

BSE in Switzerland

History, surveillance, control
efforts and agricultural
policies

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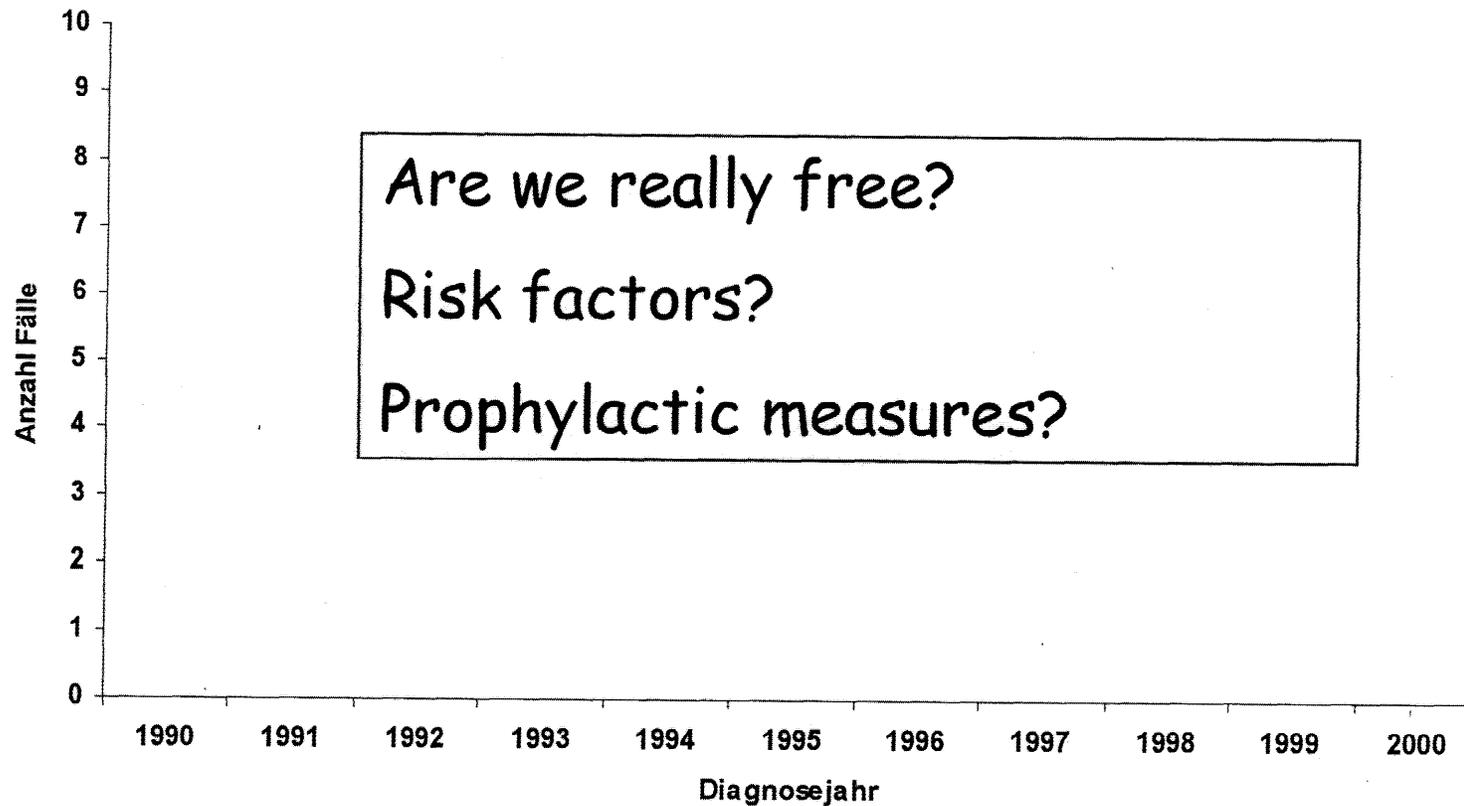
Topics

- History of BSE in Switzerland
 - epidemiology
 - measures
- Active targeted surveillance

Basic events

- 1986 first BSE case in UK diagnosed
- 1989 first imported cases (Falkland and Oman)
- 1989 first native case outside UK (Ireland)
- November 1990 first case in Switzerland

Situation before the first BSE case in Switzerland



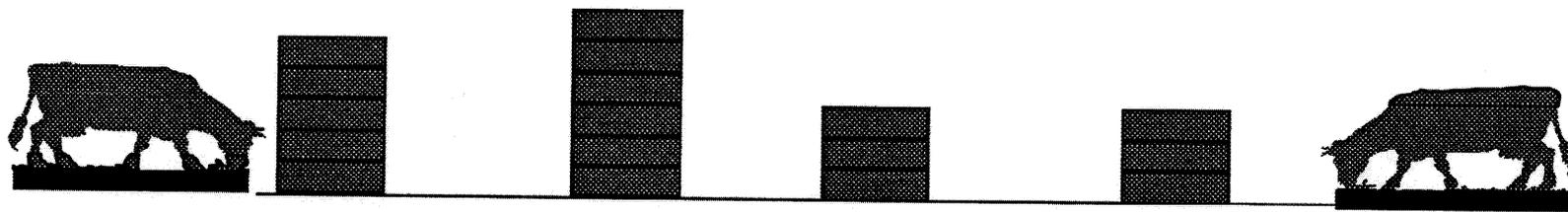
BSE risk factors in Switzerland

- Small ratio sheep/cattle population
- scrapie very rare
- generally sufficient sterilisation of MBM
- hardly any import of live cattle from UK
- hardly any import of MBM from UK
- use of MBM in cattle feed

Establishment of surveillance in Switzerland

- 1989: reference laboratory
- 1989: information campaign
- 1990: beginning of intensive surveillance
- ➔ November 1990: first BSE case
- ➔ December 1990: feed ban

Measures implemented 1990 interruption of infection cow-cow



Import MBM from UK
/from other countries

MBM for ruminants

BSE-cases

MBM



ban

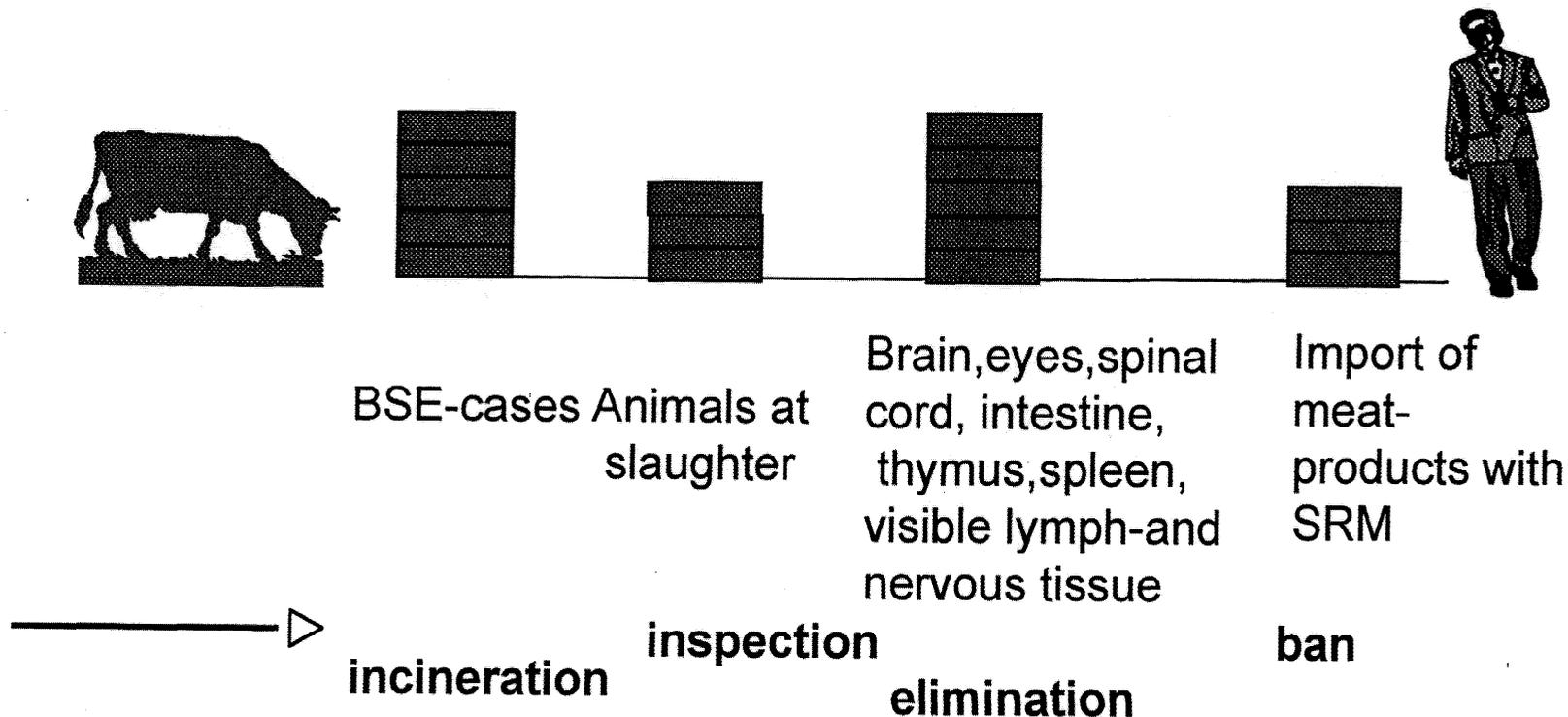
/restrictions

ban

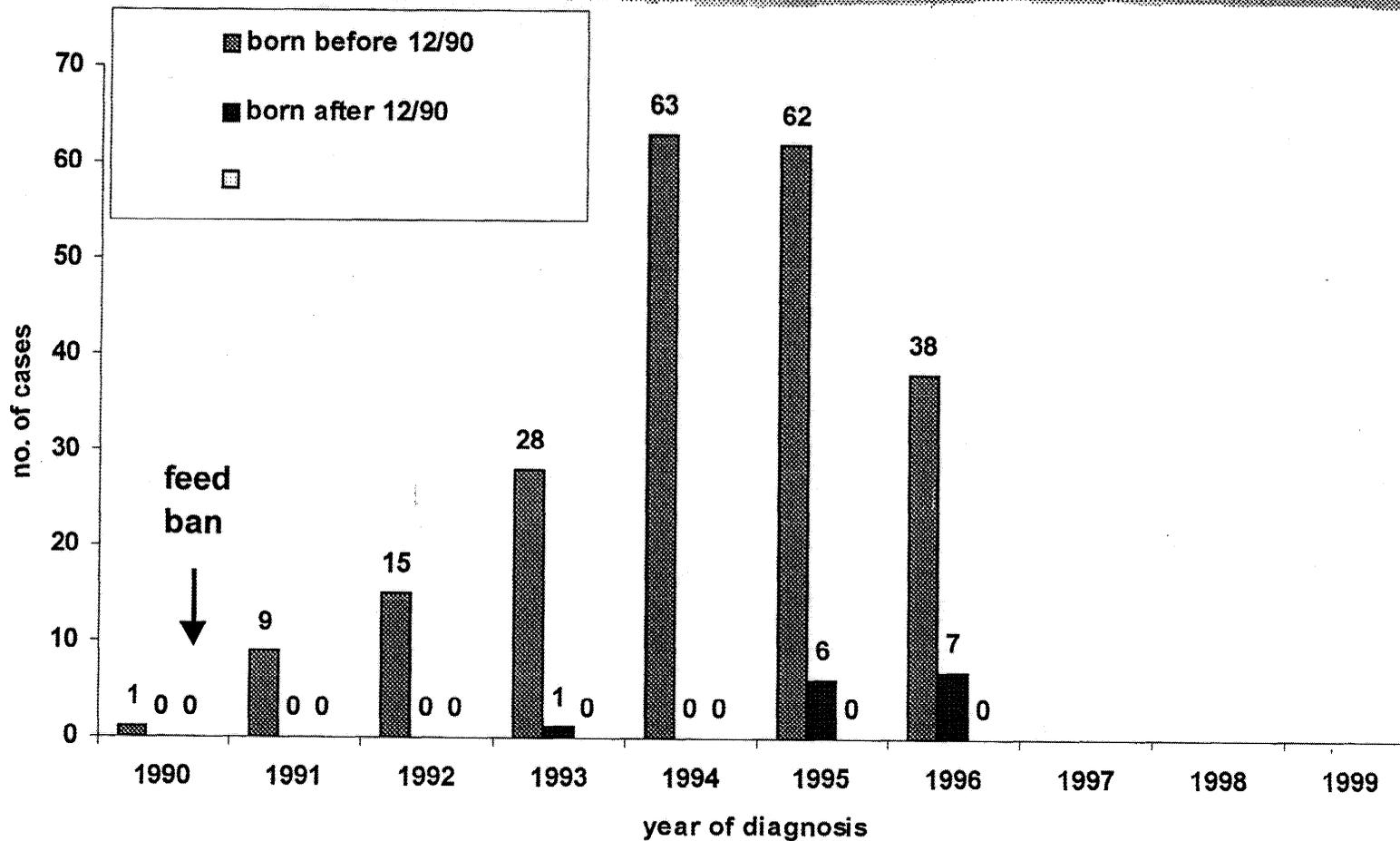
incineration

**Processing 133°, 3bar
20 minutes, batch (1993)**

Measures implemented 1990 interruption of potential infection bovine-human



BSE-cases per year (until 1996)



BAB cases

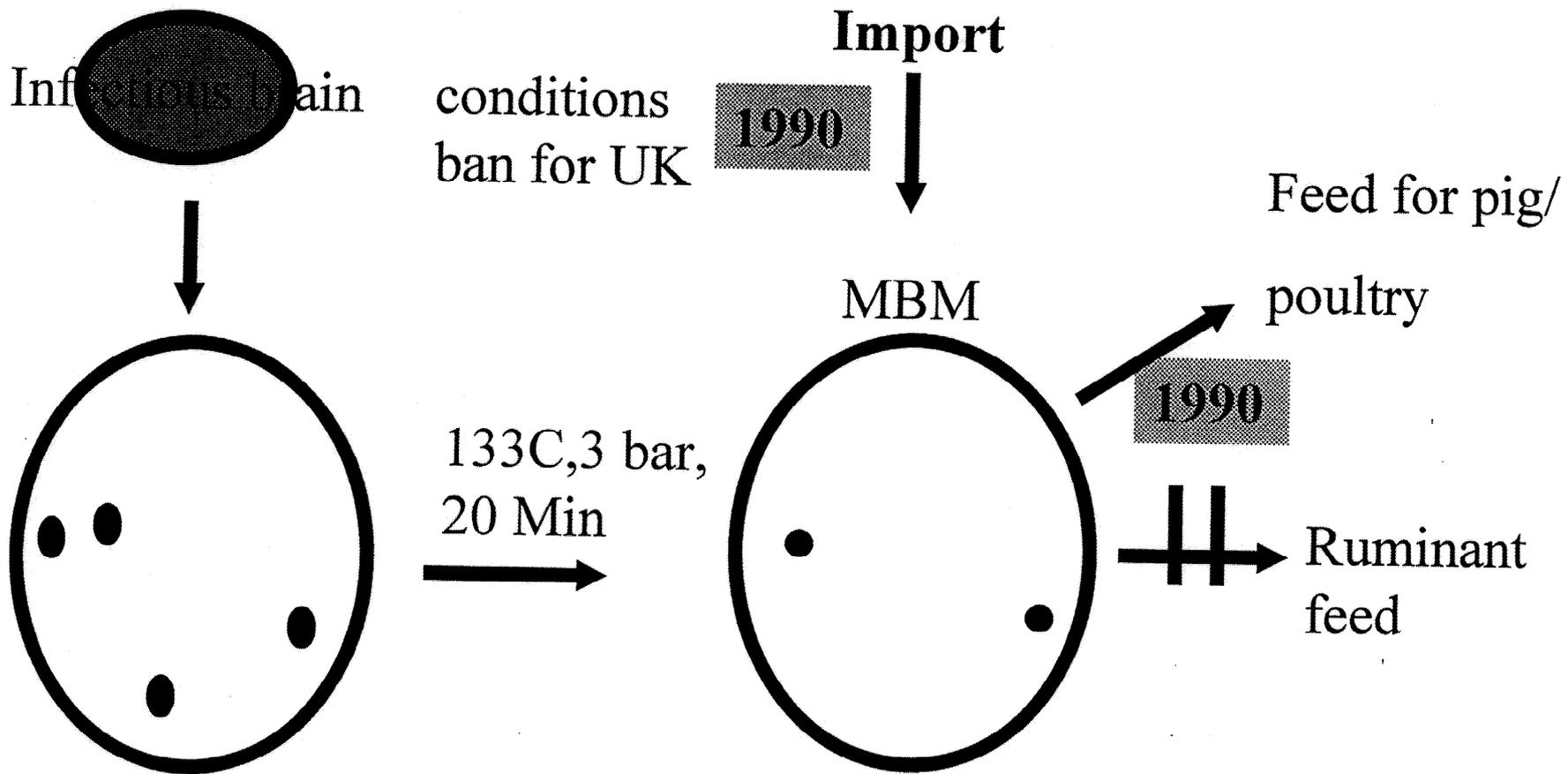
- Vertical transmission?
- Foodborne?
- Others?

Vertical transmission

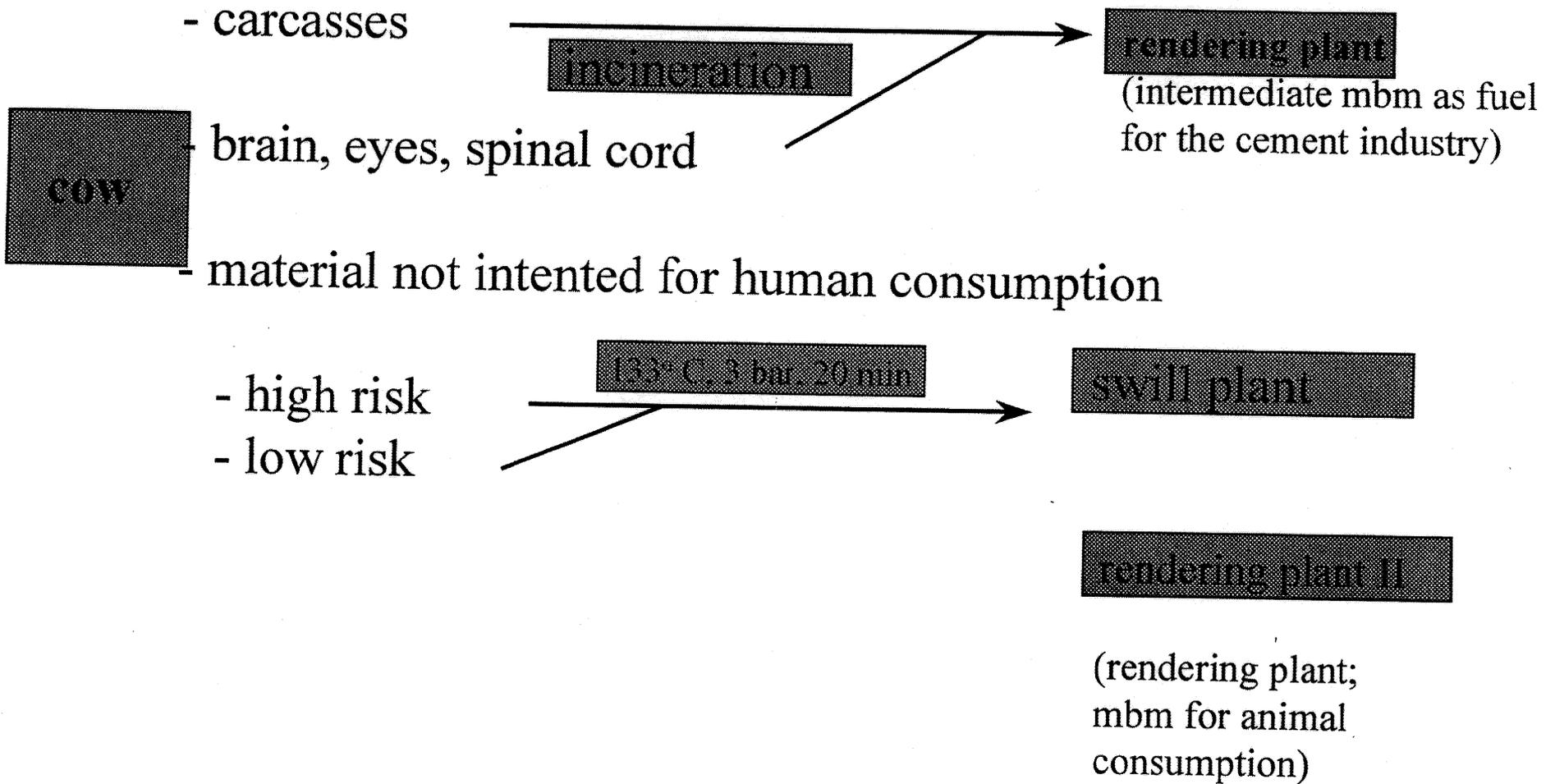
- Switzerland -

- no evidence for vertical transmission
 - clinical examination of the living mothers of BAB's : no mother with neurological symptoms
 - clinical and histological examination of killed offspring of cows affected by BSE: no indications of BSE

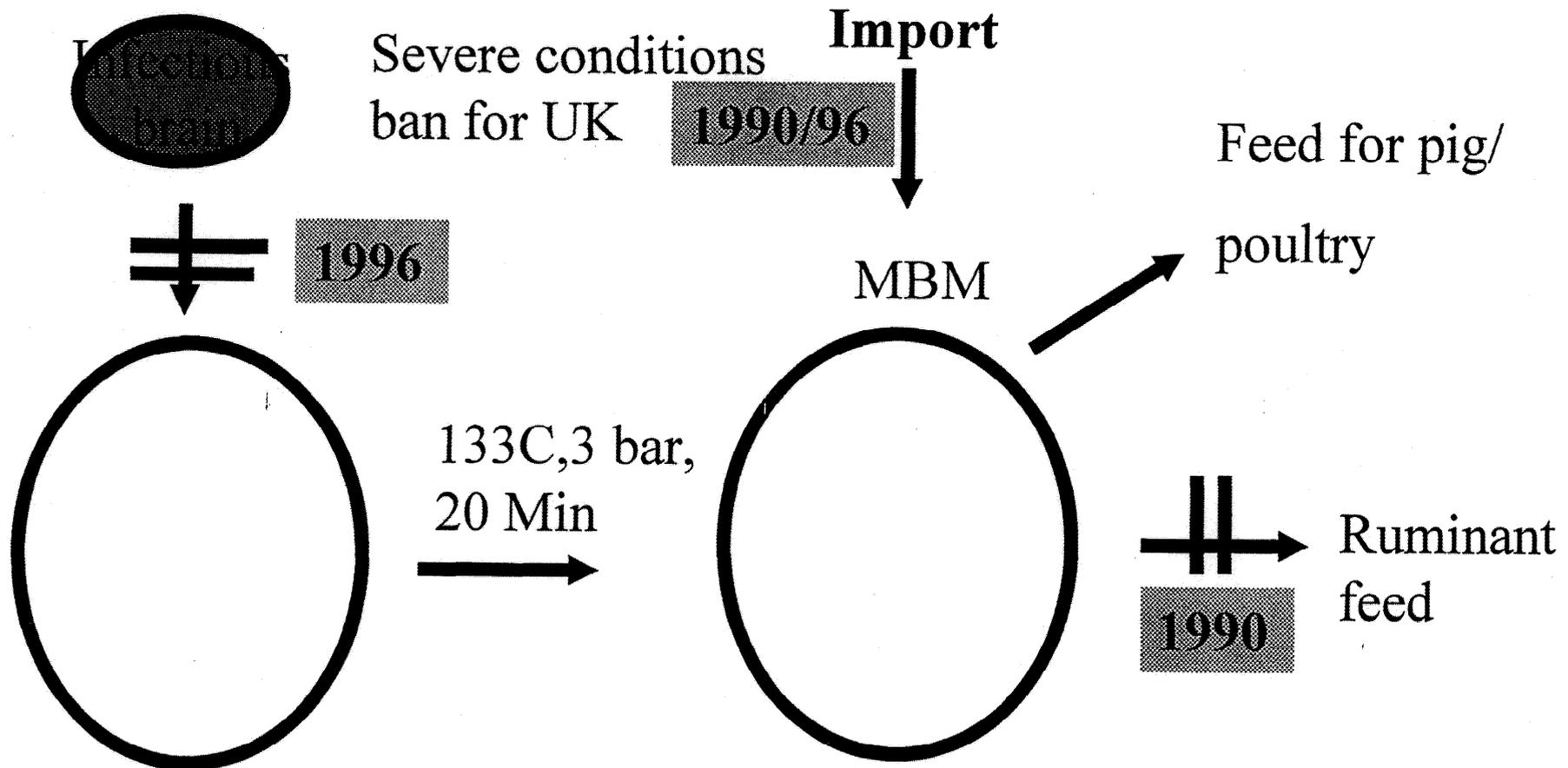
Why BAB-cases (before 1996)?



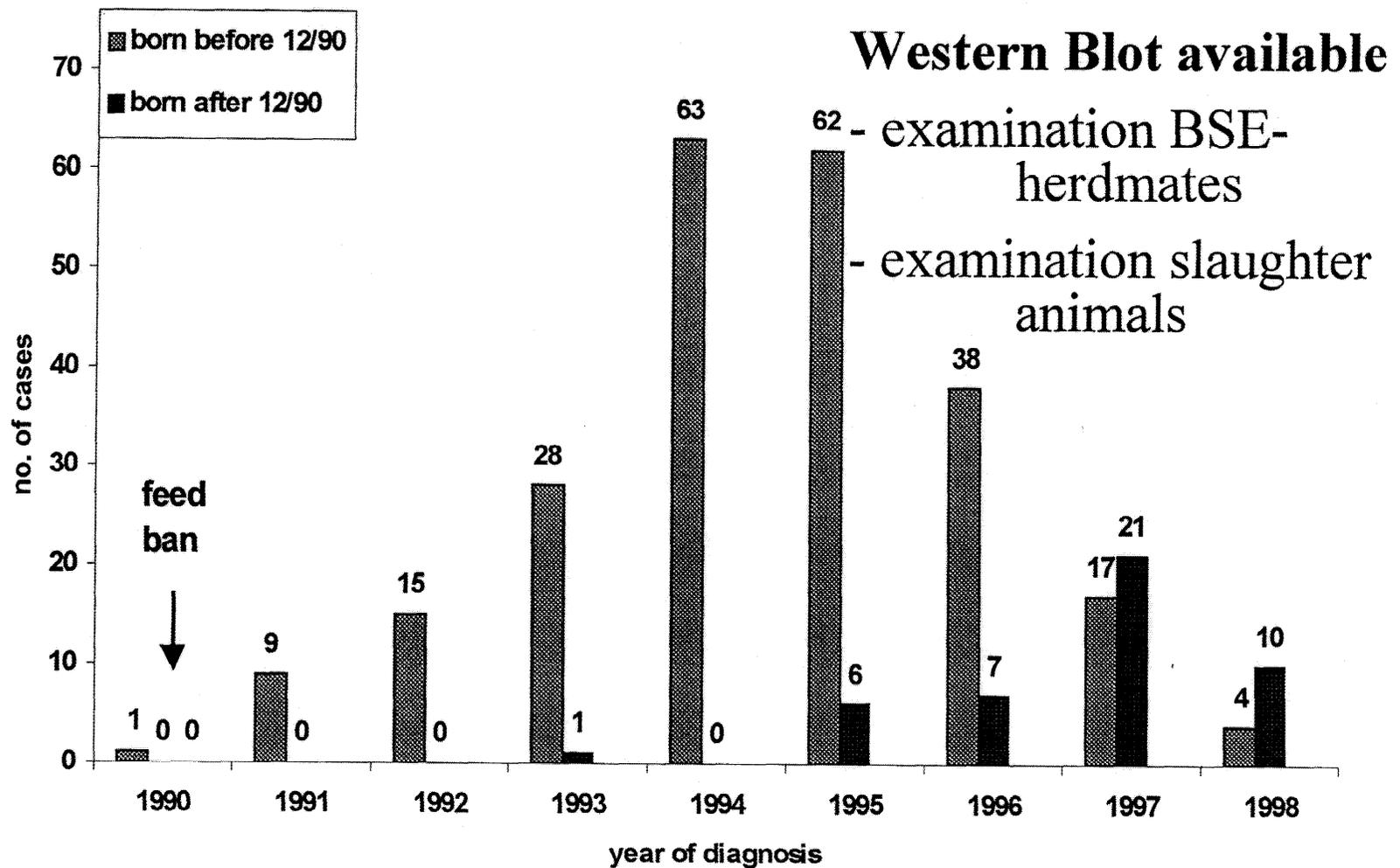
DISPOSAL OF ANIMAL WASTE



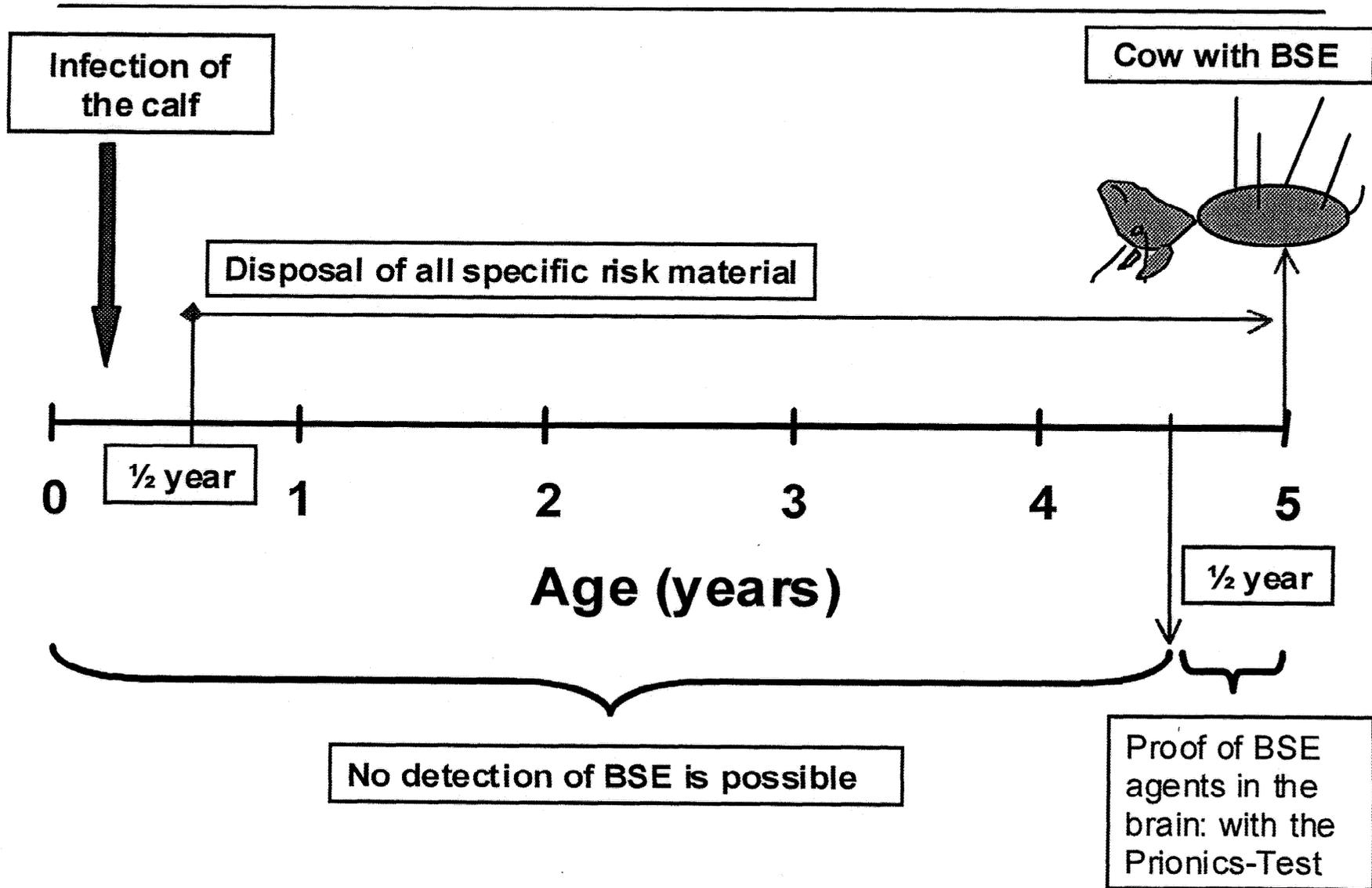
BSE-cases after 1996?



Number of BSE-cases according to year of diagnosis (until 1998)



BSE-Infection



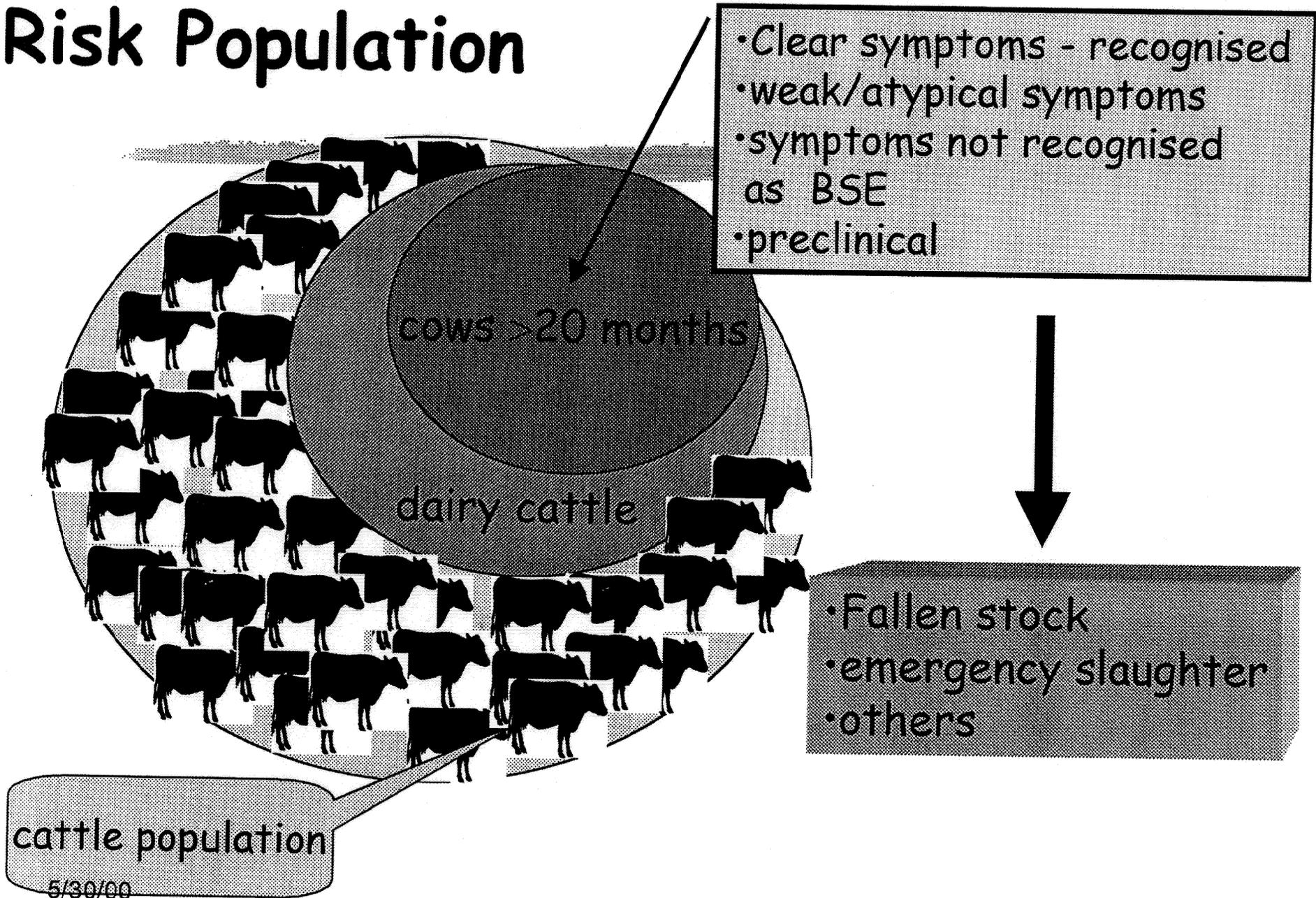
Prionics-Check-Test 1998

- 1719 cattle brains from herdmates of BSE-affected animals
 - 5 positive
- 3022 routinely slaughtered adult cattle
 - 1 positive

FACTORS INFLUENCING THE NUMBER OF REPORTED CLINICAL BSE CASES

- Mandatory notification
- Disease awareness
 - ➔ information, education
- Willingness to notify cases
 - ➔ measures
 - ➔ compensation
- Laboratory competence

Risk Population



Targeted surveillance 1999/2000

- All dead/killed cows
- All emergency slaughter cows
- random sample of slaughter cows

The target population

- behind any of the reasons for death of these animals, BSE could have been the cause
- (early) signs of BSE have perhaps not been recognised
- they have the appropriate age to be examined by a BSE-test

conclusion:

- in this group, the probability to detect BSE-positives is highest

Targeted surveillance - results

	positive	
	<u>1999</u>	<u>2000</u>
■ Dead/killed cows	16	2
■ examined: 8700		
■ Emergency slaughter	6	5
■ examined 4700		
■ Regular slaughter	3	0
■ examined 8900		

Targeted surveillance results

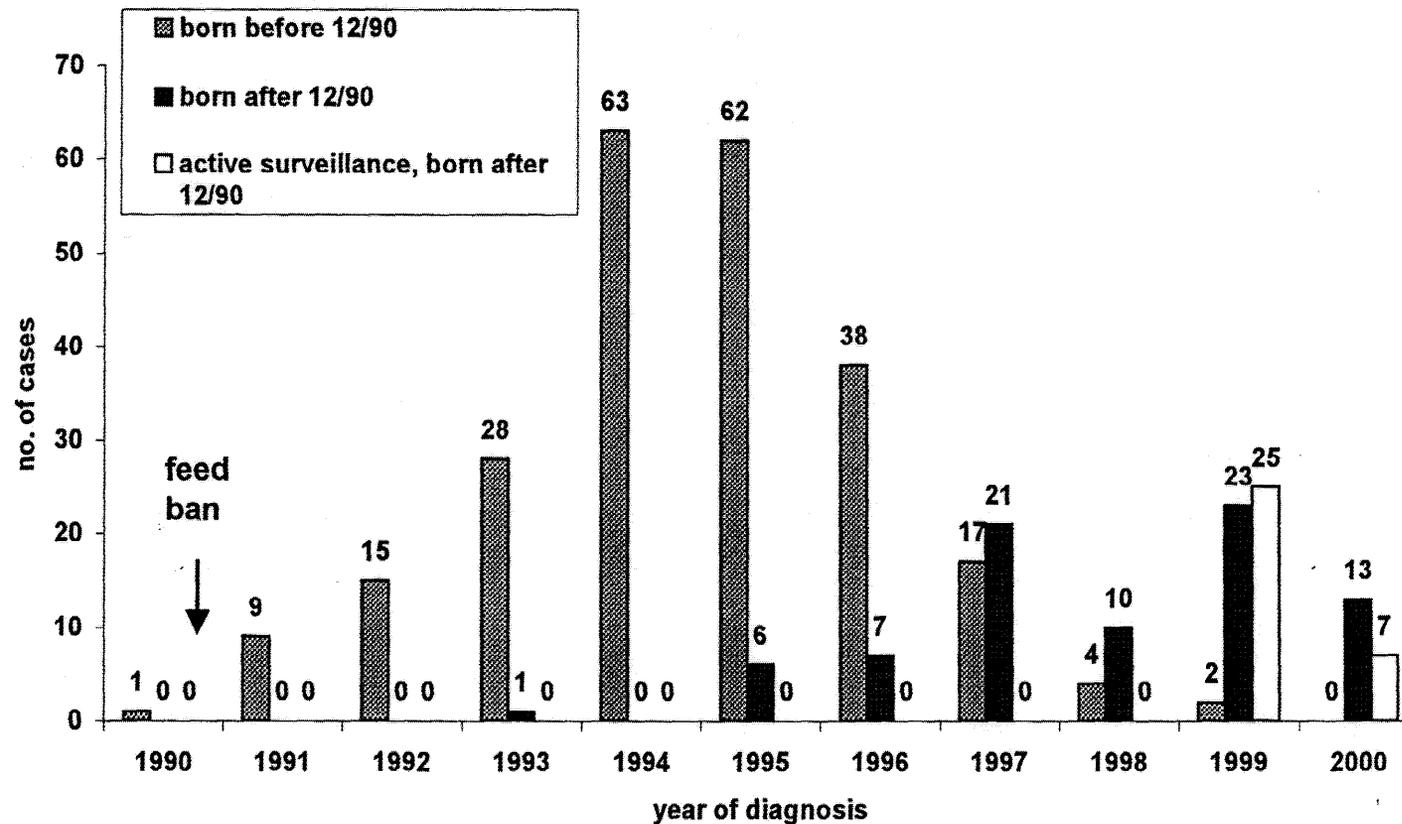
Histology	PrP (WB/ICH) number	
Negative	Weak positive	2
Negative	Positive	5
Not done	Positive	9
positive	positive	16

Targeted surveillance

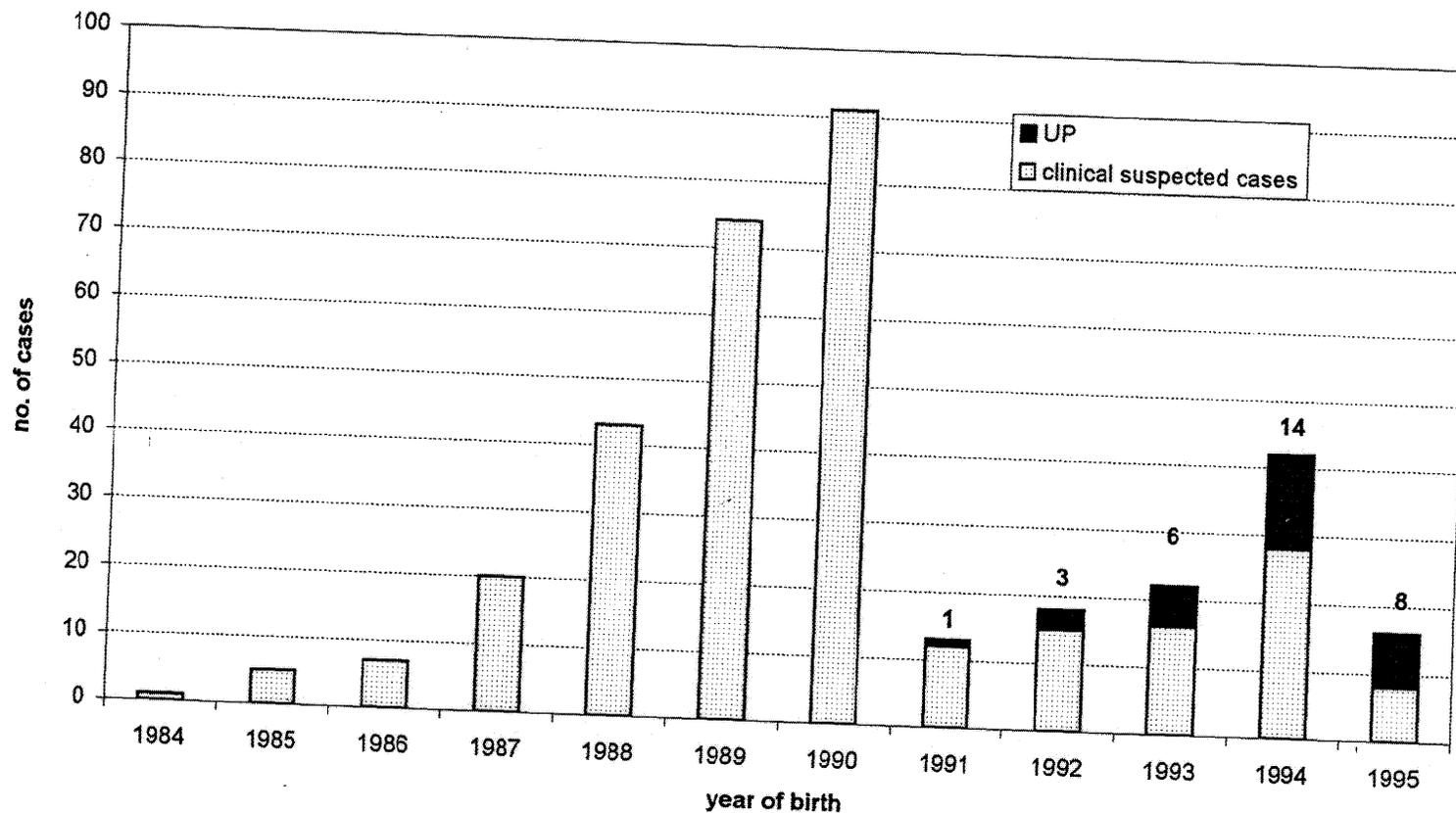
-clinical signs-

- 1/3 typical
- 1/3 weak typical
- 1/3 no typical signs of BSE, but other symptoms
 - reduced milk yield and wasting
 - claw problems
 - mastitis
 - recumbency

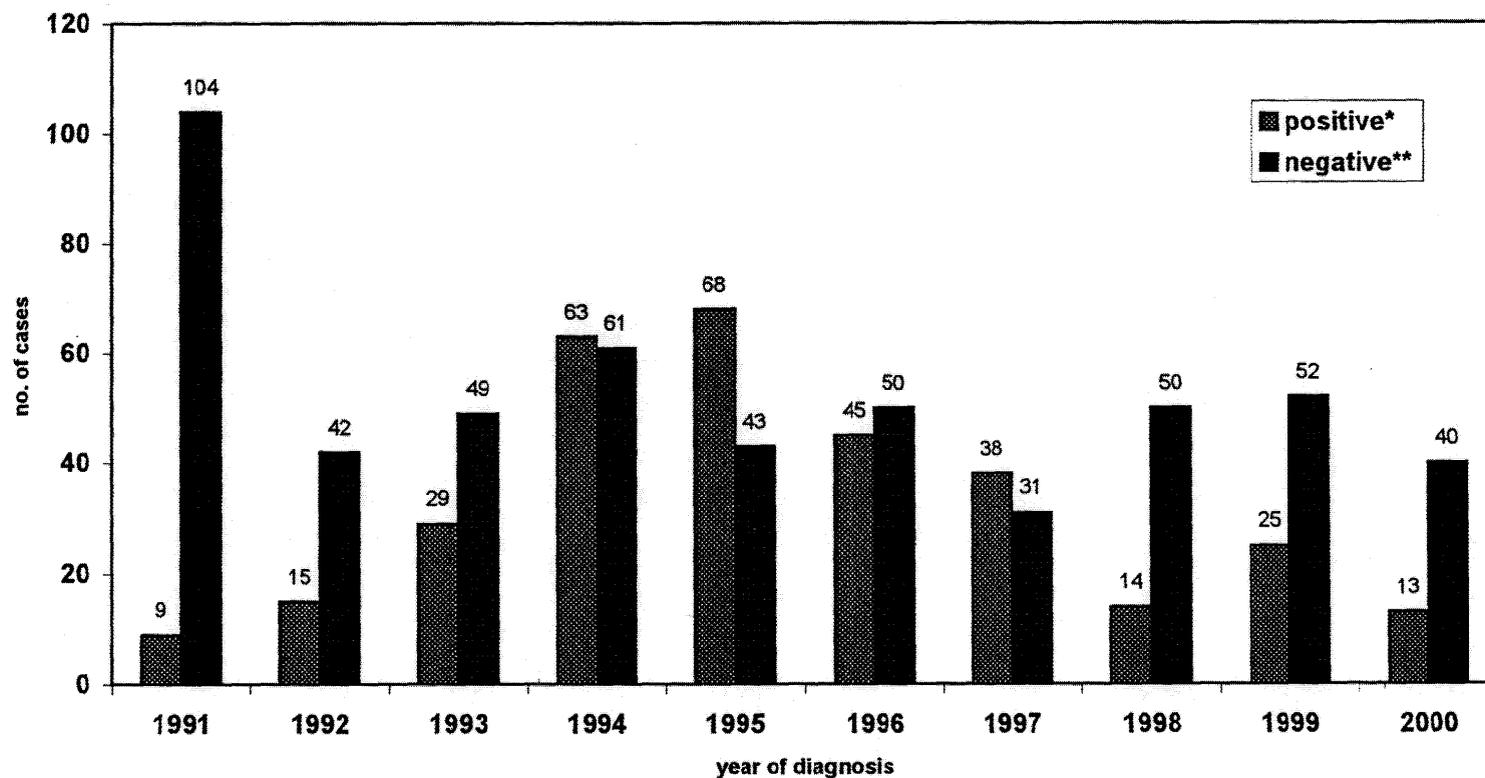
Number of BSE-cases according to year of diagnosis



Number of BSE-cases according to year of birth



Number of clinical suspect cases



THE TRUE PREVALENCE?

- Passive system
- Subjective, dependent on several factor
 - ⇒ variable
 - ⇒ difficult to interpret and compare between countries
- ➔ Surveillance based on clinical signs not sufficient

5/30/00