,72%
CT	23132	4954	21,42%	28	0,57%
EN	49548	8762	17,68%	93	1,06%
ME	55816	10002	17,92%	114	1,14%
PA	52618	10936	20,78%	52	0,48%
RG	50634	11313	22,34%	9	0,08%
SR	26555	6564	24,72%	63	0,96%
TP	3675	866	23,56%	9	1,04%
SICILIA	276583	56620	20,47%	380	0,67%