



BIOR

INSTITUTE OF FOOD SAFETY, ANIMAL HEALTH
AND ENVIRONMENT

CWD surveillance in Latvia

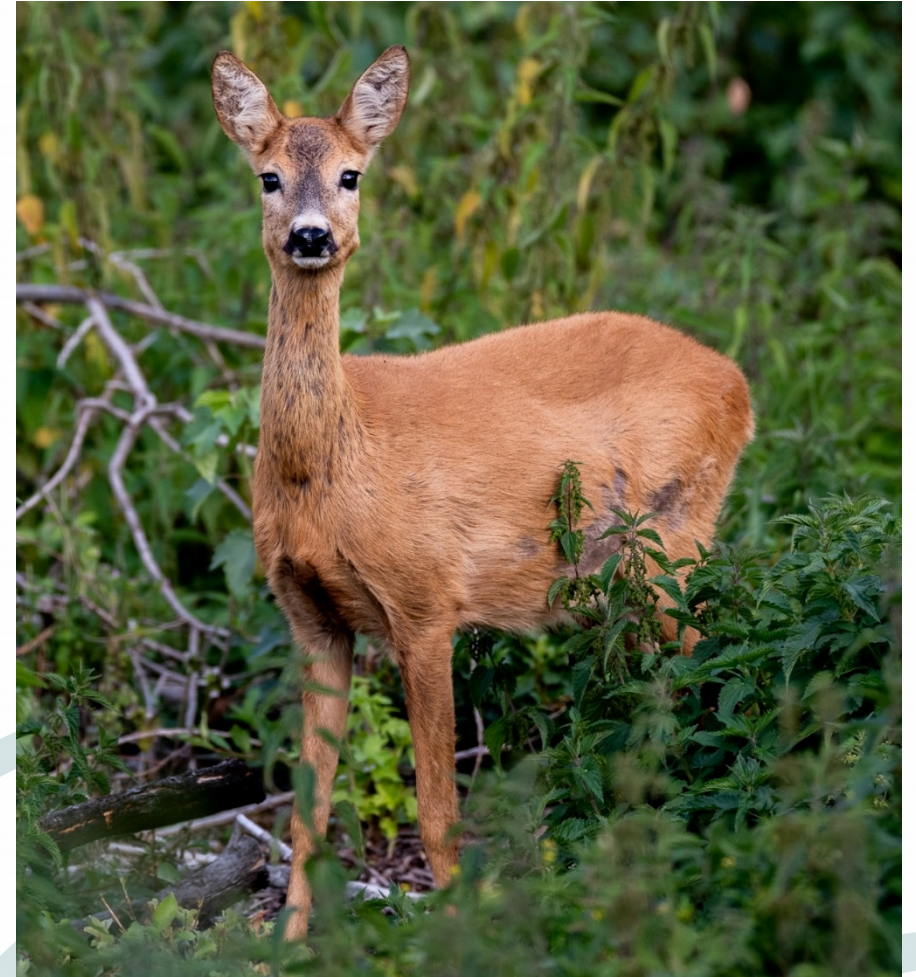
2018-2019

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SURVEILLANCE PROGRAM

- ~ 1000 animals per year
- Wild and semi-domesticated, farmed and captive cervids
- Animals for investigation:
 - Moose (*Alces alces*);
 - Roe deer (*Capreolus capreolus*);
 - Red deer (*Cervus elaphus*);
 - Eurasian tundra reindeer (*Rangifer tarandus tarandus*); Finnish forest reindeer (*Rangifer tarandus fennicus*); White-tailed deer (*Odocoileus virginianus*).
- Samples to collect:
 - obex
 - retropharyngeal lymph nodes
 - tonsils or other lymph nodes



SAMPLE COLLECTION

- Institute «BIOR» and Food and Veterinary Service organised theoretical and practical seminars for hunters and veterinary inspectors in January 2018.
- Received samples for laboratory testing:
 - Obex and retropharyngeal lymph nodes (mostly red deer, moose)
 - Head (mostly roe deer)
 - Corpse (roe deer)



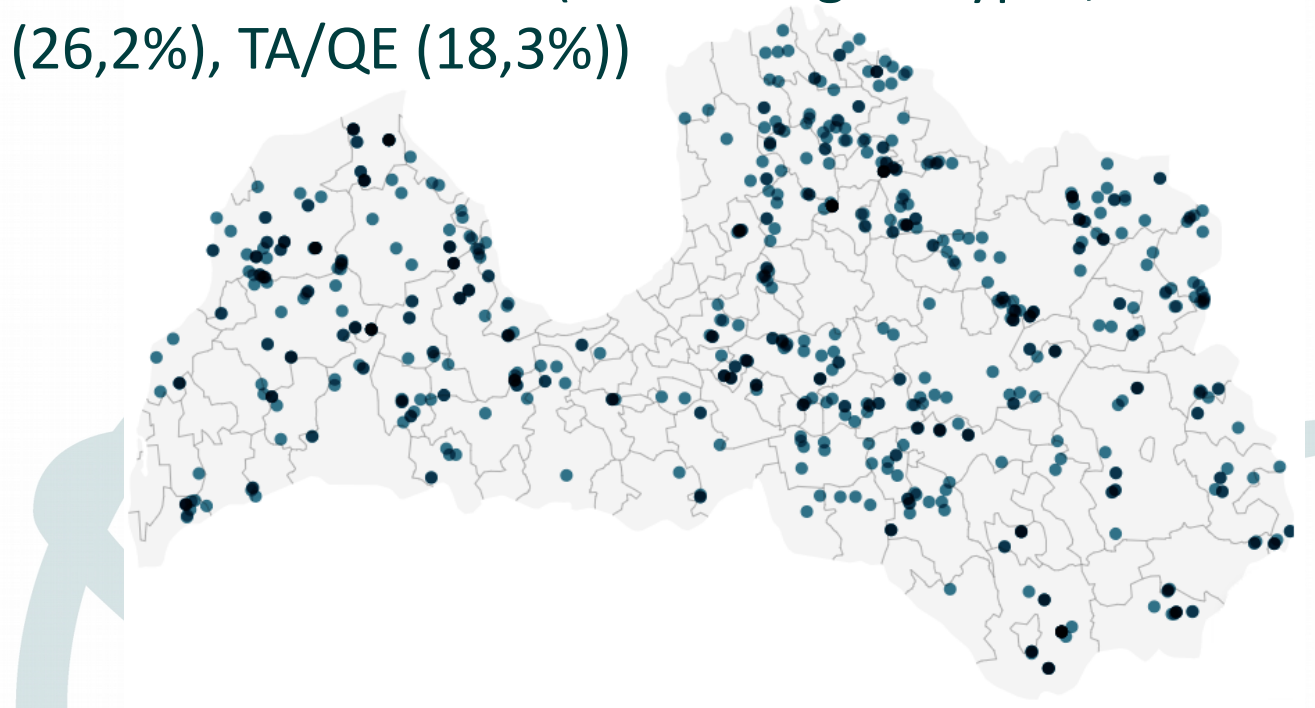
LABORATORY TESTING OF CWD

- Rapid tests:
 - IDEXX HerdChek* Bovine Spongiform Encephalopathy-Scrapie Antigen Test Kit, EIA
 - BIO-RAD TeSeE™ SAP Combi Kit

- Confirmatory tests:
 - the immunohistochemical (IHC) method –
 - Antibody F99/97.6.1, VMRD
 - VECTASTAIN Elite ABC HRP Kit (Peroxidase, Universal), R.T.U. (Ready-to-Use);
 - AEC chromogen

LABORATORY TESTING OF CWD

- PrP gene sequencing (O'Rourke et al., 2004)
 - **Polymorphisms of the *PRNP* gene sequence of cervids in the territory of Latvia** (codons No. 2, 95, 96, 98, 109, 116, 129, 132, 138, 169, 209, 225, 226)
 - In total 740 samples analysed (red deer – 218, roe deer – 361, moose – 161)
 - No polymorphism in moose and roe deer
 - In red deer – polymorphisms in codon No.98 and 226 (in total 6 genotypes, but 3 dominant – TT/QE (32,1%), TT/QE (26,2%), TA/QE (18,3%))



PROFICIENCY TESTING FOR CWD DETECTION

- Organised by **OIE and National reference laboratory for scrapie and CWD, Canadian Food Inspection Agency Laboratory, Animal Disease Research Institute, Ottawa**
- PrP^{CWD} positive reference material (White tailed deer and Elk lymph node, obex)
- Proficiency testing panels:
 - **Rapid tests** – 6 vials each containing 1.8 ml of PrP^{CWD} positive or negative homogenate for ELISA testing. **PT successful.**
 - **IHC** - 14 unstained sections (obex, lymph node, tonsil of a White tailed deer and Elk, duplicates of 7 cases) positive and negative for PrP^{CWD}. **PT successful**

LABORATORY TESTING OF CWD

Animals tested in 2018:

- *Active and passive surveillance - 1054 cervids*
- *60 cervids suspected for CWD; (clinically suspected CWD n=5)*
- *Active surveillance – 994 (cervids hunted or killed, fit for human consumption)*

Animals tested in 2019 (01.01.-30.06.):

- *37 cervids suspected for CWD (clinically suspected CWD n=3)*
- *Active surveillance – 96 cervids*

January 2018 – September 2019 all testing results for **CWD – negative**

Plan for 2019 – 232 moose; 266 red deer; 502 roe deer.



Thank You for attention!