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THE 2023 TSE EU ANNUAL REPORT AND UPDATE ON SURVEILLANCE CARRIED OUT IN 2024

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OUTLINE

1. **TSE EU Summary Report 2023** – results as testing and case data per:
   - Bovines
   - Small ruminants
   - Cervids

2. **TSE EU Summary Report 2024** – update on status

TSE EUSR 2023 – RESULTS

EUSR 2023

The European Union summary report on surveillance for the presence of transmissible spongiform encephalopathies (TSE) in 2023

European Food Safety Authority (EFSA)

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The declarations of interest of all scientific experts active in EFSA's work are available at https://open.efsa.europa.eu/experts

Abstract

This report presents the results of surveillance on transmissible spongiform encephalopathies in cattle, sheep, goats, cervids and other species, and genotyping in sheep and goats, carried out in 2023 by 27 Member States (MS, EU27), the United Kingdom (in respect of Northern Ireland, (XI)) and other eight non-EU reporting countries: Bosnia and Herzegovina, Iceland, Montenegro, North Macedonia, Norway, Serbia, Switzerland (the data reported by Switzerland include those of Liechtenstein) and Türkiye. In total, 948,165 cattle were tested by EU27 and XI (–3%, compared with 2022), with five atypical BSE cases reported (four H-type: two in Spain, one in France and one in Ireland; one L-type in the Netherlands); and 46,096 cattle by eight non-EU reporting countries with two atypical BSE cases reported by Switzerland. Three additional atypical BSE cases were reported by UK (1), USA (1) and Brazil (1). In total, 284,686 sheep and 102,646 goats were tested in the EU27 and XI (–3.5% and –5.9%, respectively, compared to 2022). In the other non-EU reporting countries 26,047 sheep and 589 goats were tested. In sheep, 538 cases of scrapie were reported by 14 MS and XI: 462 classical scrapie (CS) by 4 MS (104 index cases (IC) with genotypes of susceptible groups in 93.4% of the cases), 76 atypical scrapie (AS) (76 IC) by 12 MS. In the other non-EU reporting countries, Iceland reported 70 cases of CS while Norway reported 7 cases of ovine AS. Ovine random genotyping was reported by six MS and genotypes of susceptible groups accounted for 6.9%. In goats, 183 cases of scrapie were reported, all from EU MS: 176 CS (47 IC) by seven MS and 7 AS (7 IC) by five MS. Three cases in Cyprus and one in Spain were reported in goats carrying heterozygous alleles at codon 146 and 222, respectively. In total, 2096 cervids were tested for chronic wasting disease by ten MS, none tested positive. Norway tested 14,224 cervids with one European moose positive.

KEYWORDS

atypical, BSE, classical, CWD, scrapie, surveillance, TSE

- **Report** published in Nov 2024 and available at: https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2024.9097
- **27 EU MSs**, UK in respect of Northern Ireland (**XI**), and Bosnia and Herzegovina, Iceland, Montenegro, North Macedonia, Norway, Serbia, Switzerland and Türkiye (**non-EU RCs**)
- **Dashboard**: https://www.efsa.europa.eu/en/microstrategy/tse
- **Story map**: https://storymaps.arcgis.com/stories/f3dc669cc2994fcfa35526ccdb696df2

BOVINES – TESTING DATA

EU27 & XI

- Total tested: **948,165** -3% compared to 2022
- Target group: 87.3% from at risk animals (ES, AM, FS++)

Non-EU RCs

- Total tested: **46,096** from BA, CH (++), IS, ME, MK, NO, RS (+++), TR
- Target group: 44.5% from at risk animals

BOVINES – CASE DATA

EU27 & XI

In total **5 atypical cases** detected:

- 4 H-BSE: 1 in **FR**, 1 in **IE**, 2 in **ES**
- 1 L-BSE in **NL**

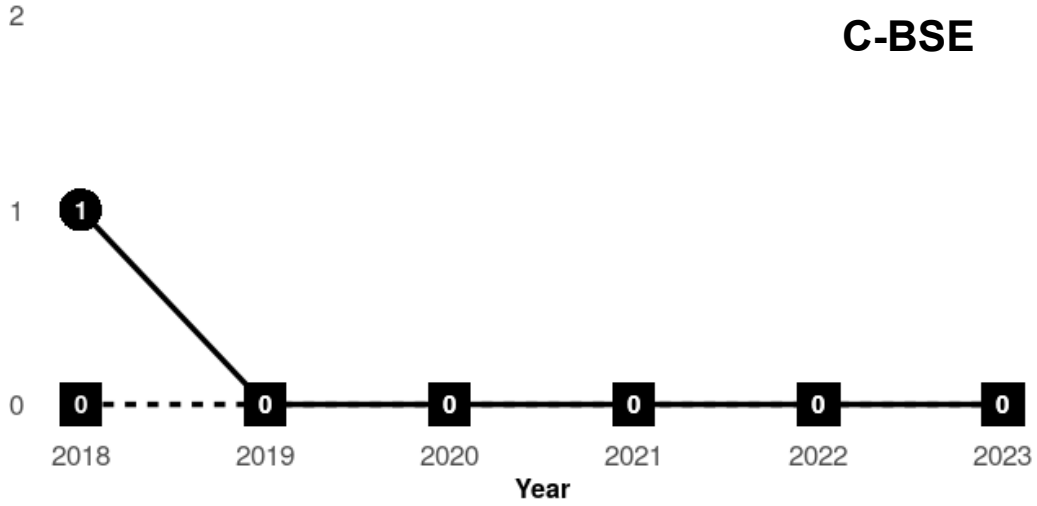
All from FS (2/5 with signs), age (ms) 99-267

Rest of the world

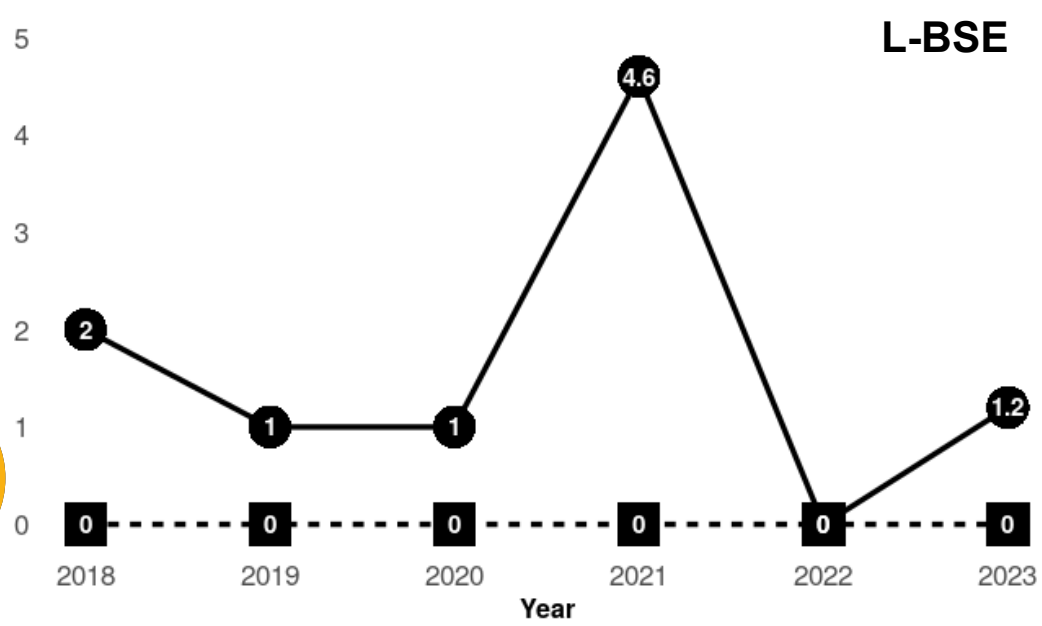
5 atypical cases:

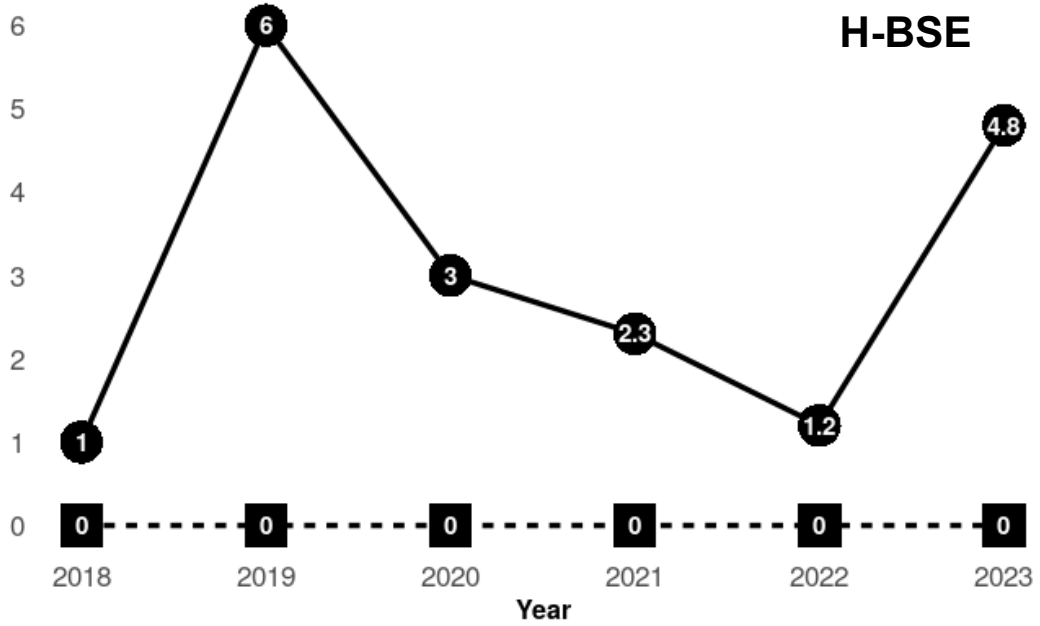
- 3 L-BSE: 2 in CH, 1 in US
- 2 H-BSE: 1 in Brazil and 1 the UK

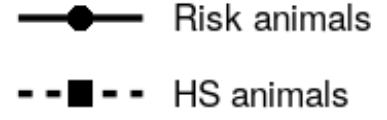
BOVINES – CASE DATA



Number of BSE cases per million tested bovines







SHEEP - TESTING DATA

EU27 & XI

- Total tested: **284,686** -3.5% compared to 2022
- Target group: focusing on non-infected flocks (active surveillance), 55.2% NSHC

decreasing number of flock under restriction

Non-EU RCs

- Total tested: **26,047** from IS (++), MK, NO (+++), RS, TR
- Target group: 41.4% NSHC

SHEEP – CASE DATA

EU27 & XI

Total cases: **538** -3.4% compared to 2022 (reduction in both casetypes)

- 462 CS (86%)
- 76 AS (14%)
- Index cases: 33.5% of all cases reported (104 CS and 76 AS; ++)

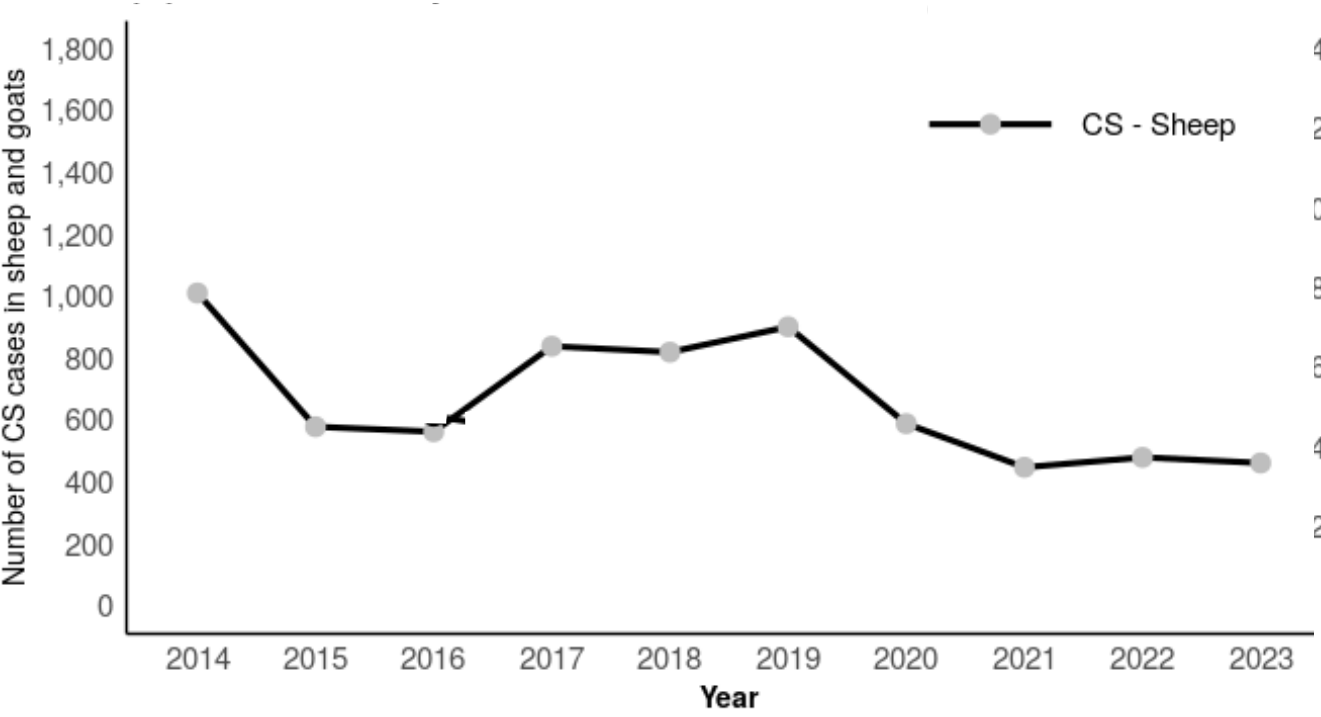
Non-EU RCs

Total cases: **77**

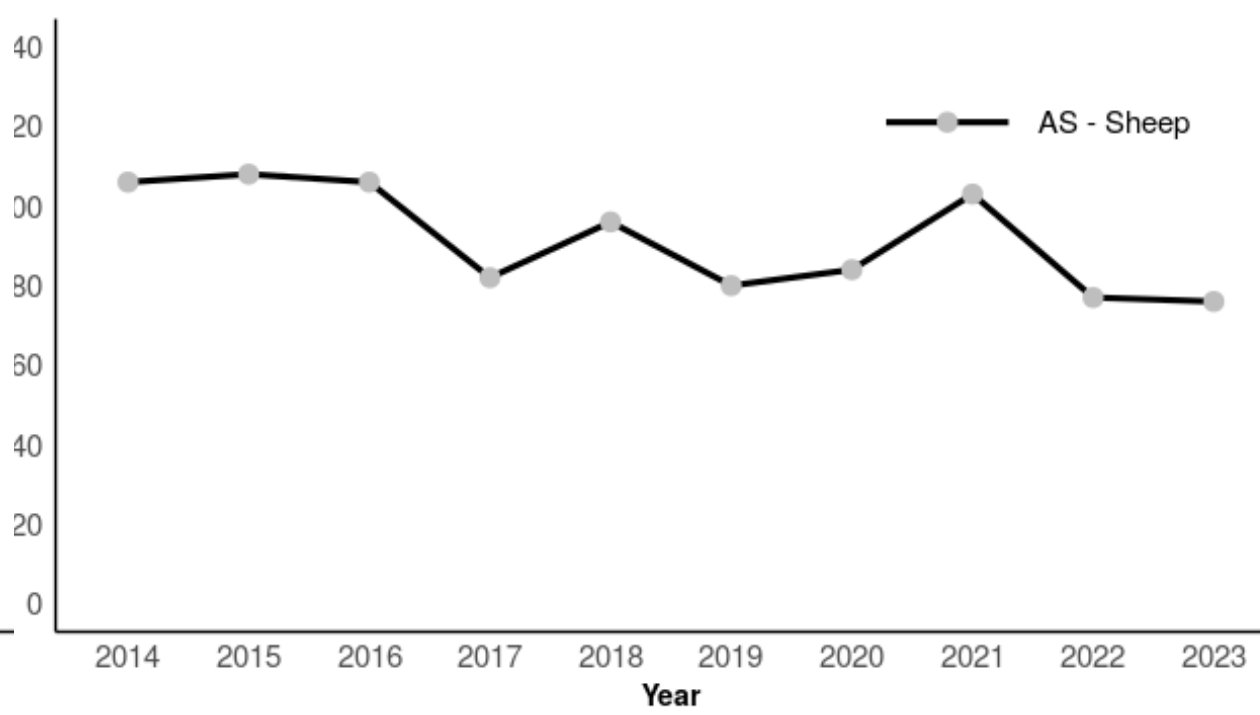
- 70 CS
- 7 AS

SHEEP – CASE DATA

Classical cases

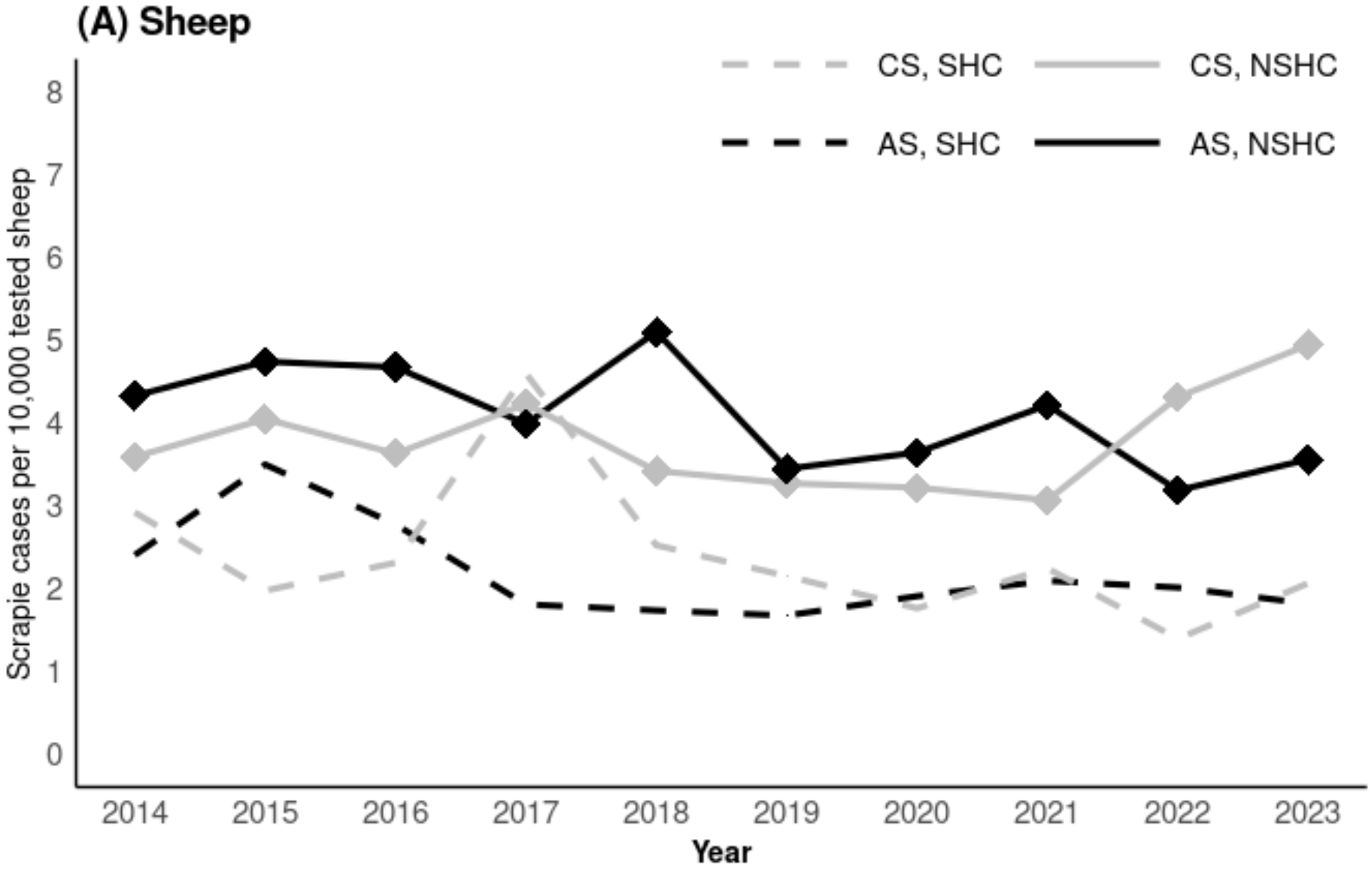


Atypical cases



- 10-year trends indicate a slight decrease in the annual caseload for both the scrapie type

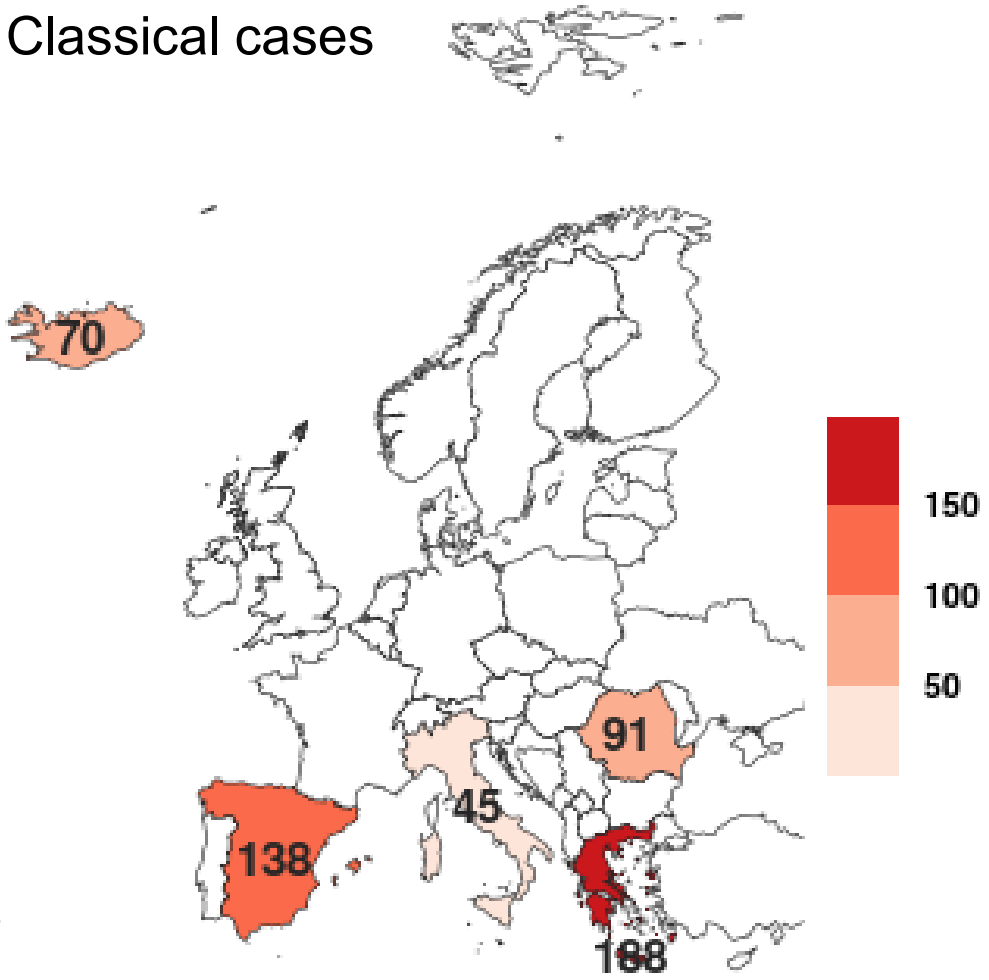
SHEEP – CASE DATA



- 10-year trends of prevalence: 4% annual decrease for AS only
- probability of detecting **CS & AS in NSHC was higher than that in SHC**

SHEEP – CASE DATA

Classical cases



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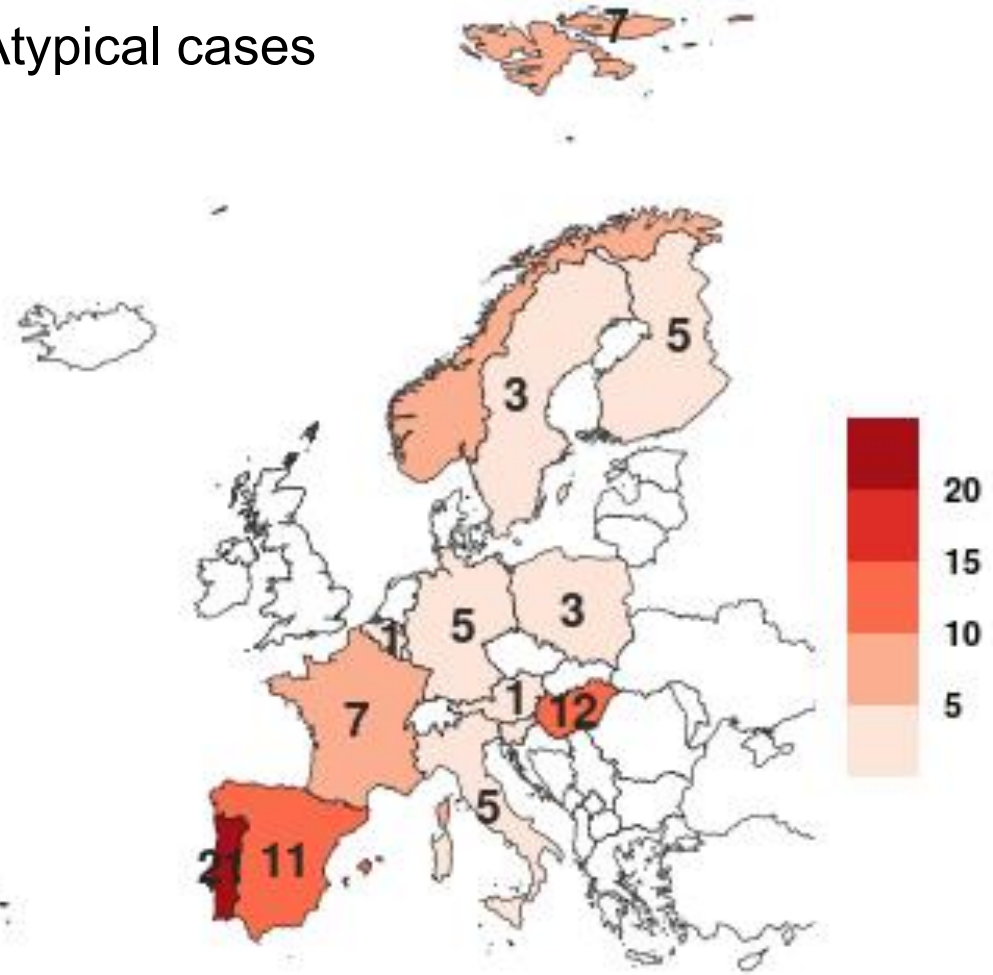


GOATS – TESTING DATA

EU27 & XI

- Total tested: **102,646** -5.9% compared to 2022
- Target group: focusing on non-infected flocks (active surveillance), 53.7% NSHC

Non-EU RCs

- Total tested: **589** from IS, MK, NO, RS (568), TR
- Target group: 96.2% NSHC

GOATS – CASE DATA

EU27 & XI

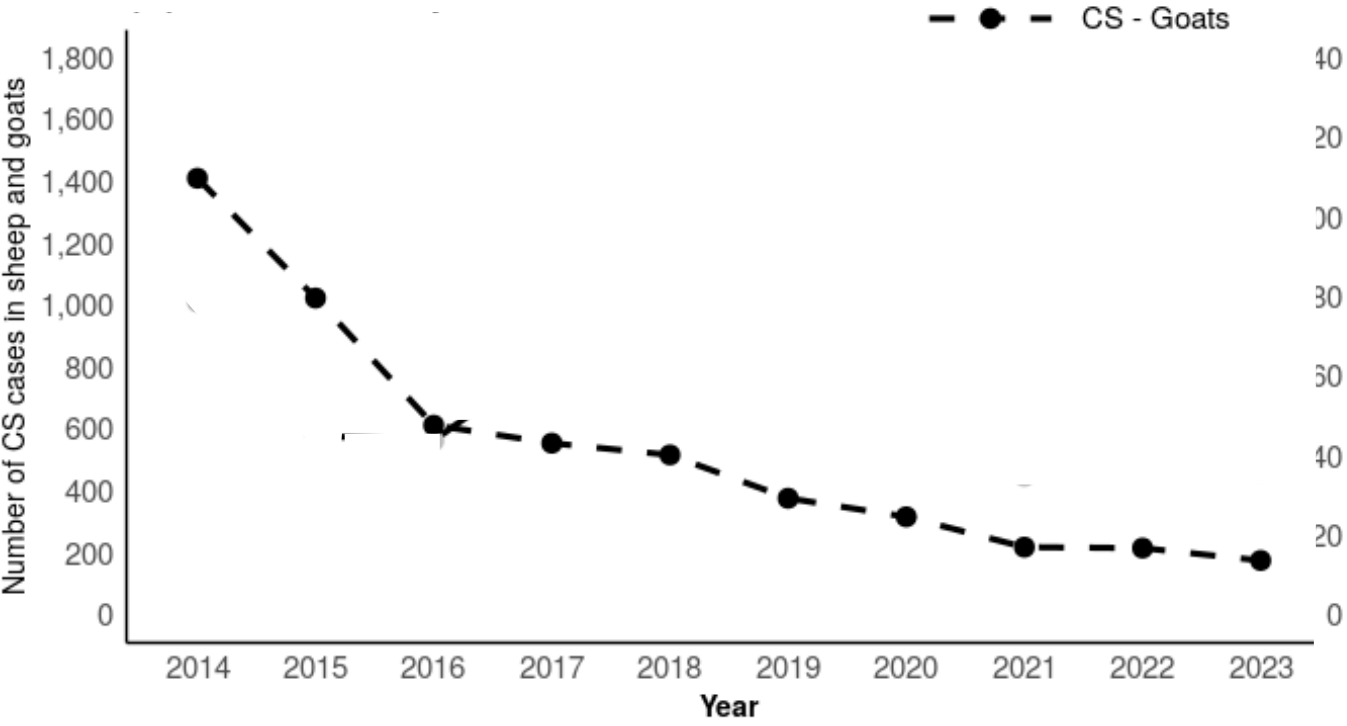
- Total cases: **183** -18.3% compared to 2022
  - 176 CS (96.2%)
  - 7 AS (3.8%)
- Index cases: 29.5% of all cases reported (47 CS and 7 AS; ++)

Non-EU RCs

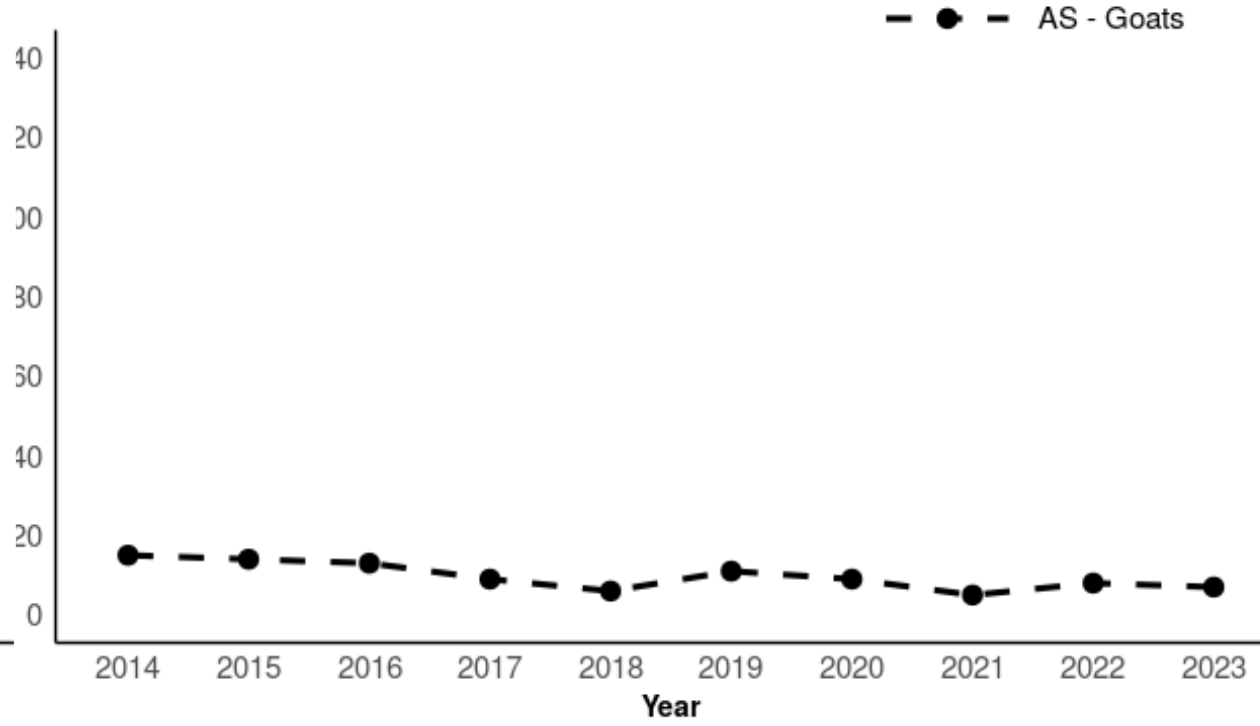
- No cases

GOATS – CASE DATA

Classical cases

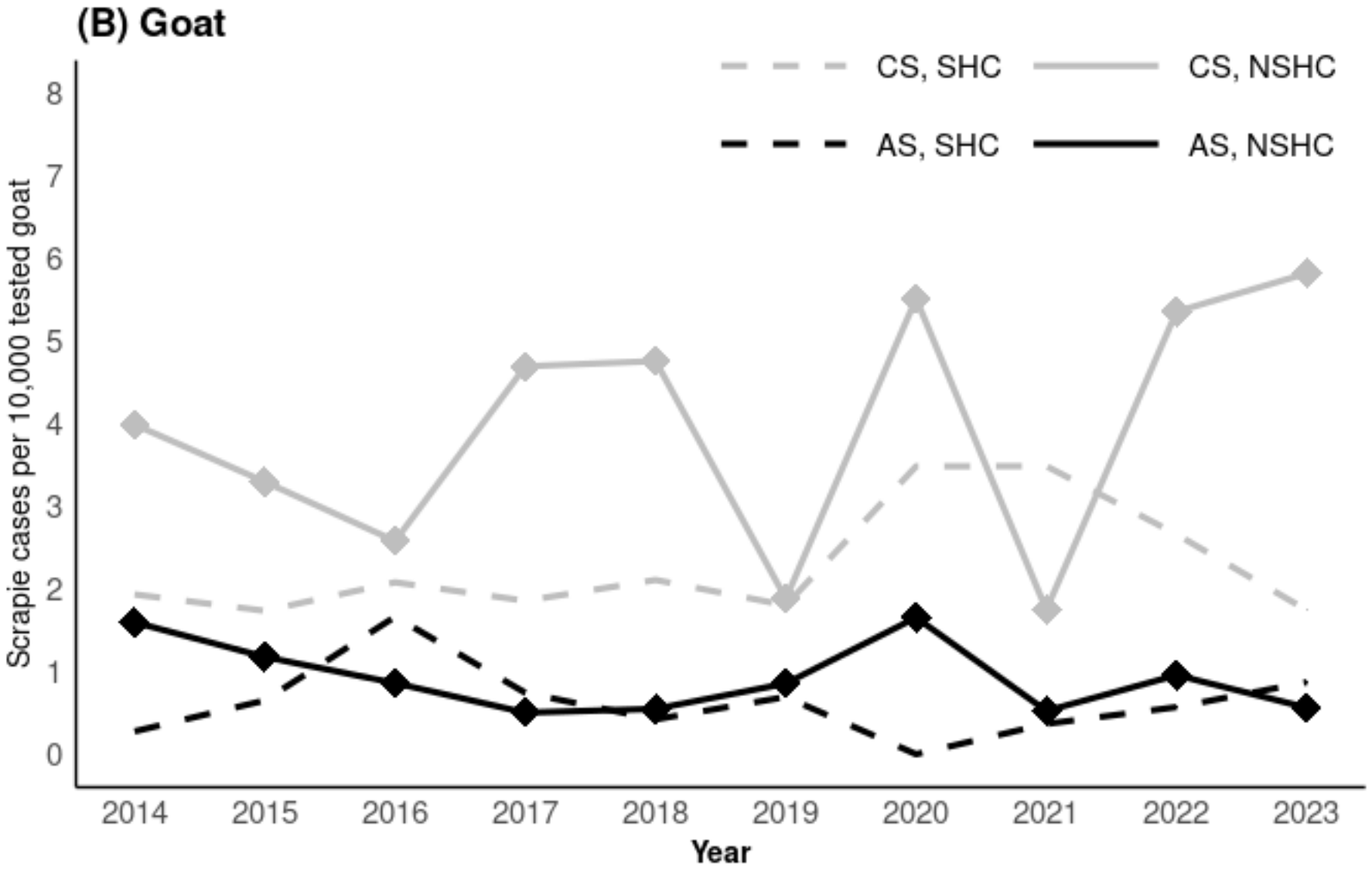


Atypical cases



- 10-year trends indicate a slight decrease in the annual caseload for both scrapie type

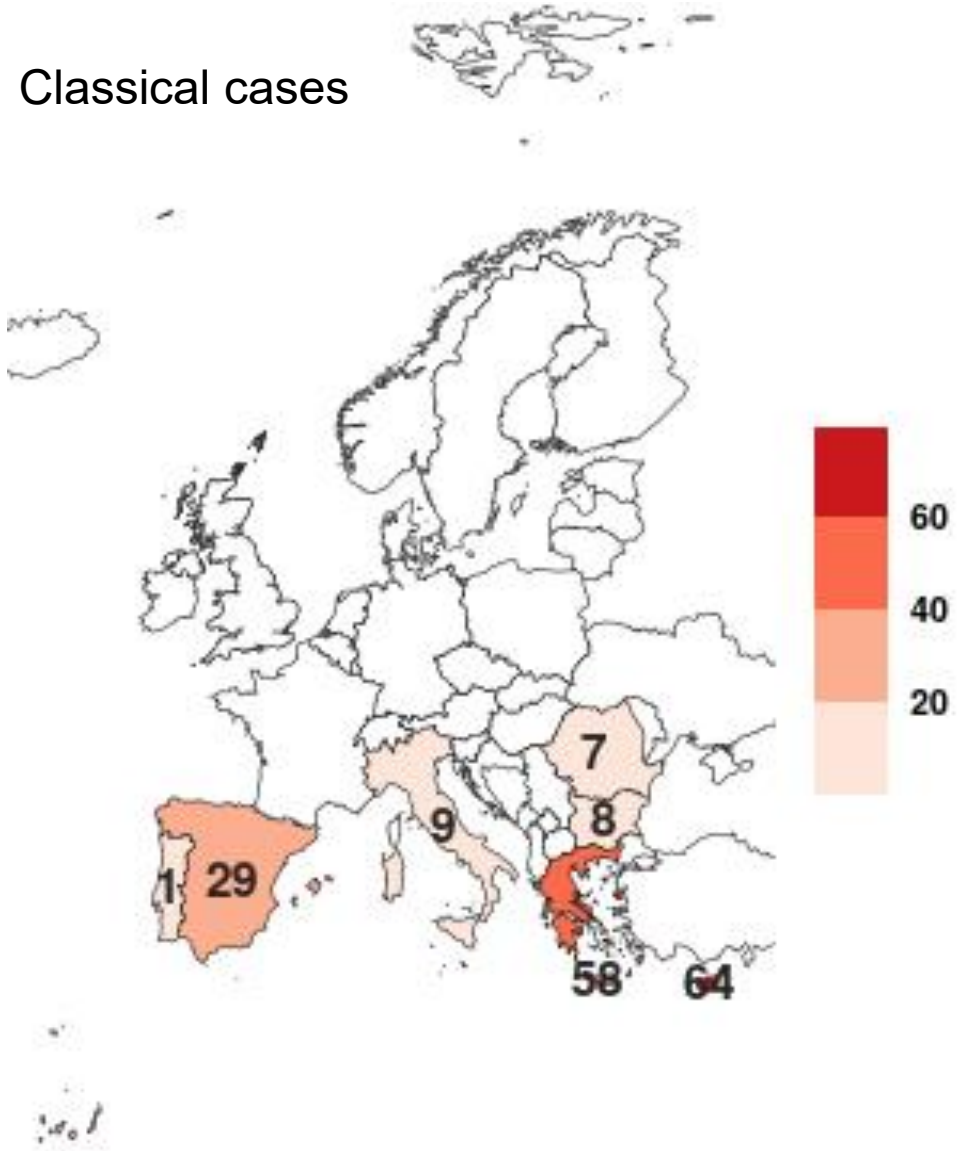
GOATS – CASE DATA



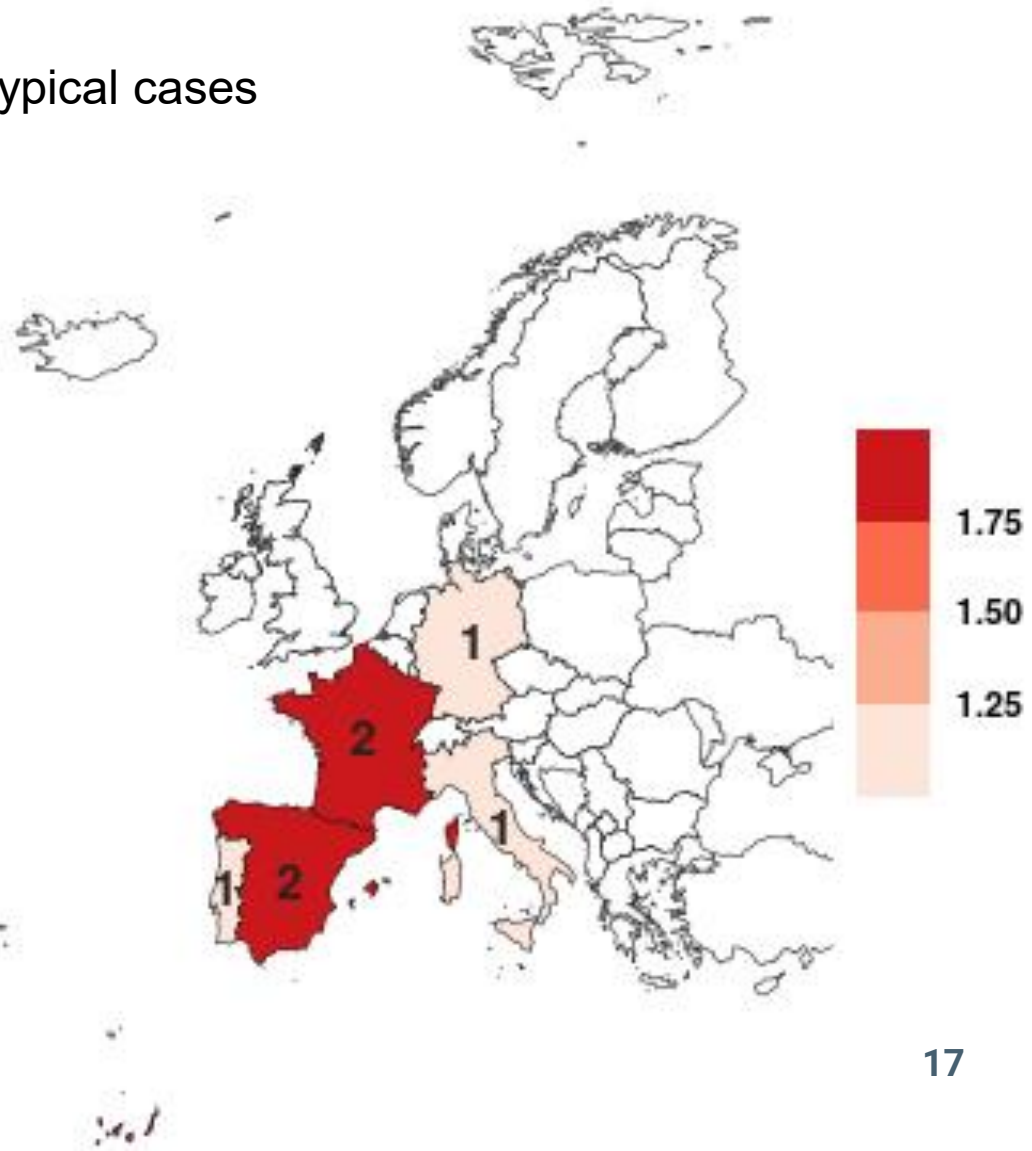
- 10-year trends of prevalence: 4% annual increase for CS only
- probability of detecting **CS in NSHC was higher than that in SHC**

GOATS – CASE DATA

Classical cases

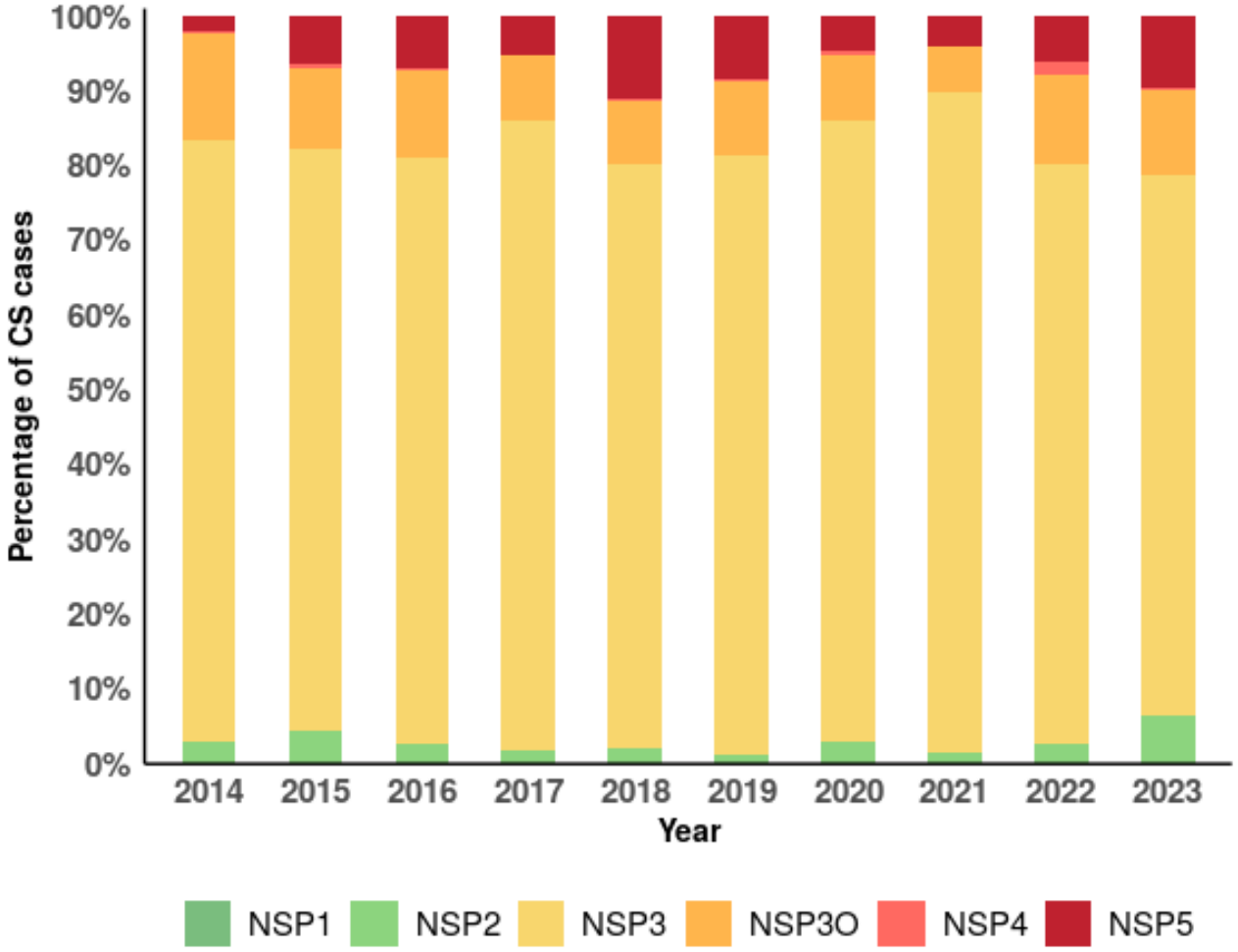


Atypical cases

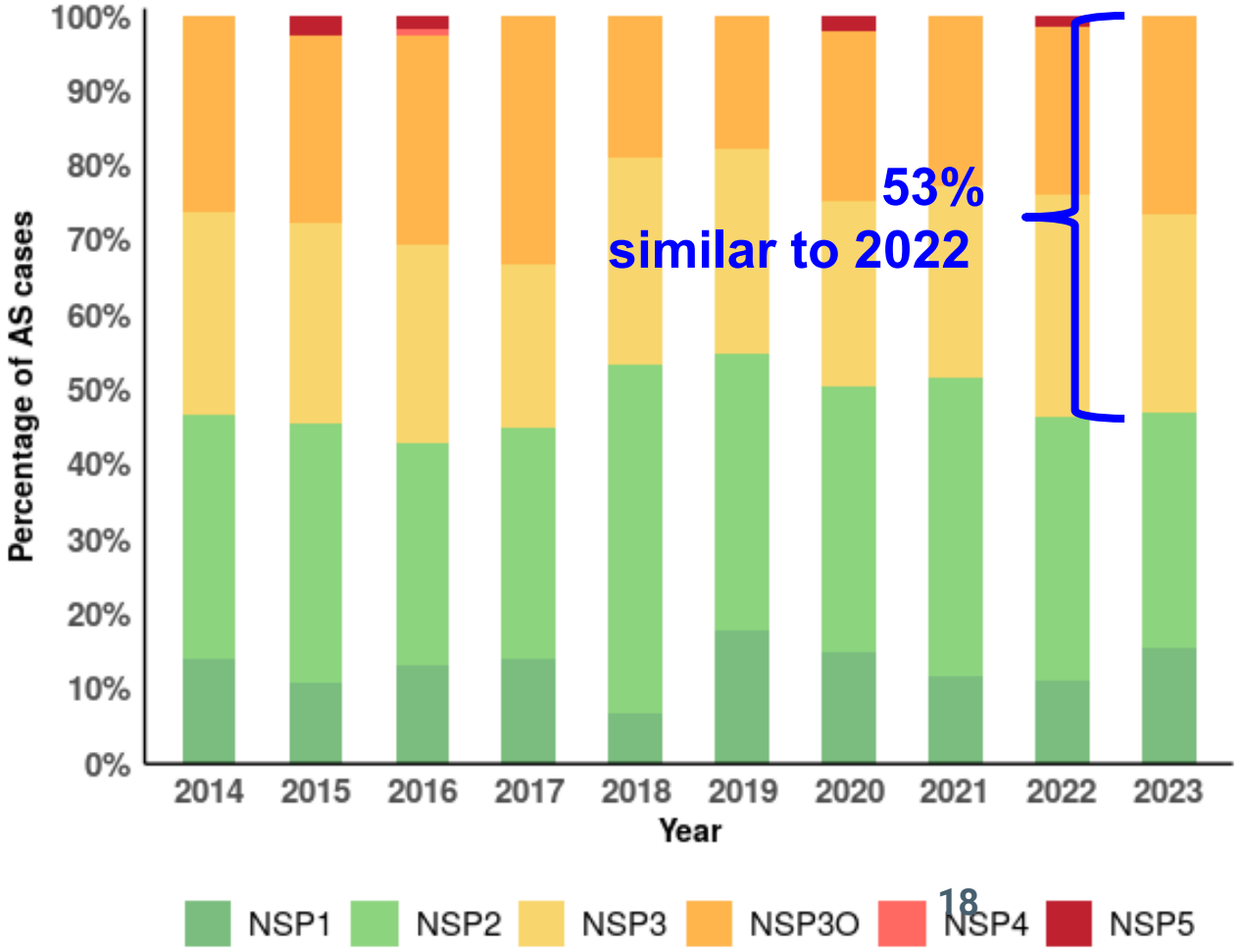


GENOTYPING – SHEEP CASES

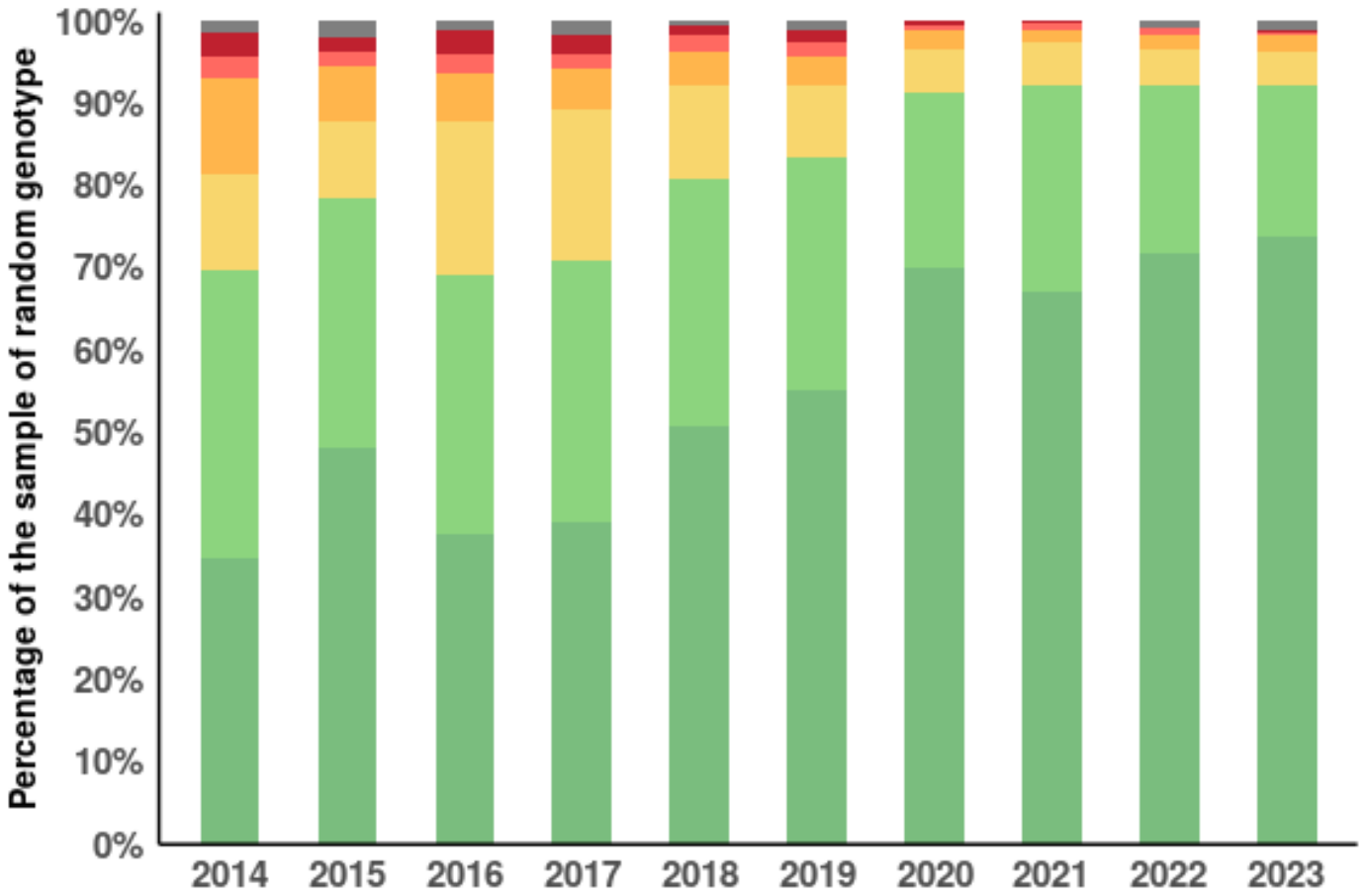
N: 426 out of 462 CS cases



N: 64 out of 76 AS cases



GENOTYPING – RANDOM SAMPLE



2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
25	**25**	**25**	**20**	**7**	**7**	**8**	**8**	**7**	**6**	Number of MSs
9,437	17,201	10,363	9,061	2,713	3,180	7,985	8,068	7,965	7,345	Total genotyped

- 103,526 known genotypes from BE, FR, DE, IT, NL, PL
- 6.9% were in the susceptible genotype groups NSP3-5 (18% in Italy, 7.3% in 2022)
- 73.7% were in the resistant genotype group NSP1 (71.8% in 2022)

CERVIDS – TESTING & CASE DATA

EU27 & XI

- Total tested: 2,096 by 10 MS (++ RO, + IT)
- Clear decrease: 5,854 in 2021; 3,202 in 2022
- Target group: 67.5% from the hunted/slaughtered fit for human consumption (HSHC)
- No cases reported

Norway

- Total tested: 14,224 (17,583 in 2022)
- Target group: 74,7% HSHC
- 1 case in a wild female moose as FC

CONCLUSIONS – BOVINES

- The **reduction in the number of cattle tested** in the EU27 and XI continued in 2023 with 3% less than in the previous year
- Sensitivity of monitoring in cattle still high very (about 948K tested, **87.3% risk animals**)
- In the EU27 and XI, 5 atypical BSE cases were reported, all in the **FS** testing group. Four cases were H-type (two in ES, one in FR and one in IE) and one was L-type (NL)
- In the rest of the world 3 L-BSE (2 in CH, 1 in US) + 2 H-BSE (Brazil and the UK)

CONCLUSIONS – SMALL RUMINANTS

- Over 387K small ruminants tested (decreasing trend) and NSHC more than 50% in both species
- CS is still the most frequently reported type of scrapie, CS/AS ratio was 6:1 in sheep and 25:1 in goats
- The 2023 caseload decreased for both species. Long-term trends keep to improve in sheep in AS, not in CS
- Genotyping of cases do not show any deviation from the known susceptible genotypes
- Frequency of the resistant genotypes in the general population keep to increase where monitored

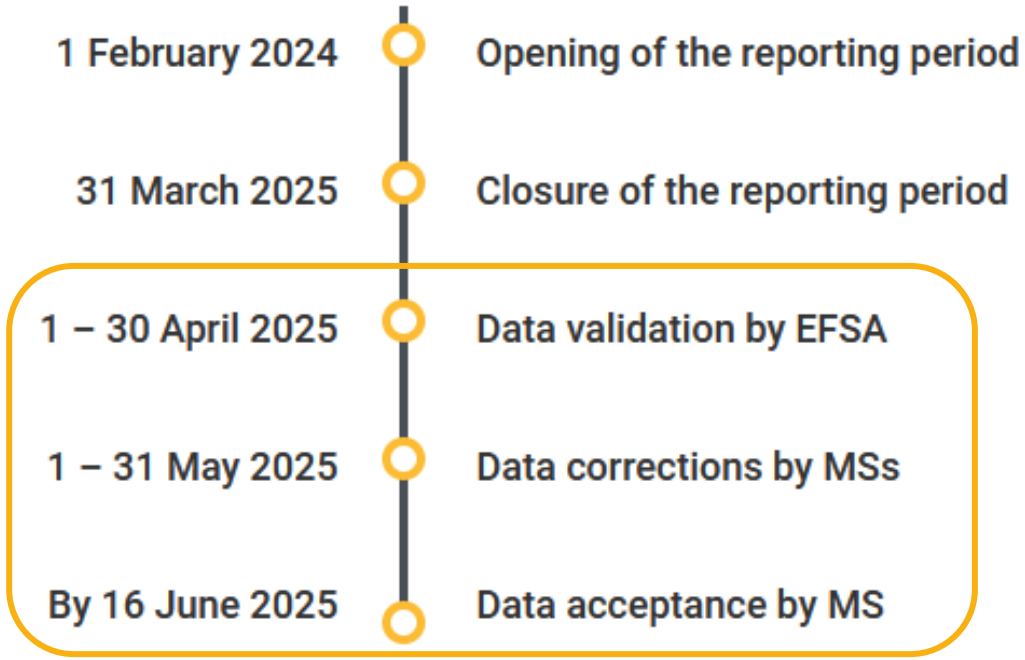
CONCLUSIONS – CERVIDS

- 10 Member States participated in the surveillance
- This national voluntary testing programme didn't result in a new case in the EU27 & XI
- Some caution is needed when interpreting the CWD surveillance data: as in 2022, there was a clear and continuing decrease in the sensitivity of surveillance in the EU – fewer animals, mostly from healthy animals and from a few countries
- Norway continued with a large testing programme, decreasing as in 2022, which led to the detection of 1 case in moose

TSE EUSR 2024 – UPDATE ON STATUS

EUSR 2024

Deadlines for 2024 TSE data reporting and validation



DATA VALIDATION

- **finalised for 27** MSs & RCs
- **ongoing for 9** MSs & RCs

https://www.efsa.europa.eu/en/resources/data-collection-tse

EUSR 2024

DATA VALIDATION

- by **16 June**

CONSULTATION with MSs/RC

- longer period, **Jun-Sep**

PUBLICATION

- **Oct-Nov**

https://www.efsa.europa.eu/en/resources/data-collection-tse


Thanks to all colleagues from **MSs & non-EU RCs** submitting TSE surveillance data, from the involved **EFSA** teams and the **EUSR team at IZSPLV**!
Thank you for the attention!
#OpenEFSA