



EFSA update on African Swine Fever

Frank Verdonck

2 June 2017, Riga

EFSA OUTPUTS ON ASF



2010

2011

2012

2013

2014

2015

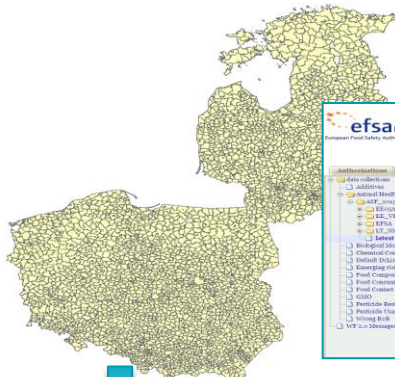
2016

2017



Next Scientific
Report Oct 2017

COMBINATION OF DATA



efsa
European Food Safety Authority

Data Collection Framework
"The first line of detection seems to be: if it tastes good, it's bad for you" (Joan Amador)

gpg - gpgwin32 -> Baldo ANDREY GOGGIN EFSA

Transmission ID	Version	Status	Date	User	File
21099	8	VALID	25/11/2013	Katriina LOHMUS	1 (Baltic ASF Labmonitorator REC.xml)
21099	3	REJECTED	25/11/2013	Katriina LOHMUS	1 (Baltic ASF Labmonitorator template REC.xml)
21093	1	VALID	25/11/2013	Mariona GEORGADIS	1 (testASF.xml)
21094	1	REJECTED	25/11/2013	Mariona GEORGADIS	1 (test ASF.xml)
21093	1	VALID	25/11/2013	Mariona GEORGADIS	1 (testASF2.xml)
21092	1	REJECTED	25/11/2013	Mariona GEORGADIS	1 (testASF2.xml)
21091	1	REJECTED	25/11/2013	Mariona GEORGADIS	1 (testASF.xml)
21090	1	REJECTED	25/11/2013	Kari JAARMA	1 (Copy of Baltic ASF Labmonitorator_template_Final_REC)
21089	7	REJECTED	30/11/2013	Andrey GOGGIN	1 (ASF Labmonitator template REC.xml)
21087	4	VALID	30/11/2013	Andrey GOGGIN	1 (ASF Labmonitator template REC.xml)
21086	3	VALID	30/11/2013	Andrey GOGGIN	1 (ASF Labmonitator template REC.xml)

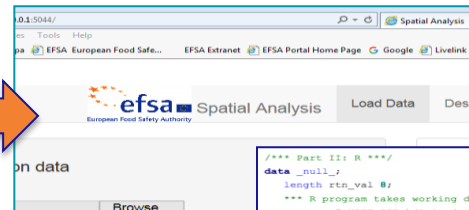
- ☒ Watbds_rcl
- ☒ 1
- ☐ ArtVeg_rcl.tif
- ☐ 1
- ☐ Forests_rcl.tif
- ☐ 1
- ☐ InlWetlands_rcl.tif
- ☐ 1
- ☒ PermanentCrops.tif
- ☒ 16

Table

LAU2

FID	Shape *	Country	NUTS3	Name	LAU2	LAU1	EuroCode
0	Polygon	EE	EE000	Saue Inn	EE00100370728	EE0010037	0728
1	Polygon	EE	EE008	Mõisaküla Inn	EE008008040490	EE0080084	0490
2	Polygon	EE	EE001	Paidaku Inn	EE001003706580	EE0010037	0580
3	Polygon	EE	EE001	Vassalemma vaid	EE001003706660	EE0010037	0666
4	Polygon	EE	EE004	Kihnu vaid	EE00400670303	EE0040067	0303
5	Polygon	EE	EE004	Kihelkonna vaid	EE00400740301	EE0040074	0301
6	Polygon	EE	EE004	Ruhnu vaid	EE00400740689	EE0040074	0689
7	Polygon	EE	EE004	Muhu vaid	EE00400740478	EE0040074	0478
8	Polygon	EE	EE004	Kuressaare Inn	EE00400740349	EE0040074	0349
9	Polygon	EE	EE004	Orissaare vaid	EE00400740550	EE0040074	0550
10	Polygon	EE	EE004	Põlde vaid	EE00400740634	EE0040074	0634
11	Polygon	EE	EE004	Laimjala vaid	EE00400740386	EE0040074	0386
12	Polygon	EE	EE004	Salme vaid	EE00400740721	EE0040074	0721
13	Polygon	EE	EE004	Torgu vaid	EE00400740807	EE0040074	0807
14	Polygon	EE	EE001	Harku vaid	EE00100370198	EE0010037	0198
15	Polygon	EE	EE001	Keila Inn	EE00100370296	EE0010037	0296
16	Polygon	EE	EE001	Keila vaid	EE00100370296	EE0010037	0296
17	Polygon	EE	EE004	Haapsalu Inn	EE00400570183	EE0040057	0183
18	Polygon	EE	EE004	Võrri vaid	EE00400570907	EE0040057	0907
19	Polygon	EE	EE004	Käina vaid	EE00400390368	EE0040039	0368
20	Polygon	EE	EE001	Maardu Inn	EE00100370446	EE0010037	0446
21	Polygon	EE	EE001	Võlma vaid	EE00100370890	EE0010037	0890
22	Polygon	EE	EE001	Kernu vaid	EE00100370297	EE0010037	0297
23	Polygon	EE	EE001	Kila vaid	EE00100370304	EE0010037	0304
24	Polygon	EE	EE008	Võru Inn	EE00800806919	EE0080086	0919
25	Polygon	EE	EE004	Pärnu Inn	EE00400670625	EE0040067	0625
26	Polygon	EE	EE008	Võlma vaid	EE00800806919	EE0080086	0919

14 1 1 (0 out of 3839 Selected)



```

/** Part II: R */
data_null;
length rtn_val 0;
*** R program takes working directory as first argument;
r_pgm = "WORK_DIR\\digitdata_svm.R";
r_arg1 = "WORK_DIR";
r_call = cat("'", trim(r_pgm), "' ", trim(r_arg1), "'");

declare javaobj j("dev.SASJavaExec", "&R_EXEC_COMMAND", r_call);
j.callIntMethod("executeProcess", rtn_val);
run;

```

EFSA COLLABORATION WITH ASF-AFFECTED COUNTRIES

Workshops - Data collection - Analysis - Reporting

Harmonisation of data collection
Parma, Italy, 23-25 November 2015

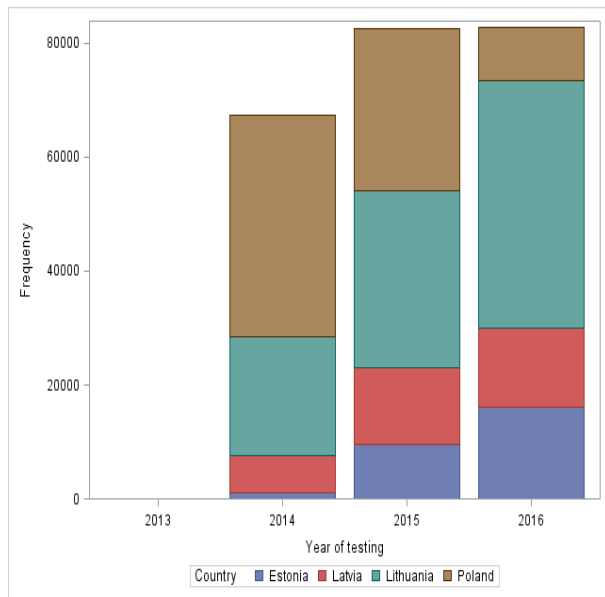
Descriptive epidemiological analysis
Riga, Latvia, 29-30 June 2016

Epidemiological modelling
2017

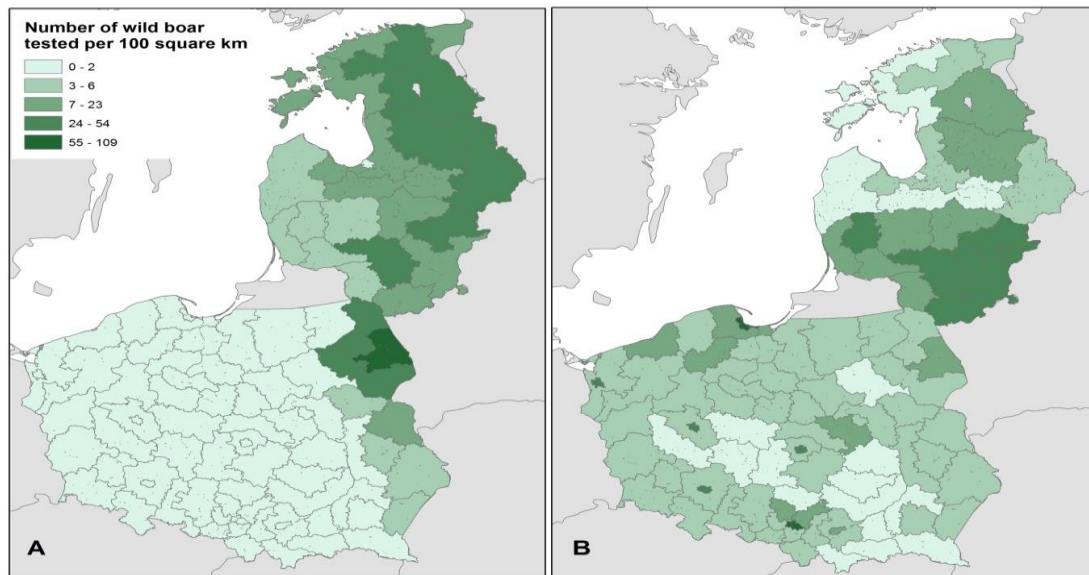


DATA SUBMITTED BY THE AFFECTED COUNTRIES

Number of tests for ASF



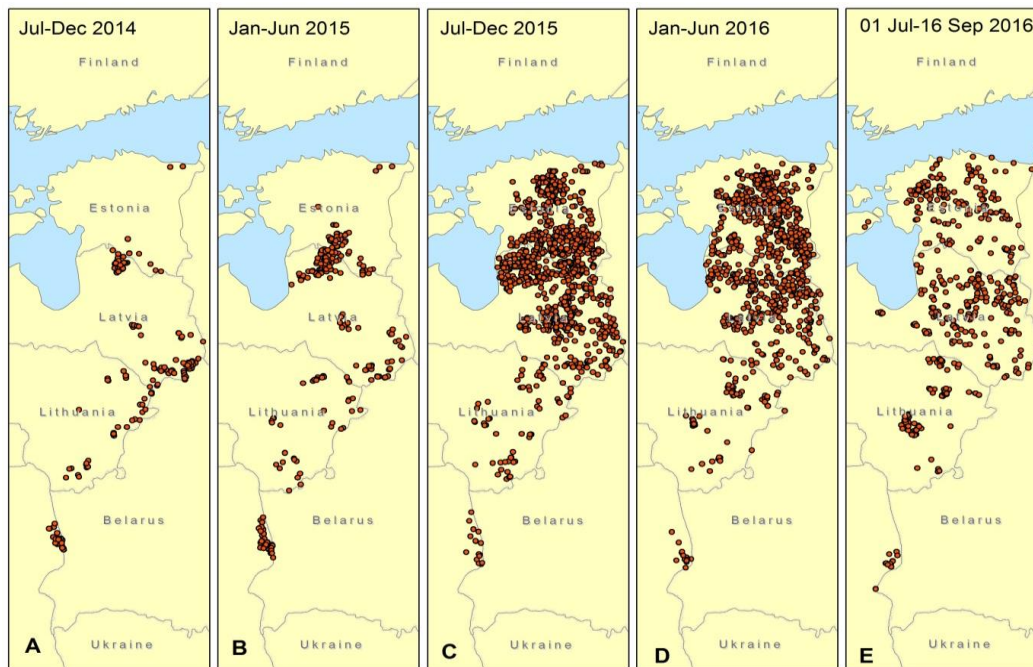
Number of wild boar tested per 100 square km in 2014-2016 at NUTS 3 level



Hunted wild boar

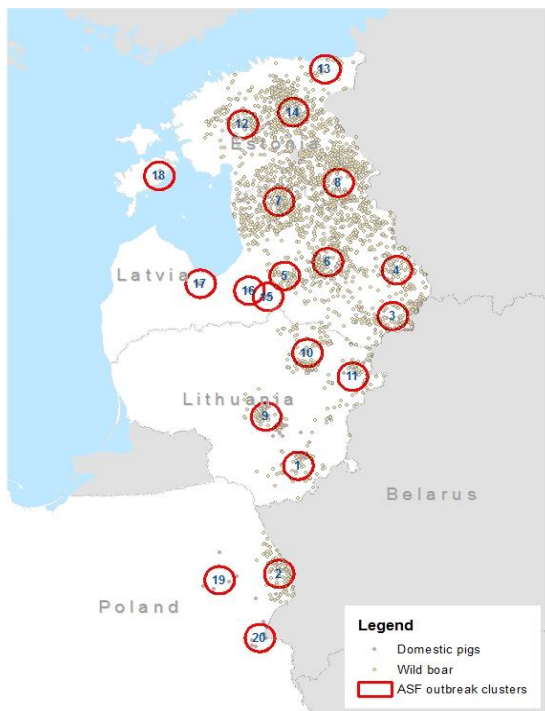
Wild boar found dead

ASF SPATIO-TEMPORAL EVOLUTION



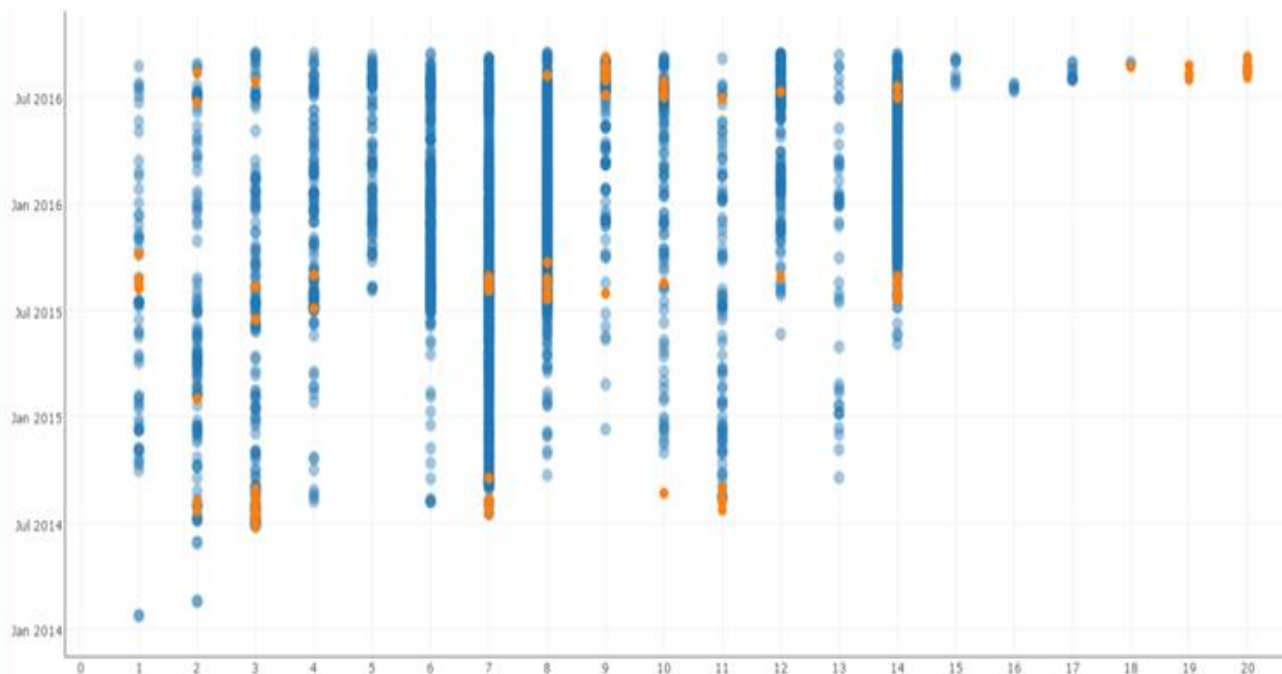
Currently the ASF cases in wild boar show the spatio-temporal pattern of a **small-scale epidemic**

ASF CLUSTERS

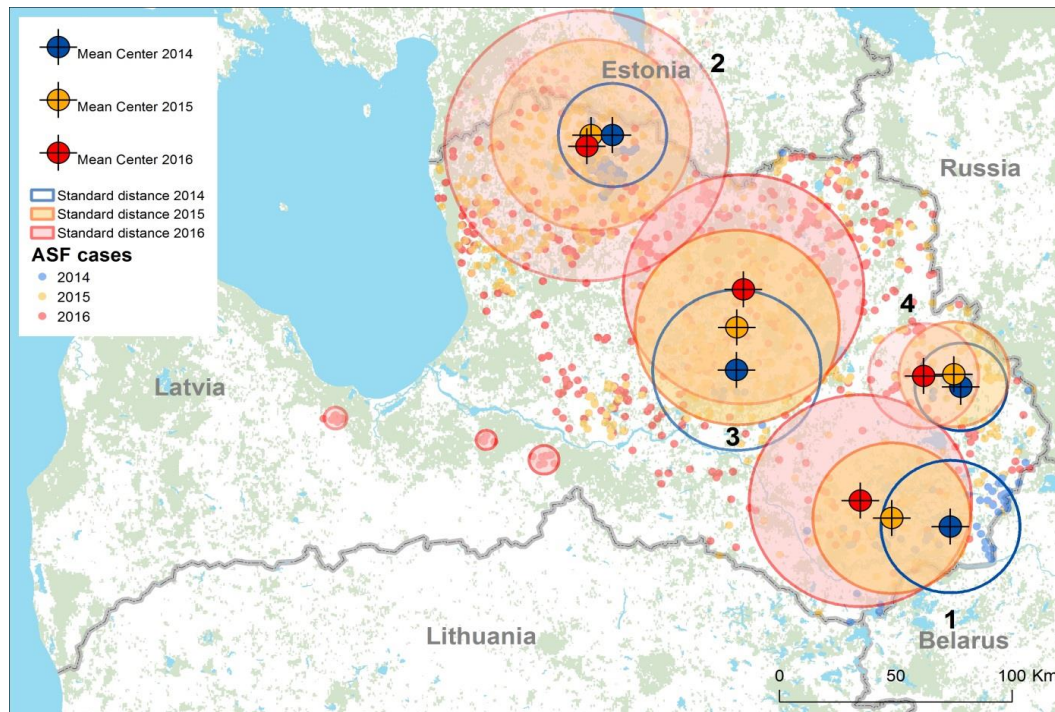


ASF clusters
(Jun 2015 – Sep 2016)

Temporal distribution of ASF notifications in **wild boar** and **domestic pigs** per cluster (Jan 2014 – Sep 2016)



ASF CLUSTER ANALYSIS



The average spatial spread of the disease in wild boar is approximately **1-2 km/month**

which indicates a **slow spread in the region**

ASF cluster analysis Latvia (Jan 2014-Aug 2016)

ASF VIRUS (PCR) PREVALENCE

Country	2014 Wild boar found dead	Wild boar hunted	2015 Wild boar found dead	Wild boar hunted	2016 Wild boar found dead	Wild boar hunted
Estonia	29.8*	1.01*	71.41	3.8	85.7	3.0
Latvia	53.2	0.68	73.08	1.8	78.2	2.1
Lithuania	23.8	0.11	27.3	0.97	59.9	0.13
Poland	1.4***	0.04**	1.42***	0.1**	0.5***	0.0**

* samples from a period the infection was not detected in a country are included.

** most of the samples tested originate from affected administrative units

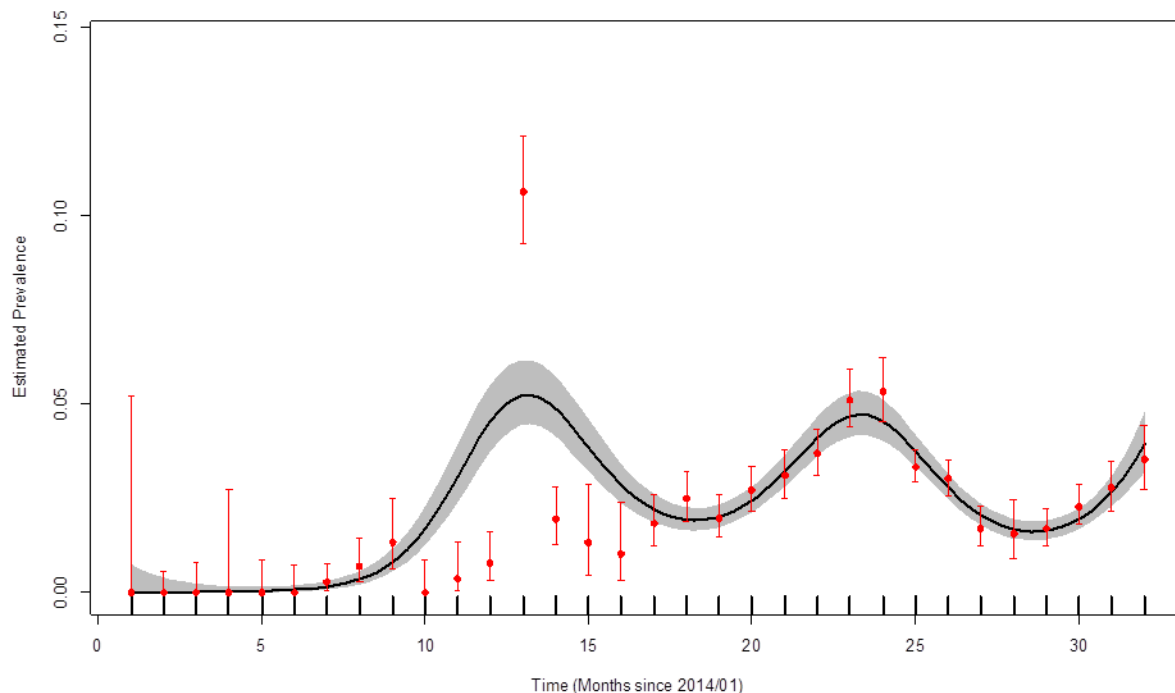
*** a large proportion of samples tested originate from unaffected administrative units

Apparrent virus prevalence (at country level) in **wild boar found dead** ranges from **60-86%** in the Baltic countries and **0.5%** in Poland

Virus prevalence in **hunted wild boar** is very low (**0.04-3%**)

APPARENT ASFV-ANTIBODY PREVALENCE IN HUNTED WILD BOAR

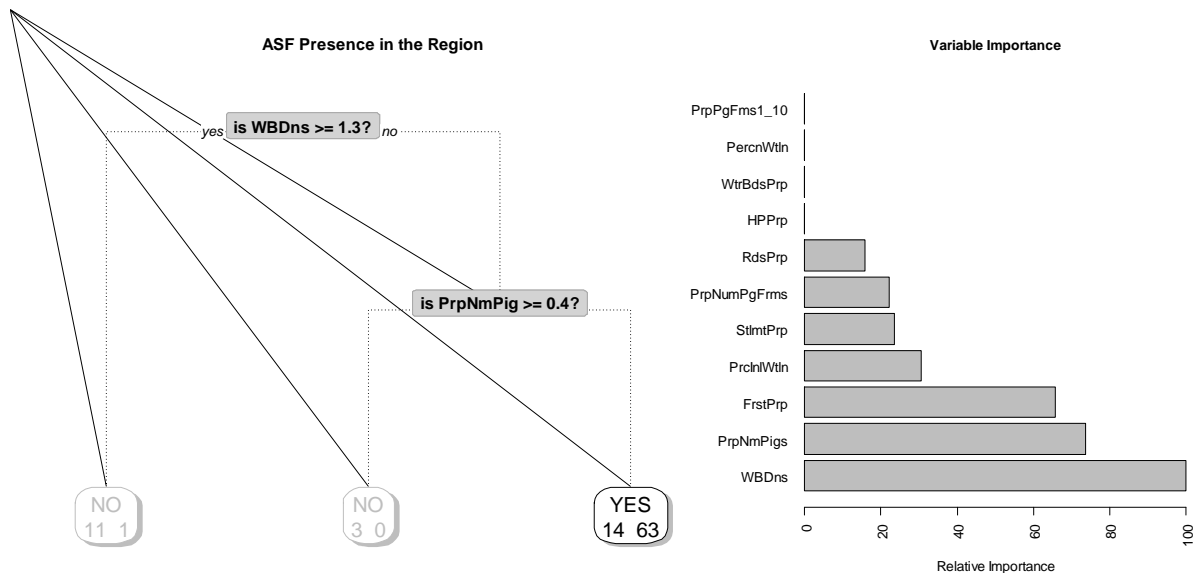
Baltic countries (Jan 2014-Aug 2016)



No clear time trend

Lower levels
compared to apparent
virus prevalence,
indicating an
unchanged
immunological/
epidemiological
situation.

APPROACH RISK FACTOR ANALYSIS



Probability tree and relative importance of variables for detection of ASF in wild boar in Latvia (for 2016)

RISK FACTORS FOR OCCURRENCE OF ASF IN WILD BOAR

- For Estonia, Latvia and Lithuania, the risk factor analysis shows an association between the **number of settlements and pig farms, forest coverage, number of roads, wild boar density** and the notification of ASF in wild boar in 2016
- According to the risk factor analysis the **number of human settlements** is associated with ASF notification in wild boar in Estonia, Latvia and Lithuania in 2015 and 2016

NEXT SCIENTIFIC REPORT (OCT 2017)

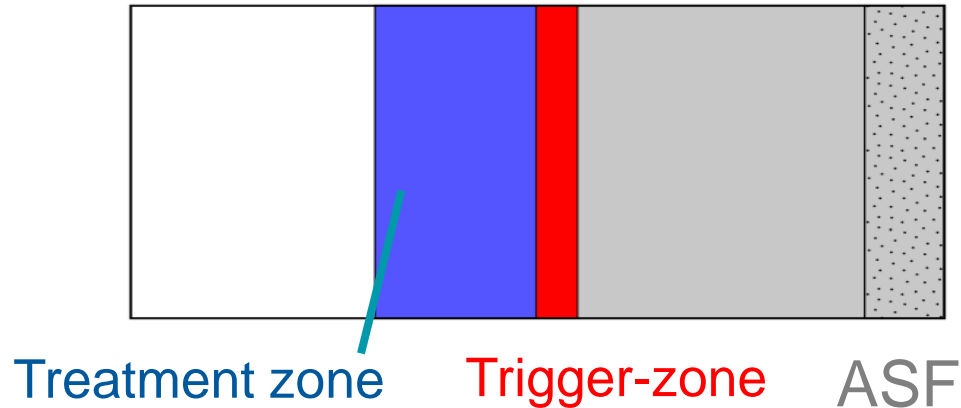
Objectives

- Update **descriptive epidemiological analysis**
- Update **risk factors analysis** involved in the occurrence, spread and persistence of the ASF virus in the wild boar population and in the domestic/wildlife interface
- **Review the management options for wild boar** identified in the EFSA scientific opinion of June 2015

NEXT SCIENTIFIC REPORT (OCT 2017)

- Simulations of management options in an ASF transmission model

Model landscape representation



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- Hans-Hermann Thulke
- Christian Gortazar-Schmidt

EFSA

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