



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

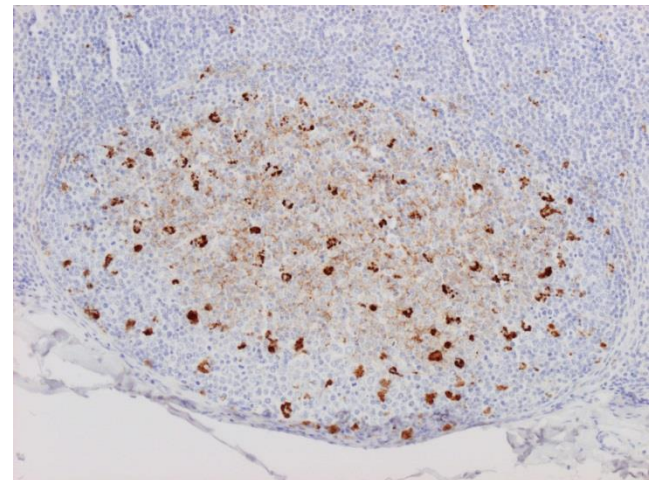
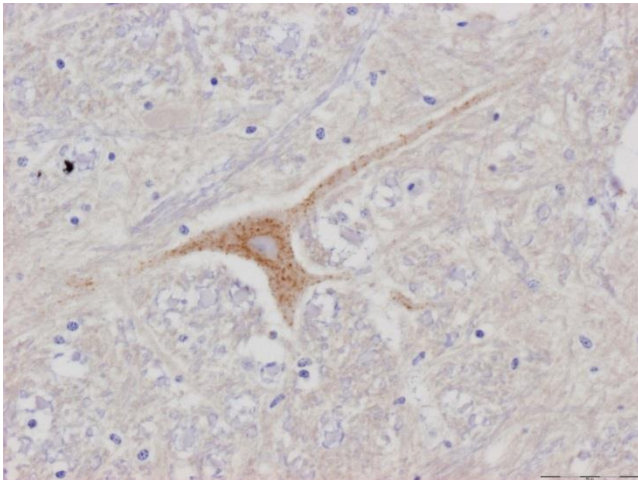
- **VIC informs local NVWA at slaughterhouse**
 - copy of transport documents
 - details of the animal (sex, all ear tag numbers)
 - animal incl. all organs, waste send to rendering plant
 - head of the animal send to NRL (CVI) for additional examination (genotyping, histology, IHC on brain/tonsils or 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**

| nr. | monstern. code | ziekte | genotypering | uitslag | | | UBN | volgnr. |
|-----|----------------|---------|--------------|---------|---|---|--------|---------|
| | | | | O | H | G | | |
| 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 | ARR/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 | ARR/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 | ARR/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 | ARR/ARR | | 1 | | 961747 | 1084 |
| 52 | RAA0046427-55 | Scrapie | ARR/ARR | | 1 | 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

| | | | | | |
|---|-----------------------------|--|-------------------|--------------|--------|
| | voedsel en waren autoriteit | formulier type 0401 | 0031422 0 | | |
| Bureau monsterneming Monsterbegeleidingsformulier (MBF) TSE (schrijf duidelijk binnen de invulvakken) | | | | | |
| Aantal monsters op dit formulier: 53 | | Werkpleknummer slachterij: 000000000000 | | | |
| Monsternemer Nummer: 000000 | | Naam slachterij: Naalsouwer | | | |
| Datum Monsterneming: 20-09-11 | | ID-Lelystad: 12-4-1-01-2000 | | | |
| Starttijd monstername van dit MBF: 10:00 | | (Tijd) uur: 10 min: 00 ID-Lelystad (Paraaf): W | | | |
| Buif. Nr. | Identificatienummer | Type | Land van herkomst | I&R | Cat. |
| 1 | 000000000000 | S G | W | 000000000000 | 000000 |
| 2 | 000000000000 | S G | W | 000000000000 | 000000 |
| 3 | 000000000000 | S G | W | 000000000000 | 000000 |
| 4 | 000000000000 | S G | W | 000000000000 | 000000 |
| 5 | 000000000000 | S G | W | 000000000000 | 000000 |
| 6 | 000000000000 | S G | W | 000000000000 | 000000 |
| 7 | 000000000000 | S G | W | 000000000000 | 000000 |
| 8 | 000000000000 | S G | W | 000000000000 | 000000 |
| 9 | 000000000000 | S G | W | 000000000000 | 000000 |
| 10 | 000000000000 | S G | W | 000000000000 | 000000 |
| 11 | 000000000000 | S G | W | 000000000000 | 000000 |
| 12 | 000000000000 | S G | W | 000000000000 | 000000 |

Zegelnummer: 000000000000

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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