



**OVERVIEW OF EPIDEMIOLOGICAL
RESEARCH ON BSE IN GREAT BRITAIN
AND OTHER COUNTRIES: WITH
RESPECT TO THE USE OF BOVINE
DERIVED MATERIALS USED IN
CURRENTLY LICENCED VACCINES IN
THE USA**

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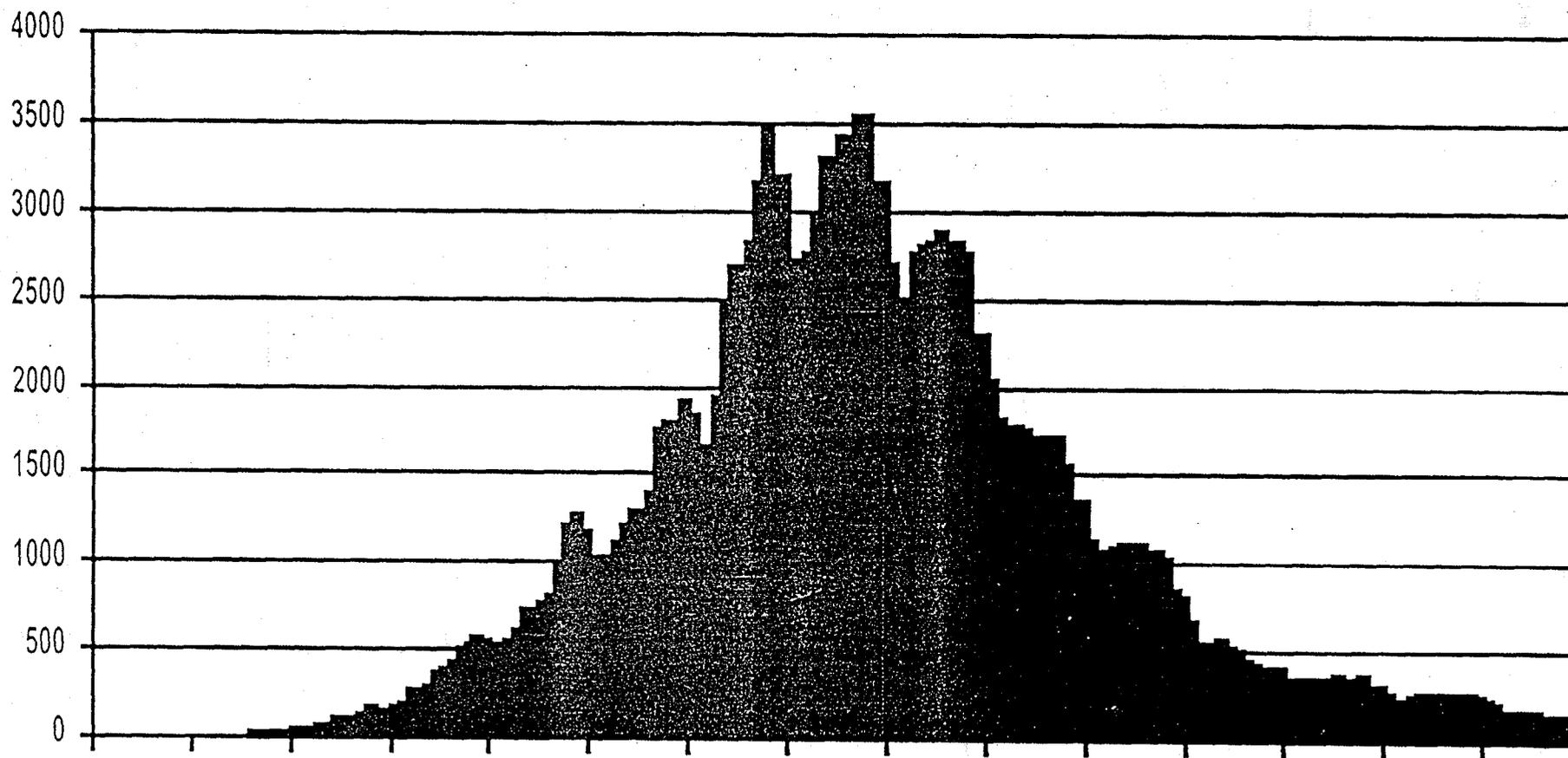


**A BRIEF UPDATE ON PAST CONTROL MEASURES
AND THE CURRENT STATUS OF THE EPIDEMIC IN
GB**

Number of Cases by Month and Year of Onset of Clinical Signs

April 1985 - March 2000

No. of Cases



Apr-85 Apr-86 Apr-87 Apr-88 Apr-89 Apr-90 Apr-91 Apr-92 Apr-93 Apr-94 Apr-95 Apr-96 Apr-97 Apr-98 Apr-99

Month/Year of Onset of Clinical Signs



THE ONSET OF EFFECTIVE EXPOSURE OF THE BRITISH CATTLE POPULATION TO THE BSE AGENT

- INITIAL EPIDEMIOLOGICAL STUDIES SUGGESTED EXPOSURE COMMENCED IN 1981/82
- MODELLING STUDIES SUPPORTED THIS TIME OF EXPOSURE
- RECENT SPATIO-TEMPORAL ANALYSES HAVE RE-INFORCED PREVIOUS ESTIMATES



EFFECTS OF STATUTORY CONTROL MEASURES ON THE BSE EPIDEMIC

RUMINANT PROTEIN BAN JULY 1988	-	67% REDUCTION IN RISK IN FIRST TWELVE MONTHS
SBO BAN, NOVEMBER 1990	-	A FURTHER 46% REDUCTION IN RISK IN FIRST TWELVE MONTHS



THE “EXPOSURE WINDOW” RELEVANT TO HUMAN EXPOSURE IN GREAT BRITAIN

- THE MOST LIKELY HIGH RISK PERIOD IN GB WAS 1985-1989
- IT HAS PROVED IMPOSSIBLE TO DETERMINE THE EXPOSURE OF THE HUMAN POPULATION TO BOVINE CNS TISSUES, INCLUDING PRODUCTS CONTAINING MECHANICALLY RECOVERED MEAT



ADDITIONAL SURVEILLANCE FOR BSE

SURVEY OF OTMS ANIMALS > 5 YEARS OLD

JAN-MARCH 1999

- PREVALENCE OF 0.45% HISTOPATHOLOGICALLY POSITIVE ANIMALS (n = 4136)
- PRIONICS CHECK TEST DID NOT REVEAL ANY ADDITIONAL "POSITIVE" ANIMALS
- DELFIA TESTING OF SAMPLES IN PROGRESS



ADDITIONAL SURVEILLANCE FOR BSE

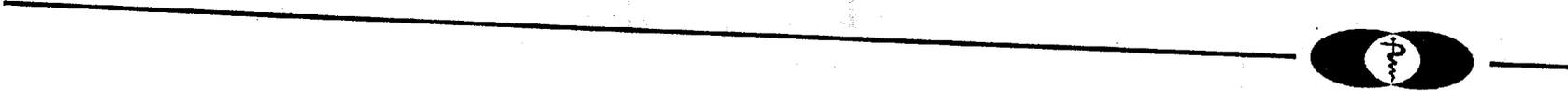
SURVEY OF OTMS ANIMALS > 5 YEARS OLD IN 2000

- STARTED 15 MAY 2000 (n = 10,000)
- NO RESULTS YET
- WILL PROVIDE INDEPENDENT ASSESSMENT OF THE DECLINE IN THE PREVALENCE
- WILL ALLOW FURTHER EVALUATION OF THE DELFIA TEST
- WILL ALLOW DESIGN OF A FURTHER OTMS SURVEY IN 2001, LIKELY SAMPLE SIZE ~15,000



ESTIMATES OF FUTURE INCIDENCE OF BSE

YEAR	NO. CONFIRMED CASES
2000	887 - 1337
2001	325 - 615



BSE IN OTHER COUNTRIES

OCCURRENCE OF BSE OUTSIDE THE UK



COUNTRY	YEAR OF FIRST CASE	NO. OF CASES	
		HOME BRED	IMPORTED
IRELAND	1989	469	12
SULTANATE OF OMAN	1989	0	2
FALKLANDS	1989	0	1
DENMARK	1992	1	1
CANADA	1993	0	1
PORTUGAL	1990	365	6
ITALY	1994	0	2
FRANCE	1991	99	1
THE NETHERLANDS	1997	6	0
BELGIUM	1997	14	0
GERMANY	1992	0	6
LUXEMBOURG	1997	1	0
LIECHTENSTEIN	1998	2	0
SWITZERLAND	1990	353	0



INTERPRETATION OF THE RESULTS OF THE BSE COHORT STUDY ON THE MATERNAL RISK FACTOR

- THERE IS AN APPARENT 10% RISK FOR OFFSPRING OF CLINICALLY AFFECTED COWS BORN DURING THE LAST 6 MONTHS OF THE DAMS INCUBATION PERIOD
- THE RESULTS CANNOT CONFIRM THE OCCURRENCE OF MATERNAL TRANSMISSION ONLY A MATERNAL EFFECT
- THERE WAS NO EVIDENCE FOR A REDUCED AGE AT ONSET OF CLINICAL SIGNS OF BSE IN THE OFFSPRING AND THEREFORE A REDUCED INCUBATION PERIOD
- FURTHER RESEARCH REQUIRED TO INVESTIGATE THE HYPOTHESIS OF THE MATERNAL EFFECT, NOTABLY ITS PRESENCE IN THE ABSENCE OF THE FEEDBORNE SOURCE



THE RELEVANCE OF THE COHORT STUDY TO EXAMINE THE MATERNAL RISK FACTOR

- THE OBJECTIVE OF THE COHORT STUDY WAS TO PROVIDE AN ESTIMATE OF THE RISK FOR OFFSPRING OF CONFIRMED CASES OF BSE OF DEVELOPING BSE THEMSELVES COMPARED TO OFFSPRING OF BSE-UNAFFECTED DAMS
- THE STUDY WAS NOT CONCERNED SPECIFICALLY WITH MATERNAL TRANSMISSION
- THE STUDY COULD NOT IDENTIFY THE MECHANISMS INVOLVED IN ANY POSITIVE MATERNAL EFFECT OBSERVED