Livestock disease surveillance in Japan

Risk analysis of spillover events in wildlife workshop

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MAFF

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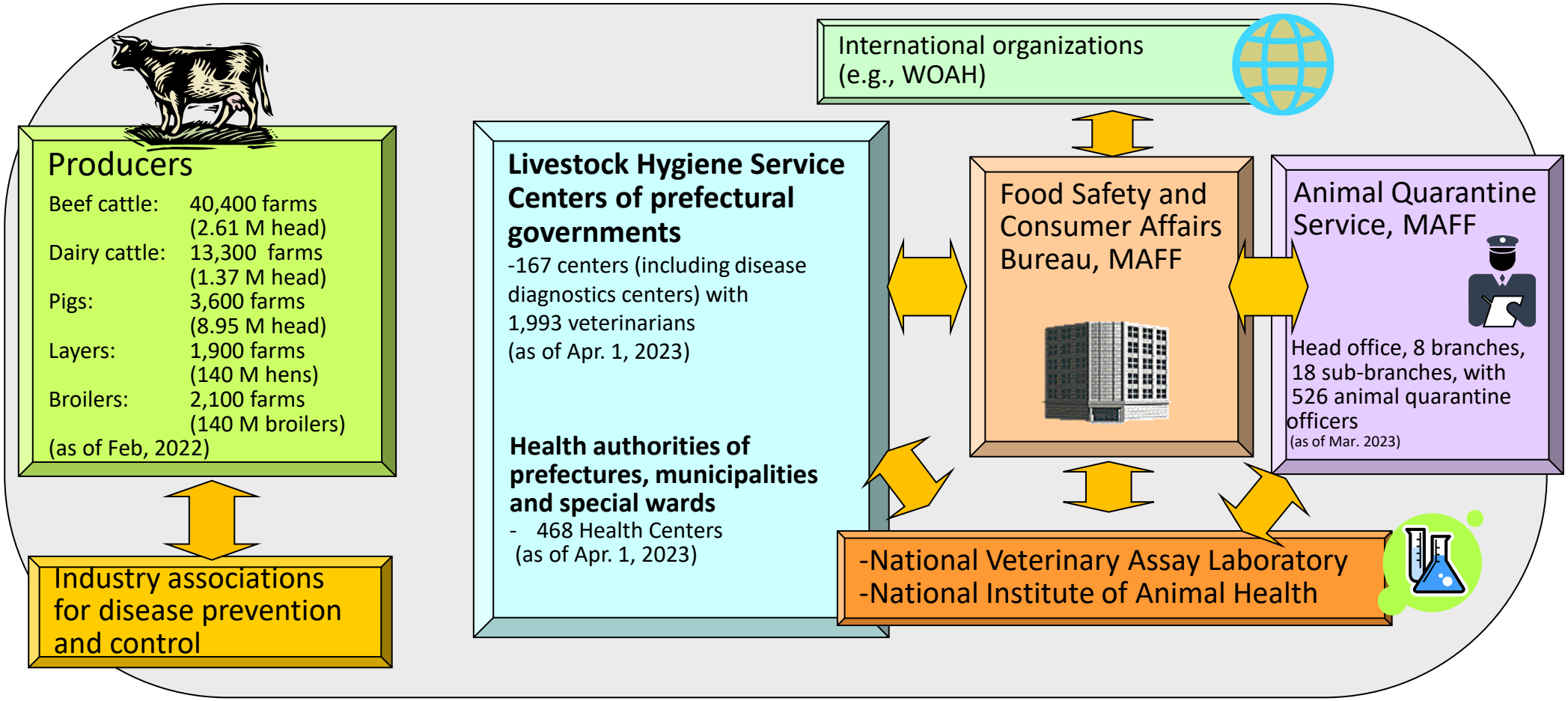
Yugawara, Japan

World Organisation for Animal Health
Founded as OIE

Funded by the European Union

Animal Health System in Japan - Key players



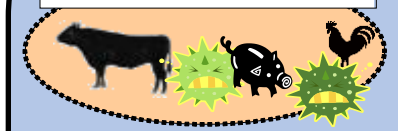
Legislative Framework of Veterinary Services

Animal Health ● Act on Domestic Animal Infectious Disease Control ● Livestock Hygiene Service Center Act **Aquatic Animal Health** ● Law to Ensure Sustainable Aquaculture Production ● Fisheries Resources Protection Law **Safety of Veterinary Medicines and Animal Feed** ● Act on Securing Quality, Efficacy and Safety of Products including Pharmaceuticals and Medical Devices ● Act concerning Safety Assurance and Quality Improvement of Feeds **Veterinary Affairs and Traceability** ● Veterinary License Act ● Veterinary Practice Act ● Act for Special Measures concerning the Management and Relay of Information for Individual Identification of Cattle	**MAFF**
Zoonoses ● Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases (Infectious Disease Act) ● Rabies Prevention Act	**MHLW** and **MAFF**
Food Hygiene ● Food Sanitation Act ● Slaughter Act ● Poultry Slaughtering Business Control and Poultry Meat Inspection Act	**MHLW**
Animal Welfare ● Act on Welfare and Management of Animals	**MoE**

Outline of the Act on Domestic Animal Infectious Diseases Control

Measures for prevention

Countries and regions with outbreaks



MAFF ⟺ Cooperation ⟺ Prefectural Livestock Hygiene Service Centers

Development and review of disease control guidelines

Preparedness for outbreaks

- Guidance, recommendations and orders to ensure appropriate implementation of biosecurity standards at farms
- Preparation of off-farm burial sites

Strict control at entry points by Animal Quarantine Service, MAFF

- Inspection/Quarantine for export/import of animals and products.
- Interviews, inspection and disinfection of personal belongings

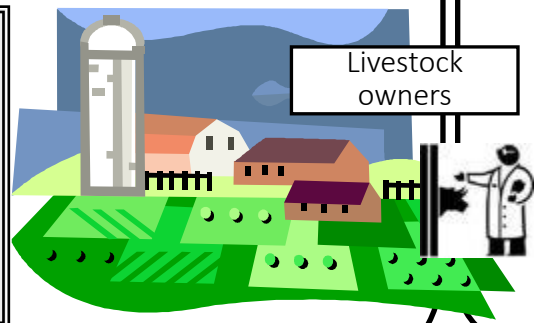
Early detection and reporting

- Notify when infected and/or suspected animals are found

For specific diseases (FMD, AI): Notify when animals with specific symptoms are found

Strict biosecurity measures at farms

- Compliance with the biosecurity standards
- Installation of disinfection equipment
- Securing the land necessary for burial of infected animals and contaminated materials.
- Annual reporting of compliance with biosecurity standards



Livestock owners

In an event of outbreak...

Measures for containment

Prefectural Livestock Hygiene Service Centers ⟸ MAFF

- Development and review of disease control guidelines (emergency guidelines, if necessary)
- Financial support (cost for disinfection, culling, etc.)
- Personnel support (sending experts and emergency support teams)

Municipalities

Cooperate with prefectures in implementing relevant measures based on the disease control guidelines

Measures to prevent the disease spread

- Disinfecting affected farms
- Culling infected and/or suspected animals.
- Restricting/blocking access to areas around affected farms
- Restricting the movement of livestock, suspending operations of slaughterhouses, horse races and markets...
- Disinfecting vehicles that go through disinfection points
- Incinerating and/or burying infected dead animals and contaminated materials
- Preventive culling (only for ASF and FMD)

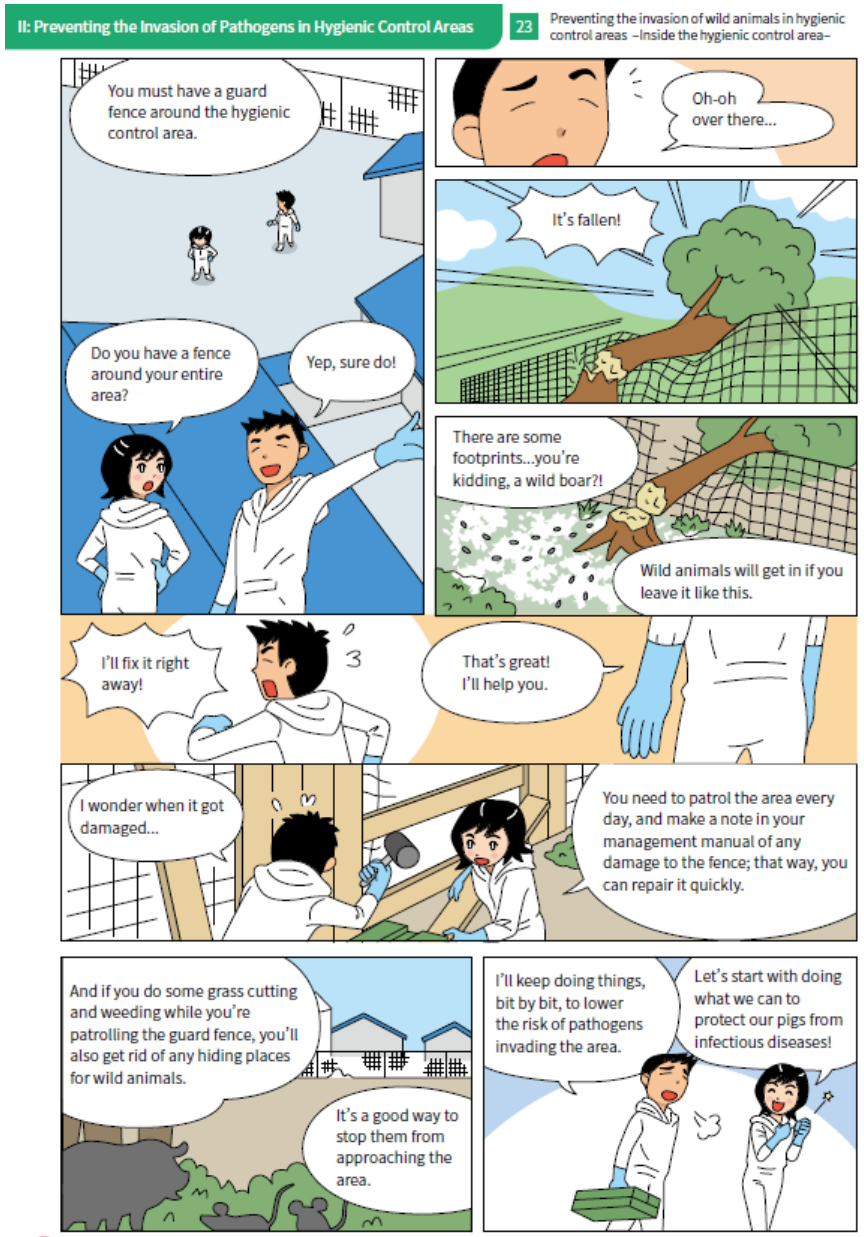
Personnel support (sending epidemio-logical investigation teams), Financial support

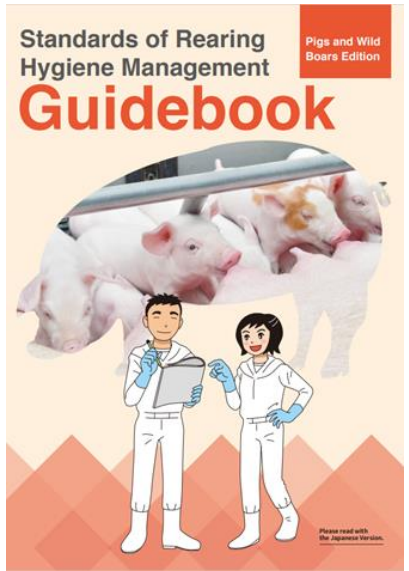
Affected farms

Financial support by MAFF

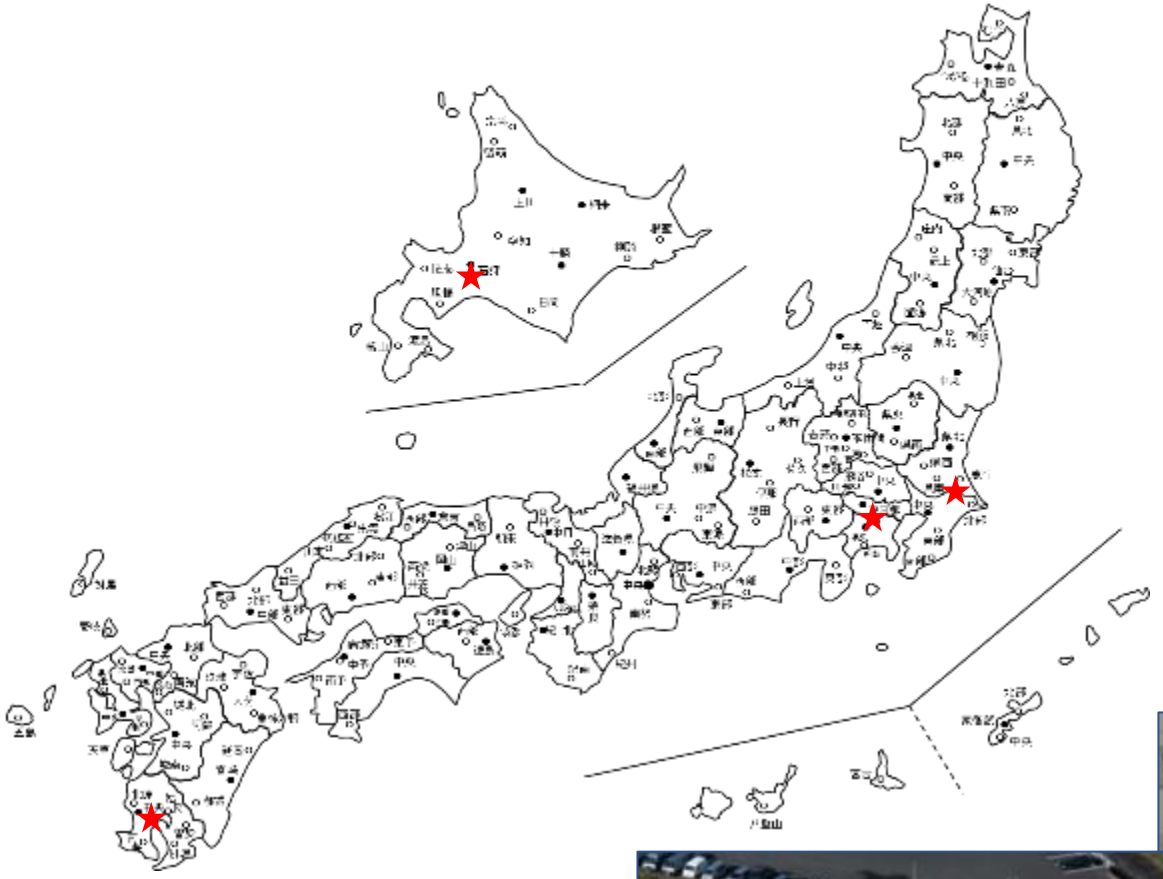
- Compensation for culling (1/3 or 4/5 of the estimated market price for infected animals and 4/5 for suspected animals. 100% for specific diseases such as FMD and HPAI)
- Reduction of compensation for those who did not take the necessary measures (reducing moral hazard).
- Paying for the costs of incineration and burial of dead or killed livestock and contaminated materials
- Compensation for economic losses caused by movement restrictions established around affected farms

Biosecurity standards





Location of major facilities for veterinary services



★ National Institute of Animal Health: 4

○● Local Livestock Hygiene Service Centers: 167
(Apr. 1, 2023)

NIAH

Local Livestock Hygiene Service Centre

Occurrence of Major Animal Infectious Diseases in Japan

Occurrence of Major Animal Infectious Diseases*

(Unit: herd)

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
FMD	292	0	0	0	0	0	0	0	0	0	0	0	0	0
Brucellosis (cattle)	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Tuberculosis (cattle)	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Johne's disease (Paratuberculosis) (cattle)	235	331	211	293	326	327	315	374	321	380	399	446	519	306
BSE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scrapie (sheep)	0	2	0	0	0	0	1	0	0	0	0	0	0	0
Equine infectious anemia	0	2	0	0	0	0	0	0	0	0	0	0	0	0
CSF	0	0	0	0	0	0	0	0	6	45	10	15	8	4
HPAI	1	23	0	0	4	2	7	5	1	0	33	29	66	34
LPAI	0	0	0	0	0	0	0	0	0	0	0	0	0	0

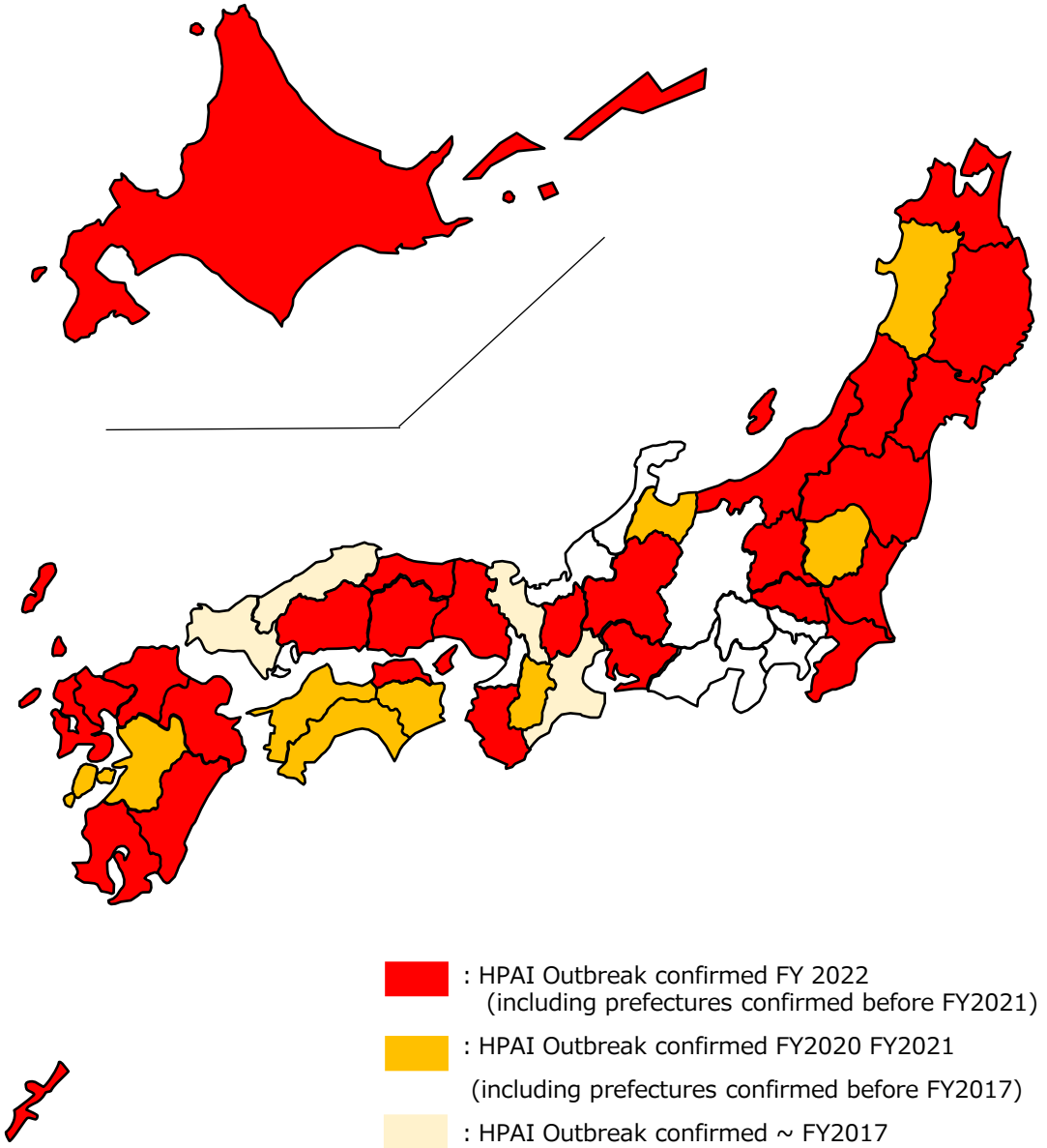
Source: Statistics on Animal Hygiene, etc.

* The number of reports on infected animals is stipulated in Article 13 (1) in the Act on Domestic Animal Infectious Diseases Control (FMD, HPAI and LPAI include suspected animals). Data is as of Aug 2023

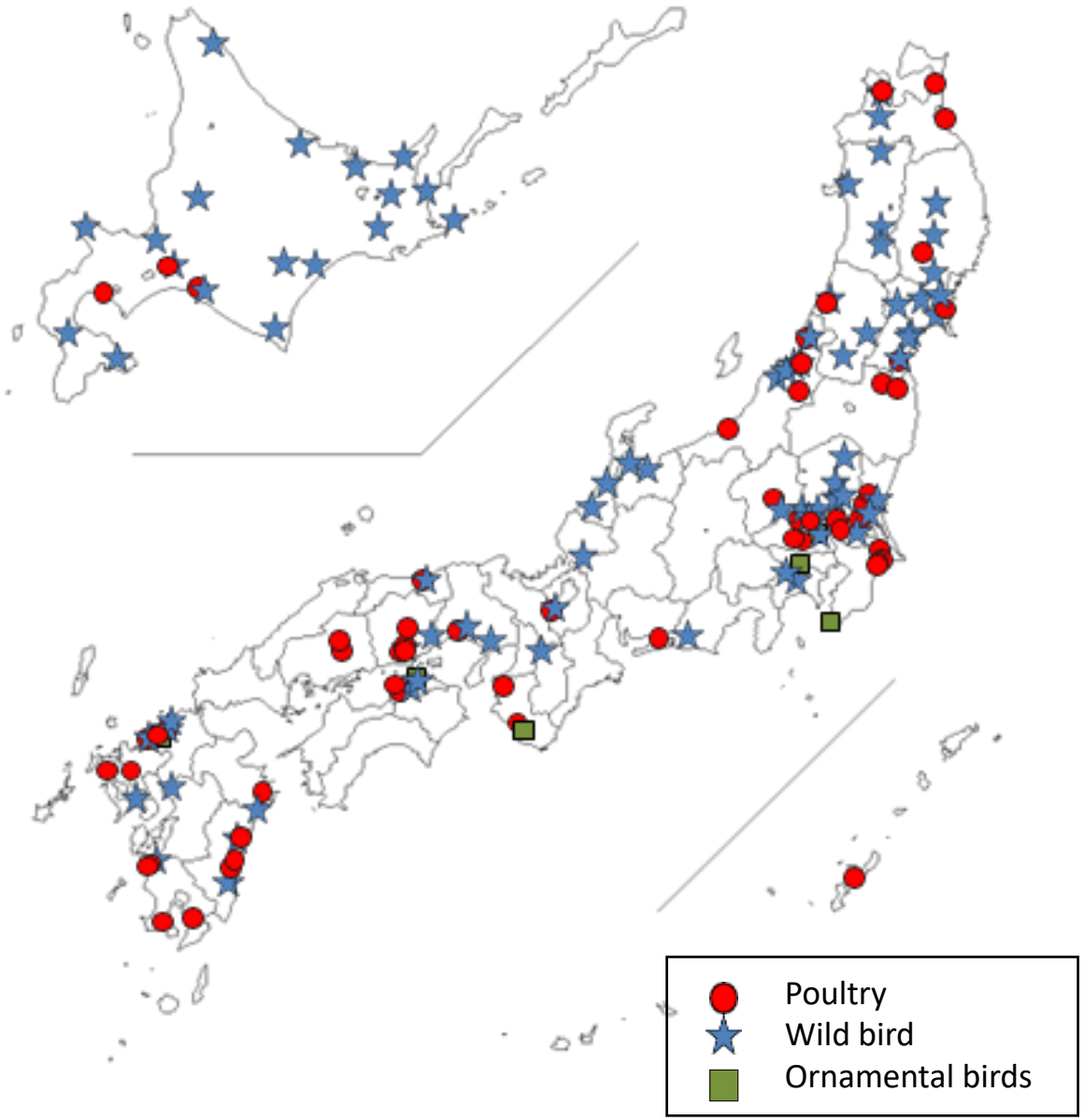
Recent HPAI situation in Japan (Poultry)

Year	Type	Number of cases	Number of affected prefectures	Number of culled birds (million)
FY2003	H5N1	4	3	0.3
FY2004	-	0	0	0
FY2005	-	0	0	0
FY2006	H5N1	4	2	0.2
FY2007	-	0	0	0
FY2008	-	0	0	0
FY2009	-	0	0	0
FY2010	H5N1	24	9	1.8
FY2011	-	0	0	0
FY2012	-	0	0	0
FY2013	-	0	0	0
FY2014	H5N8	6	5	0.5
FY2015	-	0	0	0
FY2016	H5N6	12	9	1.7
FY2017	H5N6	1	1	0.09
FY2018	-	0	0	0
FY2019	-	0	0	0
FY2020	H5N8	52	18	9.9
FY2021*	H5N1/H5N8	25	12	1.9
FY2022**	H5N1/H5N2	84	26	17.7

*the last case was confirmed on 14 May 2022
**the last case was confirmed on 7 Apr 2023



HPAI situation in Japan (FY2022)

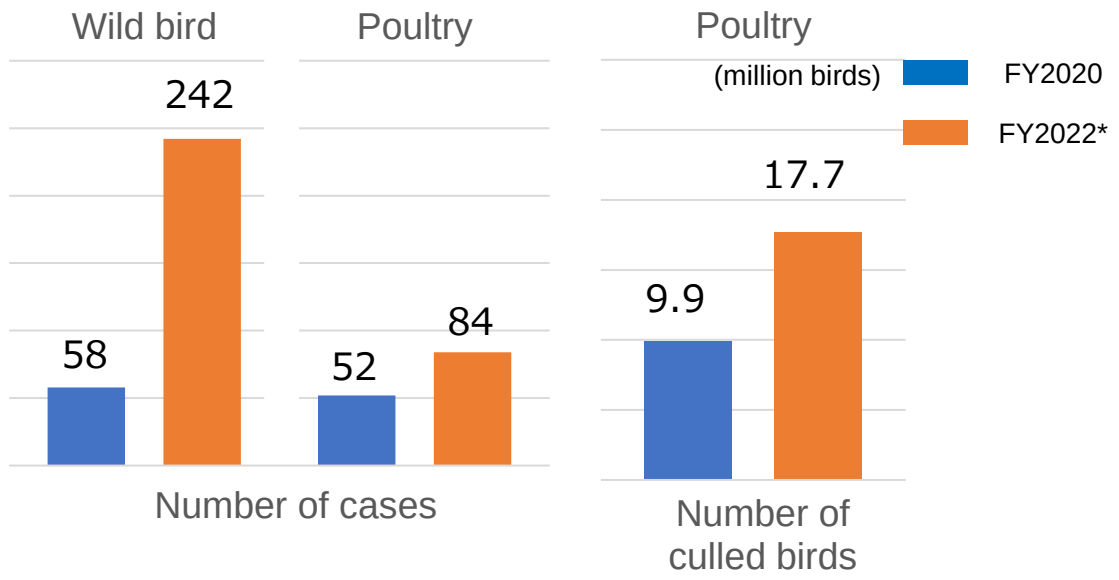


Comparison between FY2020 and FY2022

(1) First Case

	FY2020	FY2022
Wild bird	24.Oct	25.Sep
Poultry	5 .Nov	28.Oct

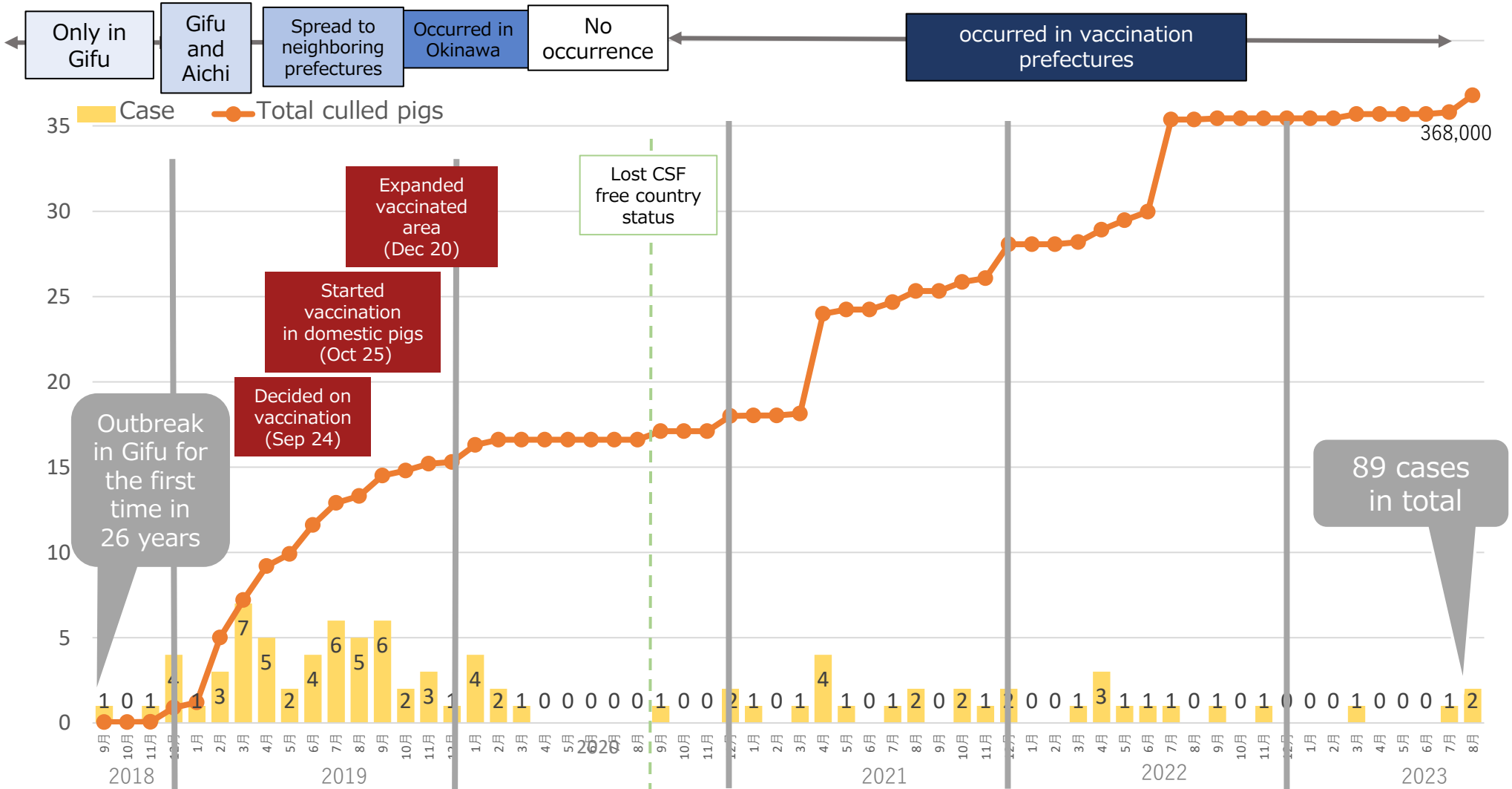
(2) Number of cases (wild bird, poultry)
Number of culled birds



* The last case was confirmed on 7 Apr 2023 and 20 Apr 2023 in poultry and wild bird, respectively.

Transition of the Number of CSF case in domestic pigs

- ○ 89 classical swine fever (CSF) outbreaks have been confirmed in domestic pigs in 20 prefectures since detection of first case in Gifu prefecture on 9 September 2018, and about 368,000 pigs have been culled.
- ○ Vaccination for domestic pigs in designated area started from 25 October 2019.
- ○ Outbreak also occurred in prefectures where vaccination is practiced.



Surveillance of CSF and ASF in wild boars

- Nationwide CSF/ASF surveillance in domestic pigs and wild boars is in place by prefectures.

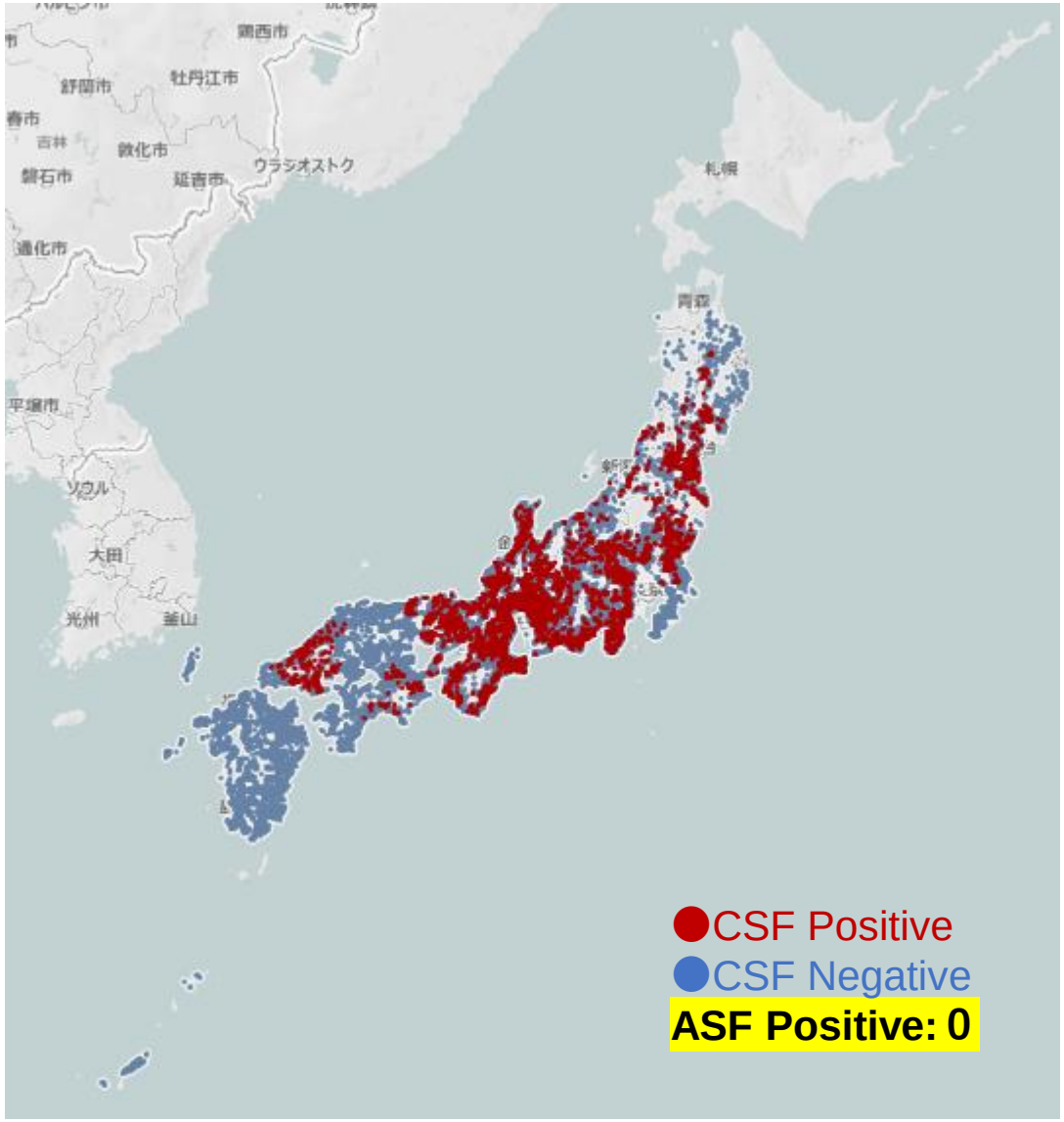
6,593 CSF cases

102,691 wild boars tested

(*from 13 Sep 2018 to 29 Nov 2023)

- **ASF has never been confirmed.**

(67,221 wild boars tested
from 13 Sep 2018 to 29 Nov 2023)

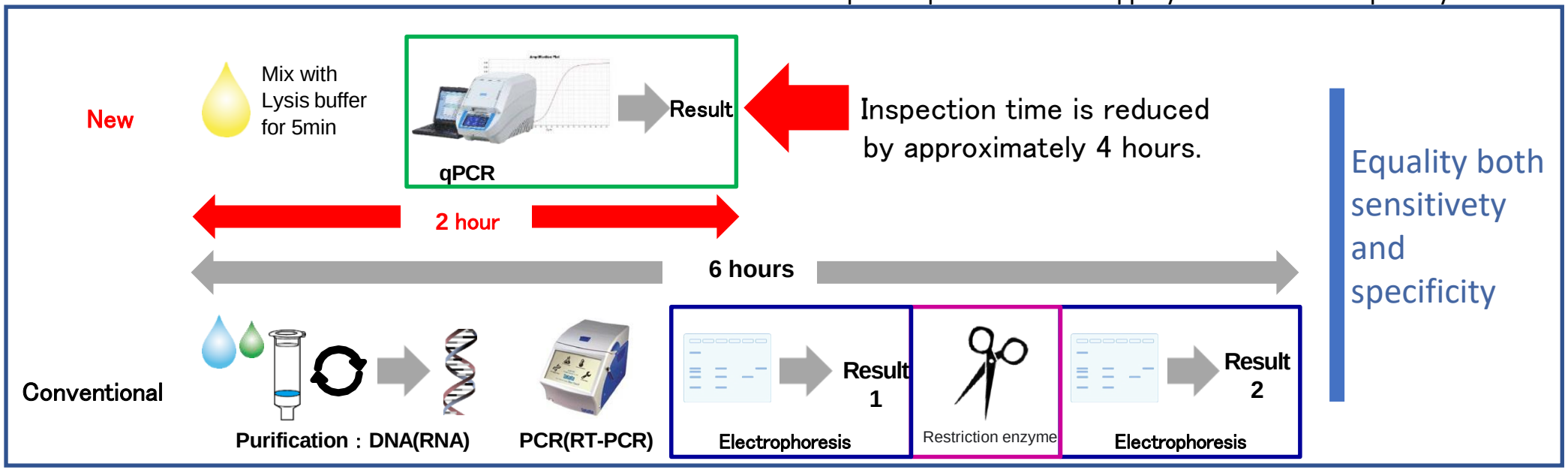


Dedicated mapping system for wild boars
(As of 29 Nov 2023)

Development of CSFV・ASFV Direct RT-qPCR Kit (Test for Wild boar CSF・ASF surveillance/ Pig suspected case)

Co-development
NARO National Institute of Animal Health
and
Takara Bio Inc.

Takara developed a special kind of taq polymerase for this qPCR system.



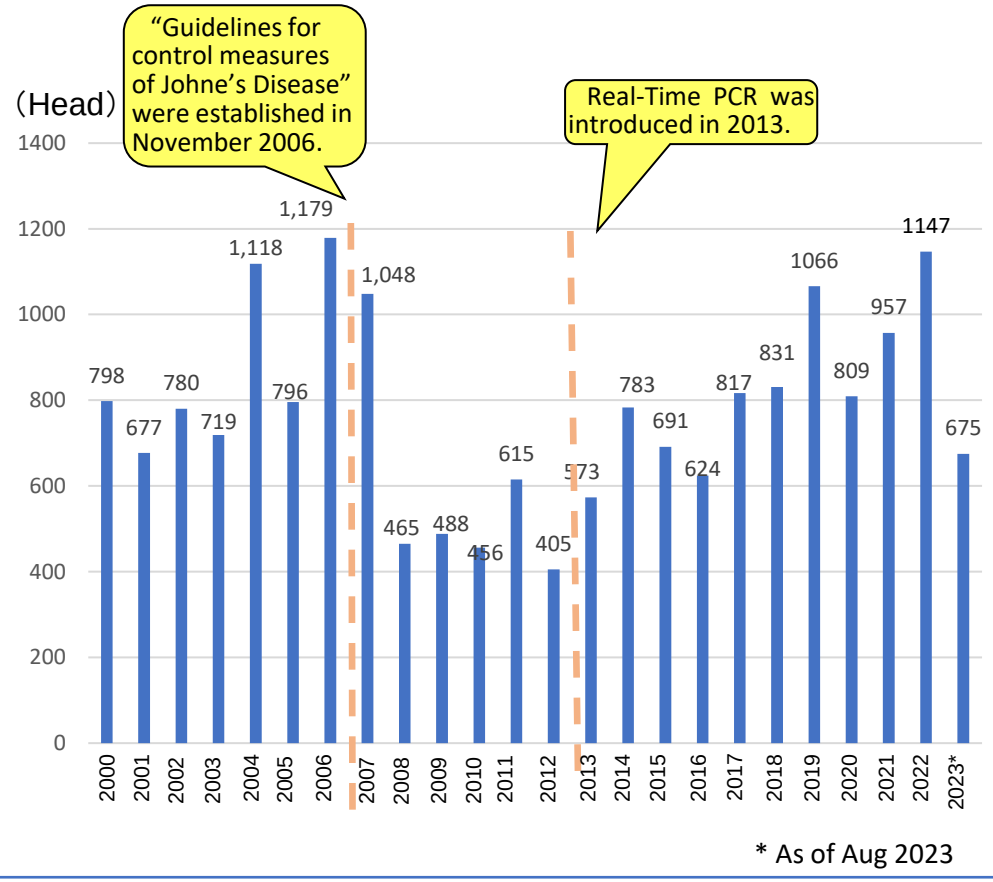
https://www.naro.go.jp/english/laboratory/niah/press/csfasf/index.html

Also, they developed a new molecular testing method that allows the differentiation of field and vaccine strains of classical swine fever virus (CSFV)" *https://www.naro.go.jp/english/laboratory/niah/press/moleculartest/index.html*

This study was conducted under the research projecton "Regulatory research projects for food safety, animal health and plant protection (JPJ008617.20319736) "funded by the Ministry of Agriculture, Forestry and Fisheries of Japan.

Control measures for Johne's disease

Current situation



* As of Aug 2023

Direction of measures

○ Regular testing based on Article 5 of the Act on Domestic Animal Infectious Diseases Control
(conducted at least once every five years)
⇒ Detecting and culling infected animals

○ Culling of infected animals by order and compensation
⇒ 80% of estimated value

○ Guideline for Johne's Disease (April 2013)
Comprehensive measures for occurrence prevention, early detection and spreading prevention

- Preventive measures: Education, Guidance on hygiene control
- Control of cattle movements: **Introducing disease-free cattle**
- Preventing spread of disease: Enhanced surveillance in affected farms

① Testing of cattle in affected herd (three times in a year)
② Additional testing of the cattle after ① (once a year for two years)

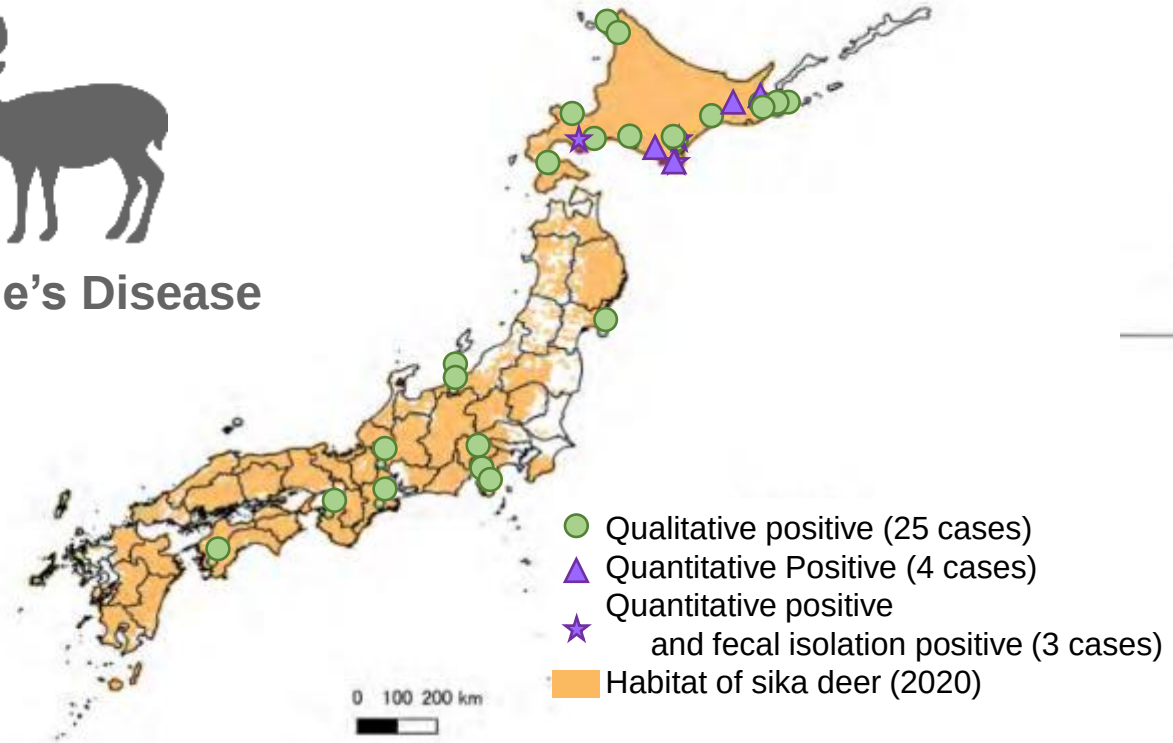
National supporting measures

Provide financial support for holding seminars, **testing**, **voluntary culling of high risk cattle**

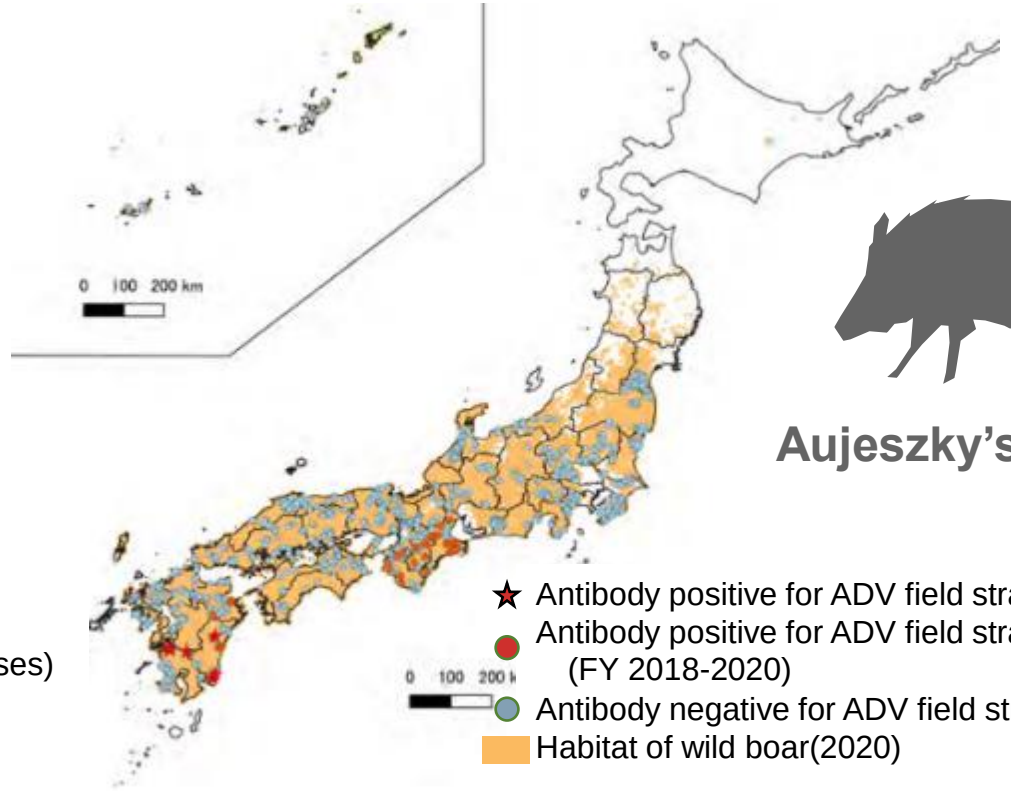
Wildlife surveillance at National level

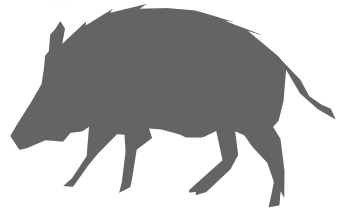
- Wild animals have been considered one of the important sources of infection for livestock. Even for the disease eradicated among livestock, the disease may be maintained among wild animals. It is necessary to study the status of infectious diseases in wild animal population.
- Johne's disease, Ibaraki disease, CWD surveillance in sika deer, Aujeszky's disease and Toxoplasma surveillance in wild boar are being conducted by MAFF.

Johne's Disease



Johne's Disease surveillance in wild sika deer
FY2016-FY2022



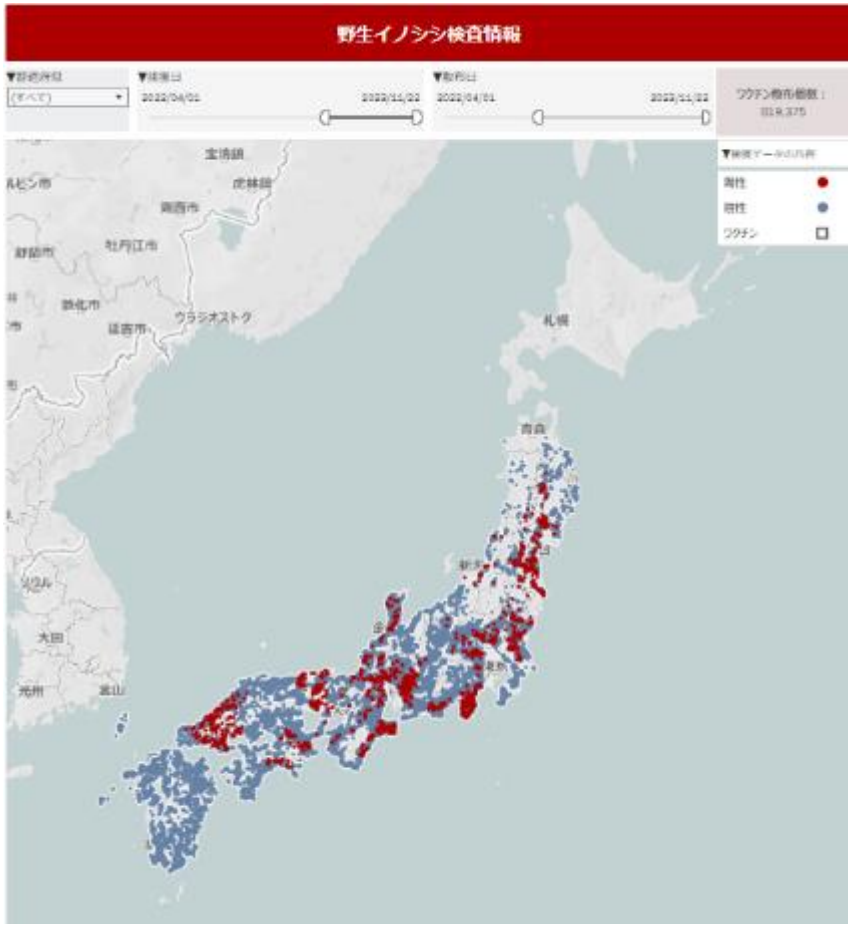


Aujeszky's Disease

Aujeszky's Disease surveillance in wild boar
FY2018-FY2021

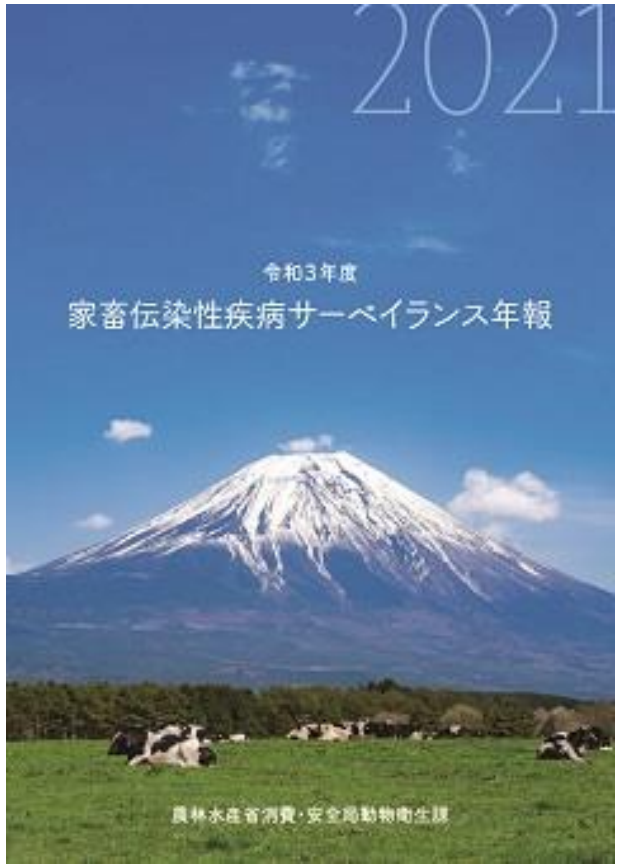
Information sharing and Awareness raising

- **Update information on MAFF Website**



CSF wild boar surveillance map

- **Annual report on animal disease surveillance**



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