



Better Training for Safer Food *Initiative*

Case study in a small ruminant flock **Practical experience in the Netherlands**

Fred van Zijderveld, head NRL TSEs



First actions CVI after positive rapid test

- **Results send to VIC/NVWA by fax**
 - National flock number 0961747/animal number 1056
 - Results will be send by LIMS 24 hours later
- **Confirmation by histology/IHC**
 - Will take appr. one week
- **Immunoblot**
 - Pattern: atypical/**classical** scrapie
 - In case of classical scrapie pattern: discriminatory immunoblot to exclude BSE (in this case: classical scrapie!)
- **Genotyping (in this case: ARQ/VRQ)**

First actions NVWA after positive rapid test

- Described in “draaiboek scrapie” (scrapie protocol, based on EU 999/2001)



voedsel en waren autoriteit

Draaiboek Scrapie

Afdeling Incidentmanagement, Meldkamer en Dierziektebestrijding

januari 2009
versie 6.4

First actions NVWA after positive rapid test

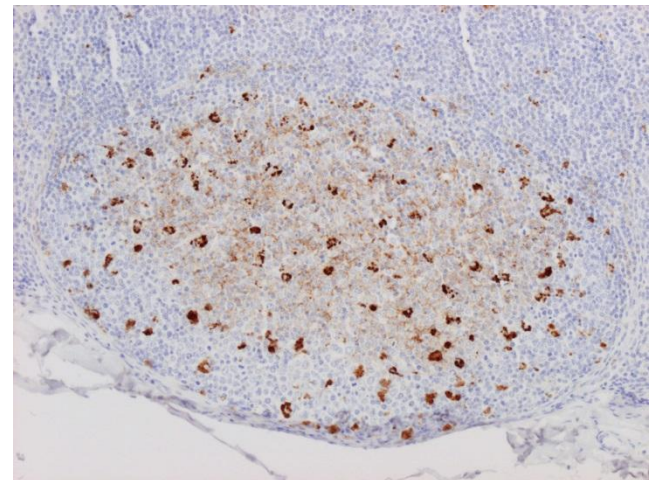
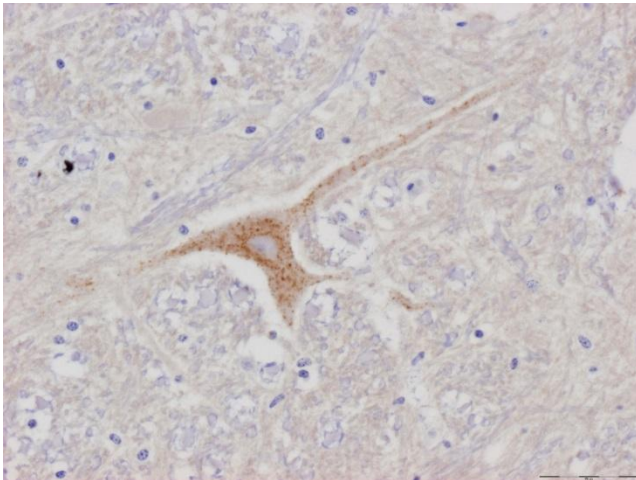
- **VIC informs local NVWA at slaughterhouse**
 - copy of transport documents
 - details of the animal (sex, all ear tag numbers)
 - animal incl. all organs, waste send to rendering plant
 - head of the animal send to NRL (CVI) for additional examination (genotyping, histology, IHC on brain/tonsils or lymph nodes)
- **VIC informs the holding of origin (I&R) about the suspicion of scrapie**
 - official movement restrictions
 - fallen animals have to be send to NRL

Visit to holding of origin and inquiry by NVWA

- **I&R records of the holding (administration)**
- **origin of the suspect animal: in this case ewe born on the farm, age 3.5 yrs**
- **inventory of all animals present: in this case only sheep (no dairy sheep): 144 sheep**
- **clinical inspection: no suspects**
- **.....**

Confirmation of diagnosis by CVI

- **In this case: histology negative, immunohistochemistry positive (decisive test)**
- **IHC tonsils: positive**
- **Genotype ARQ/VRQ (brainstem and brain from the head)**



Further actions by NVWA

- **VIC informs holding: officially infected and official TSE control measures in force (EU 999/2001)**
- **Second visit to the holding and inquiry**
- **Checking the number of sheep/identity of all sheep/genotypes?/closed flock?**
- **In this case in December 144 breeding sheep, genotypes unknown except for the rams, closed farm**
- **Third visit: blood samples for genotyping, send to CVI**



European
Commission

Genotyping

144 animals

ARR/ARR 28

ARR/ARQ 63

ARR/VRQ 16

ARQ/ARQ 31

ARQ/VRQ 6

Q = Q or H

Rams: all ARR/ARR

GENOTYPERING Gebr van Diepen de Weere UBN:961747									
nr.	monstern. code	ziekte	genotypering	uitslag				UBN	volgnr.
				O	H	G	MOM		
1	RAA0046427-01	Scrapie	ARQ/ARQ			1		961747	254
2	RAA0046427-02	Scrapie	ARQ/ARQ			1		961747	310
3	RAA0046427-03	Scrapie	ARQ/ARQ			1		961747	402
4	RAA0046427-04	Scrapie	ARQ/ARQ			1		961747	412
5	RAA0046427-05	Scrapie	ARQ/ARQ			1		961747	418
6	RAA0046427-06	Scrapie	ARQ/ARQ			1		961747	444
7	RAA0046427-07	Scrapie	ARQ/ARQ			1		961747	454
8	RAA0046427-08	Scrapie	ARQ/ARR		1			961747	455
9	RAA0046427-09	Scrapie	ARR/VRQ			1		961747	705
10	RAA0046427-10	Scrapie	ARQ/VRQ			1		961747	723
11	RAA0046427-11	Scrapie	ARQ/ARR		1			961747	727
12	RAA0046427-12	Scrapie	ARQ/ARR		1			961747	740
13	RAA0046427-13	Scrapie	ARQ/ARQ			1		961747	743
14	RAA0046427-14	Scrapie	ARQ/ARR		1			961747	761
15	RAA0046427-15	Scrapie	ARQ/ARR		1			961747	803
16	RAA0046427-16	Scrapie	ARQ/ARR		1			961747	810
17	RAA0046427-17	Scrapie	ARQ/ARR		1			961747	814
18	RAA0046427-18	Scrapie	ARQ/ARR		1			961747	816
19	RAA0046427-19	Scrapie	ARR/ARR	1				961747	818
20	RAA0046427-20	Scrapie	ARR/ARR	1				961747	827
21	RAA0046427-22	Scrapie	ARQ/ARQ			1		961747	833
22	RAA0046427-23	Scrapie	ARQ/ARQ			1		961747	834
23	RAA0046427-24	Scrapie	ARQ/ARR		1			961747	837
24	RAA0046427-25	Scrapie	ARQ/ARR		1			961747	847
25	RAA0046427-26	Scrapie	ARR/VRQ			1		961747	848
26	RAA0046427-27	Scrapie	ARQ/ARR		1			961747	911
27	RAA0046427-28	Scrapie	ARQ/ARQ			1		961747	918
28	RAA0046427-29	Scrapie	ARQ/ARR		1			961747	925
29	RAA0046427-30	Scrapie	ARQ/ARR		1			961747	942
30	RAA0046427-32	Scrapie	ARQ/ARQ			1		961747	1002
31	RAA0046427-33	Scrapie	ARQ/ARQ			1		961747	1008
32	RAA0046427-34	Scrapie	ARR/VRQ			1		961747	1014
33	RAA0046427-35	Scrapie	ARQ/ARQ			1		961747	1017
34	RAA0046427-36	Scrapie	ARQ/ARR		1			961747	1018
35	RAA0046427-38	Scrapie	ARQ/ARQ			1		961747	1023
36	RAA0046427-39	Scrapie	ARQ/ARR		1			961747	1024
37	RAA0046427-40	Scrapie	ARR/ARR	1				961747	1025
38	RAA0046427-41	Scrapie	ARQ/ARR		1			961747	1028
39	RAA0046427-42	Scrapie	ARR/ARR	1				961747	1030
40	RAA0046427-43	Scrapie	ARQ/ARR		1			961747	1035
41	RAA0046427-44	Scrapie	ARQ/ARQ			1		961747	1036
42	RAA0046427-45	Scrapie	ARQ/ARQ			1		961747	1037
43	RAA0046427-46	Scrapie	ARQ/ARR		1			961747	1040
44	RAA0046427-47	Scrapie	ARQ/ARR		1			961747	1041
45	RAA0046427-48	Scrapie	ARQ/ARR		1			961747	1046
46	RAA0046427-49	Scrapie	ARR/ARR	1				961747	1054
47	RAA0046427-50	Scrapie	ARR/ARR	1				961747	1057
48	RAA0046427-51	Scrapie	ARQ/ARQ			1		961747	1077
49	RAA0046427-52	Scrapie	ARQ/ARQ			1		961747	1081
50	RAA0046427-53	Scrapie	ARQ/ARQ			1		961747	1083
51	RAA0046427-54	Scrapie	ARQ/ARR		1			961747	1084
52	RAA0046427-55	Scrapie	ARQ/ARQ			1		961747	1087
53	RAA0046427-56	Scrapie	ARR/ARR	1				961747	1094
54	RAA0046427-57	Scrapie	ARQ/ARR			1		961747	1097

Further actions by NVWA

- **fourth visit to the holding**
- **estimating the value of all 53 “susceptible” sheep to be killed**
- **fifth visit within 5 working-days: transport of 53 sheep to slaughterhouse (or CVI)**
- **killing of sheep: taking brainstem samples for TSE testing**
- **culled animals transported to rendering plant**
- **brainstem samples and heads send to CVI**
- **control visits to the holding for at least a period of 2 years**



European Commission

CVI

- Rapid tests on 53 samples
- Positives: 3 (2x ARQ/VRQ, 1x ARQ/ARQ)
- Confirmed by histology or/and IHC

BTSF

		formulier type 0401	0031422 0		
Bureau monsterneming Monsterbegeleidingsformulier (MBF) TSE (schrijf duidelijk binnen de invulvakken)					
Aantal monsters op dit formulier: 53		Werkpleknummer slachterij: 00000000000000000000			
Monsternemer Nummer: 000000		Naam slachterij: art. 4 <input type="checkbox"/> art. 10 <input type="checkbox"/> bijz. sl <input type="checkbox"/> Naalslouchen			
Datum Monsterneming: 20-06-2006		ID-Lelystad: 12-431-014-2006			
Starttijd monstername van dit MBF: 19:00		ID-Lelystad (Paraaf): W			
Buif. Nr.	Identificatienummer	Type	Land van herkomst	I&R	Cat.
1	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
2	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
3	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
4	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
5	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
6	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
7	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
8	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
9	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
10	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
11	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
12	00000000000000000000	S <input type="checkbox"/> G <input type="checkbox"/>	W	00000000000000000000	000000
Zegelnummer: 0002000006		135561-XX			

Control visits by NVWA

- **For a period of at least 2 years**
- **Clinical examination**
- **Only ARR/ARR rams used**
- **I&R check**
- **All animals eartagged?**
- **Administration check**
- **All heterozygous animals transported from the farm with permission of the NVWA?**
- **All fallen animals transported to CVI? 4 ARR/ARR and 9 ARR/ARQ in two years: all negative!**
- **Restrictions lifted after two year period**



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