



United States Department of Agriculture

Animal health status review of Norway:

African swine fever, classical swine fever, foot and mouth disease,
and swine vesicular disease

December 2020

1. Executive summary

The Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA) reviewed the animal health status of Norway with respect to four highly contagious animal diseases: African swine fever (ASF), classical swine fever (CSF), foot and mouth disease (FMD), and swine vesicular disease (SVD). APHIS currently does not recognize Norway as affected with ASF, and recognizes Norway as free of CSF, FMD, and SVD.

We conducted this review to determine whether these animal disease statuses that APHIS recognizes for Norway remain appropriate. For each of the diseases under review, among others, APHIS regulations provide for APHIS to downgrade the APHIS-recognized animal health status of a region if APHIS determines that the disease is present in that region. This review is based on information collected from the Government of Norway and public sources. We did not conduct a site visit to Norway as part of this review.

We found no evidence that any of the diseases under review are present in Norway. The information we reviewed indicates that the official veterinary services of Norway have sufficient legal authority and resources to carry out animal health activities efficiently and effectively. The services are hierarchically organized and have clear lines of command and reporting. Roles and responsibilities are well defined. Training programs for new and established staff are in place. Export certification responsibilities and procedures are clearly documented. Animal health controls on imports are well developed, organized, and documented, and are supported by extensive legislative authority and infrastructure.

Norway has well-developed systems in place for animal identification, premises registration, and livestock movement controls. These systems allow rapid tracing of animals in the event of disease detection.

Norway's system of surveillance for each of these diseases raises several concerns. Norway relies entirely on passive surveillance for these diseases, and the numbers of suspected cases of these diseases reported to the NFSA are extremely small. This raises concerns about the potential for delayed detection and/or reporting should any of these diseases occur in Norway, which could in turn result in undetected spread of the disease and risk of export of infected or contaminated commodities to the United States. However, Norway's surveillance system appears to be generally consistent with OIE and European Food Safety Authority recommendations, given the disease history and status of the country. Norway's laboratory diagnostic capacity for the diseases under review appears sufficient for rapid and accurate testing, and its animal disease emergency response measures sufficient for rapid control in the event of disease detection and prompt notification of trading partners.

We recommend based on the findings of this review and given APHIS' current regulatory framework for animal health status recognition and downgrades that APHIS maintain the current ASF, CSF, FMD, and SVD statuses that it currently recognizes for Norway, with the associated import risk mitigations currently in place. Future APHIS reviews of Norway's animal health status should focus in particular on Norway's capacity to rapidly detect the diseases under review.

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3. Abbreviations

ASF	African swine fever
APHIS	Animal and Plant Health Inspection Service
BCP	border control post
CSF	classical swine fever
ELISA	enzyme-linked immunosorbent assay
EU	European Union
FMD	foot and mouth disease
NFSA	Norwegian Food Safety Authority
NVI	Norwegian Veterinary Institute
OIE	World Organisation for Animal Health
PCR	polymerase chain reaction
SVD	swine vesicular disease
USDA	United States Department of Agriculture

4. Introduction

APHIS regulates the importation of animals and animal products into the United States to guard against the introduction and spread of foreign animal diseases. In support of this goal, APHIS prohibits or otherwise restricts the importation of animals and animal products from regions that APHIS recognizes as affected with ASF or does not recognize as free of CSF, FMD, and SVD, among other diseases [1-9]. These four highly contagious viral diseases are exotic to the United States, and ASF, CSF, and FMD are among the World Organisation for Animal Health (OIE)-listed diseases of concern for international trade [10-14]. Currently, APHIS does not recognize Norway as affected with ASF, and recognizes Norway as free of CSF, FMD, and SVD [15].

APHIS regulations provide for APHIS to downgrade the APHIS-recognized animal health status of regions for any of these four diseases, among others, if APHIS determines that the disease is present in the region [1-4].

Periodically, APHIS reviews the APHIS-recognized animal health statuses of foreign regions to determine whether the conditions in the region support the continuation of APHIS' recognition of those statuses [16]. We conducted the current review of the ASF, CSF, FMD, and SVD statuses of Norway as part of that review program. The primary objective of APHIS animal health status reviews is to determine, for each disease under evaluation, whether the region meets the overarching standards listed below, with respect to specified disease agents, referred to here as hazards:

1. The hazard is unlikely to be present in the region and/or commodities under review.
2. The hazard is unlikely to be present in commodities intended for export to the United States.
3. If the hazard were introduced into the region, the region would rapidly detect it; promptly notify the United States and/or the OIE of the introduction; and respond to the introduction to mitigate the risk of introduction of the hazard into the United States through importation of susceptible species and products of those species.

The sources of the information we evaluated in this review include the OIE website and other public sources, as well as the Government of Norway. We collected information from the Government of Norway through use of a standardized questionnaire developed for APHIS animal health status reviews. We did not conduct a site visit to Norway as part of this review.

The results of this review are expected to inform APHIS management decisions regarding the ASF, CSF, FMD, and SVD statuses of Norway and whether to amend restrictions on the importation of relevant commodities from Norway.

Most of the information in this report is current as of December 2020, when the draft report was completed. APHIS added minor clarifications in February 2021 in response to comments from Norway on the draft report.

5. Scope of the review

The disease scope of this review is limited to ASF, CSF, FMD, and SVD. All four diseases affect swine. FMD also affects other cloven-hoofed mammals including cattle, sheep, and goats. The hazards under consideration in this review are the viruses that cause ASF, CSF, FMD, and SVD.

The geographic scope of this review is limited to Norway. Norway is located in northern Europe. It is bordered to the east by Sweden, Finland, and Russia; to the south by the North Sea; to the west by the Norwegian Sea; and to the north by the Barents Sea (Figure 5-1) [17].



Figure 5-1. Map of Norway.

6. Disease history and vaccination practices

ASF and SVD have never occurred in Norway [18, 19]. CSF last occurred in Norway in 1963, in domestic swine; FMD last occurred in Norway in 1952, in cattle [20-24]. CSF and FMD have

never occurred in wildlife in Norway [24]. The OIE recognizes Norway as free of FMD and CSF (the OIE does not maintain a status recognition program for ASF and SVD) [25, 26].

Routine vaccination against the diseases under review is prohibited in Norway [24]. Emergency vaccination is permitted only under exceptional circumstances as determined by the Norwegian Food Safety Authority (NFSA).

7. Veterinary control and oversight

7.1 Legal authority for animal health activities

The primary legal act that provides authority for the official veterinary services in Norway is the Act Relating to Food Production and Food Safety, etc. (Food Act) [24, 27]. This Act defines the responsibilities and scope of authority of the NFSA and provides the legal basis for official activities related to prevention, control, and eradication of infectious animal diseases. Among other things, it requires reporting and prohibits movement and marketing of animals suspected of having a serious transmissible animal disease. It also provides authority for the official veterinary services to conduct animal disease investigations, including requiring access by officials to premises for inspections, investigations, sample collection, and other official duties. It also provides authority for other animal disease related activities such as establishing quarantines, cleaning, disinfection, and disposal. Other provisions include authority to issue fines for noncompliance; pay compensation to animal owners for losses due to official actions for animal disease control or eradication; and restrict imports and exports for animal health and food safety purposes. It also provides the legal basis for additional regulation pertaining to prevention, monitoring and control of animal diseases, including zoning, vaccination, movement, transport, and marketing of animal commodities.

Norwegian legal instruments that provide Norway's official veterinary services the necessary authority and mandates for a variety of animal health activities are listed in Appendix 11.1. These include the Food Act and other applicable laws and regulations. Covered animal health activities include disease surveillance; on-farm inspection; animal identification and premises registration; disease control and eradication activities; and import, export, and internal movement control activities. The full texts of Norwegian animal health legislation, including English translations of several relevant legal acts, are publicly available in an online database of Norwegian legal resources [28].

Norway is obligated to implement provisions of EU animal health legislation by virtue of being party to the Agreement on the European Economic Area (the EEA Agreement) [24]. This Agreement includes the European Union Member States and three European Free Trade Association (EFTA) States—Iceland, Liechtenstein and Norway—in a single “internal market” [24, 29]. The scope of this Agreement covers the free movement of goods, services, persons, and capital throughout the EEA [29, 30]. The applicability of EU legislation, including animal health legislation, is formally extended to the EEA EFTA States through its incorporation into the EEA Agreement on an ongoing basis [29]. A database of EU legislation is publicly available through the European Commission website [31]. Compliance with the EEA Agreement in Iceland, Liechtenstein, and Norway is monitored through an audit system by the EFTA Surveillance Authority, which operates independently of the EFTA States [32, 33].

7.2 Organizational structure of the veterinary services

The national animal health authority of Norway is the NFSA, which is also Norway’s official supervisory authority for plants, fish, and food [24, 34]. The stated mission areas of the NFSA include ensuring the safety of food and drinking water; contributing to the health and ethical keeping of plants and animals; contributing to good quality, honesty, and fair trade in food production; and encouraging environmentally friendly production [35].

The NFSA is headed by a Director General and organized into a head office and five regional offices: Northern, Central, Southern and Western, Eastern, and Greater Oslo [24]. An organizational chart of the NFSA is shown in Figure 7-1.

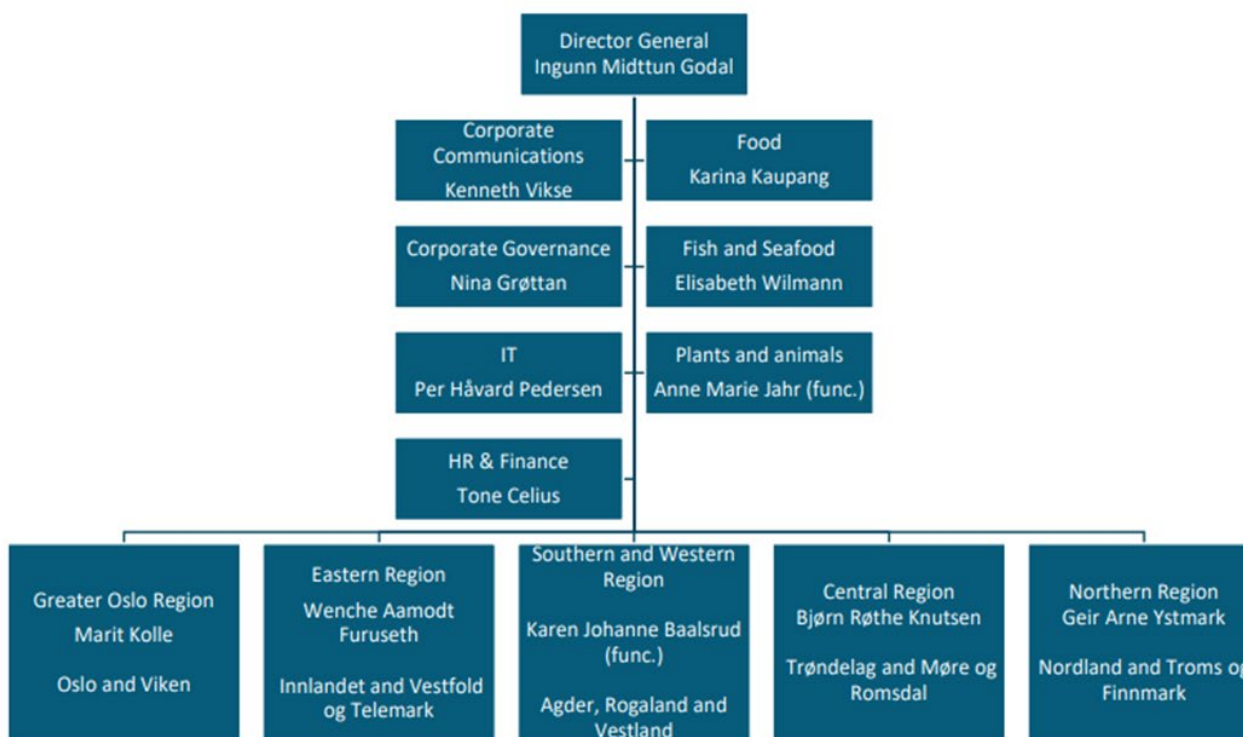


Figure 7-1. Organizational chart of the NFSA.

The five regions are further subdivided into numerous local departments, distributed geographically throughout the country. A map of NFSA offices is shown in Figure 7-2 [36].

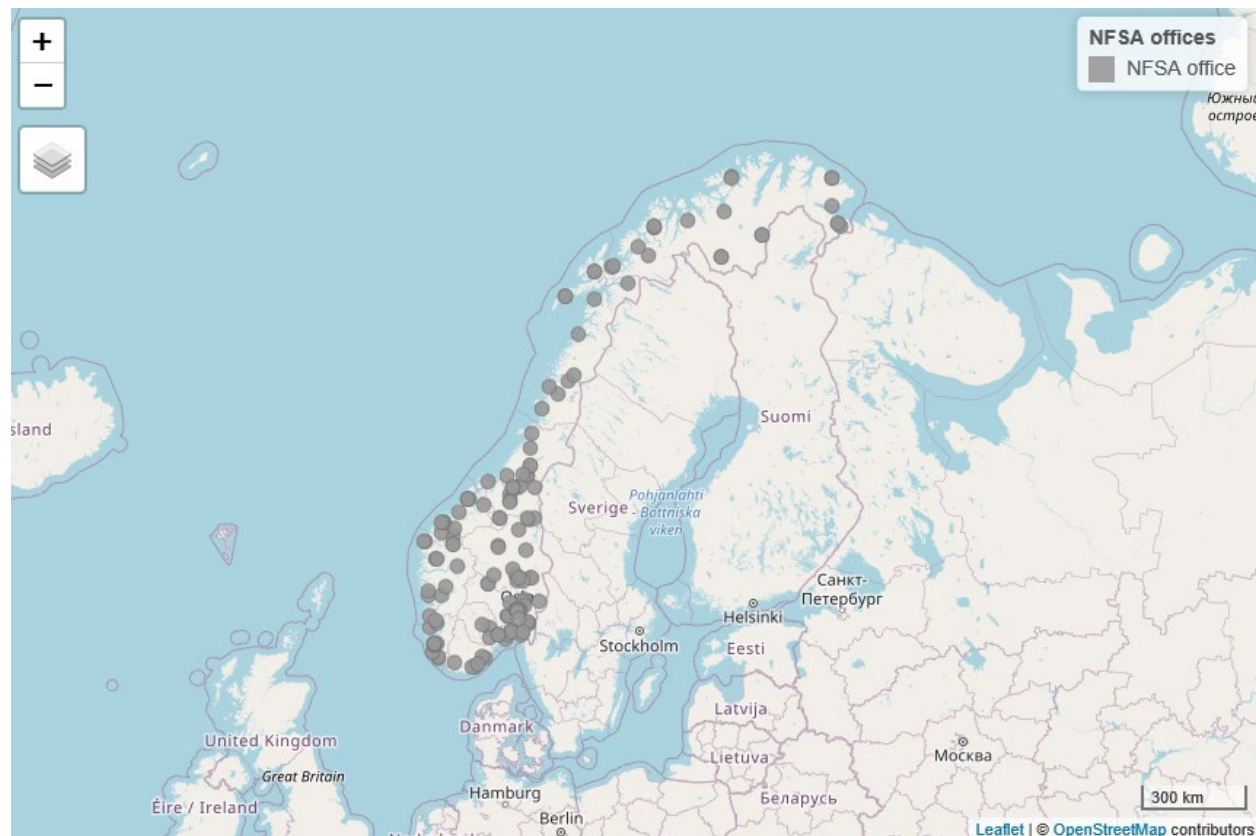


Figure 7-2. Map showing locations of NFSA offices.

Food and agricultural policy is developed by the Ministry of Agriculture and Food [37]. The NFSA central office is responsible for implementing Ministry policy, interpreting applicable legislation, developing regulatory frameworks, assessing risk, and issuing guidance on official controls and surveillance to the regions [34, 37]. The Animal Health section of the NFSA, a unit of the Plants and Animals department of the central office, is responsible for developing surveillance and contingency plans, among other duties [37]. The Export and Import section is responsible for coordinating official controls on the import of animals and animal products [37]. It also provides annual training for border control post (BCP) personnel, produces manuals for BCPs and electronic export/import data systems, and issues informational publications related to import/export procedures, legislation, and other relevant topics [37].

The NFSA regional offices are responsible for prioritizing official control and surveillance work within the framework set by the central office, implementing those activities, representing the NFSA and engaging with stakeholders regionally, implementing emergency preparedness measures as needed, and providing official oversight for veterinary activities such as by performing inspections and audits, issuing export certificates, providing guidance, and collecting samples.

Norwegian police, Customs, Coast Guard and local municipalities are required to assist the NFSA on request in support of official veterinary controls [37].

Long-term planning for NFSA official controls is outlined in a five-year plan, which is updated annually [37]. Planning and decision-making are supported by risk assessments and scientific advice developed by several Norwegian scientific institutions, including the Norwegian Veterinary Institute (NVI), Norwegian Scientific Committee on Food Safety, Institute of Marine Research, and Norwegian University of Life Sciences [37].

The NVI, located in Oslo, is the national reference laboratory for ASF, CSF, FMD, and SVD in Norway [24, 38, 39]. Additional information about the NVI is provided in section 9.2.

7.3 Resources and training

Overall administrative and budgetary responsibility for the NFSA lies with the Ministry of Agriculture and Food [34]. In the event of an animal health emergency in which additional funding is needed, the NFSA can apply to the Ministry of Agriculture and Food for such funds [24].

As of 2018, the NFSA was staffed by 1,225 personnel (full-time equivalent), of whom 294 were employed in the central office and 931 in the regional offices [34]. With limited exceptions, only official veterinarians employed by the NFSA are authorized to conduct official animal health activities [24, 36]. Standards for official conduct of these and other public employees are outlined in the Public Administration Act, which also includes provisions against conflicts of interest [40]. Persons not permanently employed by the NFSA can act as on-call substitutes to perform official veterinary controls at slaughterhouses [36]. These individuals must be approved by the NFSA, are subject to the same regulatory provisions as full-time NFSA employees, and must perform official veterinary activities only when an official veterinarian is present and in charge. In general, private veterinarians carry out ante mortem checks for emergency slaughter. They document their observations on a form that is checked by a public veterinarian at the slaughter inspection.

Professional training and competence of NFSA personnel are supported through multiple avenues [24, 37]. Training is documented in a formal learning management system. Veterinarians involved in border control and slaughter inspection, among others, are subject to statutorily mandated training. The NFSA maintains a training calendar that is reviewed annually and updated based on strategic goals and areas targeted for competence development. The training is aimed at supporting the development of multi-annual plans for employee competence building.

During their first year, staff new to the NFSA receive introductory training consisting of mandatory and elective courses selected based on duty assignments and interests [24]. At least some of these courses are also available electronically to established staff. Supervisors receive supervisory training from the NFSA's School of Supervision; this School provides mandatory courses in administrative law, control methodology, and communication during inspections. NFSA employees also participate in training sponsored by Better Training for Safer Food, a European Union initiative aimed at improving and harmonizing official control procedures. In an effort to improve the passive surveillance for ASF, 20 NFSA veterinarians have completed an ASF Preparedness Course for Europe sponsored by the Food and Agriculture Organization of the United Nations [36]. In 2019, the NFSA provided a one-day course on FMD; presentation recordings remain available to staff members. Members of the NFSA have also participated in FMD Real-time Training courses in Turkey or Africa, sponsored by the European Commission

for the Control of FMD, and in training at the Plum Island Animal Disease Center in the United States.

Over the past several years, Norway has participated in several national and international animal disease emergency response exercises [24]. These exercises provide opportunities to test communication systems as well as surveillance and response plans. Recent examples include a 2018 NATO exercise on ASF response, and a 2019 national simulation exercise on FMD. In 2020, managing the consequences of the Covid-19 pandemic has exercised NFSA capabilities and adaptability on multiple fronts.

7.4 Export controls

General veterinary requirements for animal and animal product export to third countries are specified in applicable Norwegian legislation (see Appendix 11.1) [24, 41]. Consignments for export must comply with all applicable requirements of Norway, the EU, and the intended destination country. The NFSA is responsible for ensuring that commodities for export are safe and produced in accordance with applicable requirements, including third-country requirements, and for issuing health certificates for commodities for export. Exporters apply for health certificates electronically, and the applications are processed in NFSA regional offices by qualified certifying officers. Export certification requirements and procedures are documented in the form of instructions in an NFSA internal control system for reference by certifying officers [36]. The Export and Import Section conducts audits of the regional offices to verify that all health certificates are issued in compliance with applicable requirements [41].

Export records are maintained in an electronic system. When applying for a health certificate for an animal commodity, the exporter must send a formal request for approval to the NFSA regional office with inspection jurisdiction over the facility of origin. In considering whether to approve the request, the regional office considers its knowledge of the facility's control systems, as well as inspection and audit results. Approval from the regional office is required for issuance of the health certificate.

Consignments for export are subject to inspection by the NFSA at the place of origin or place of dispatch for compliance with animal health and export requirements [24]. These inspections are risk based and can include document, identity, and physical checks as appropriate.

Training for certifying officers includes mandatory training for new certifying officers, offered by the Export and Import Section of the NFSA central office [24]. In spring 2020, the Export and Import Section began offering online training to increase the number of trained certifying officers and avoid critical shortages due to the Covid-19 pandemic. Other training resources include seminars designed to promote the exchange of knowledge and experience among regional offices; these are held approximately every two years. A registry of names, completed training, and signature of all certifying officers is maintained by the Import and Export Section.

7.5 Conclusions

The information we reviewed indicates that the official veterinary services of Norway have sufficient legal authority and resources to carry out animal health activities efficiently and effectively. The services are hierarchically organized and have clear lines of command and reporting. Roles and responsibilities are well defined. Training programs for new and established staff are in place. Export certification responsibilities and procedures are clearly documented.

8. Barriers to hazard entry into Norway

Much of Norway is surrounded by large bodies of water (Figure 5-1). Its only land borders are with EU Member States Sweden and Finland to the east (with border lengths of 1,666 km and 709 km, respectively), and a much shorter border (191 km) with Russia in the far northeast [17].

As noted above, Norway is part of the EU/EEA internal market, and EU animal health legislation extends to it [29]. Below is a summary of key EU legislative provisions related to animal and animal product trade (within the EU/EEA) and export (to third countries).

8.1 TRACES

Norway participates in the EU's Trade Control and Expert System (TRACES), a multilingual electronic system developed and maintained by the European Commission for transmission, storage, and management of veterinary information relating to trade in animals and products of animal origin, for both intra-EU trade and imports from countries outside the EU [24, 37]. Animal trade-related information available through TRACES includes animal health, import, and export certificate data [42-45]. Users include competent authorities for animal health and commercial entities in all EU Member States, as well as more than 50 non-EU countries, including the United States.

8.2 Controls on internal market trade

In general, movement of animals and animal products within the internal market cannot be limited or prohibited except when such restrictions have been imposed on animal or public health grounds [46, 47]. Swine, cattle, sheep, and goats traded within the internal market must be identified in accordance with applicable legislation, be accompanied by a health certificate, not show clinical signs of disease, and not originate from a holding that is subject to animal disease-related restrictions [46, 48-50].

To decrease the likelihood of spread of highly contagious animal diseases within the internal market, the EU has developed measures that are disease specific and specific to affected Member States [51, 52]. In general, these measures apply in addition to the animal health control measures applicable to all members of the internal market. The measures, and the regions to which they apply, are specified in Commission Decisions that are updated regularly as the disease situation in Europe changes. Among the measures are additional restrictions on movement of swine within the internal market; additional requirements for serological testing and clinical examination for disease; and additional animal health certification requirements.

8.3 Controls on imports from third countries

EU legislation governing importation of animals and animal products from third countries is “designed to ensure that imported animals and products meet standards at least equivalent to those required for production in, and trade between Member States” [53-56]. In general, animals and animal products can be legally imported into the EU only from third countries or parts thereof that are approved for export to the EU by EU legislation, and only through approved BCPs. In most cases, evaluation of a country's application for approval involves an on-site inspection by the audit unit of the EU Food Safety office, to determine whether the animal health situation and relevant official services, legal provisions, control systems, and production standards meet EU requirements.

Animals and animal products for importation into the EU must be accompanied by a Common Health Entry Document signed by an animal health official [24, 46, 53]. This document specifies the animal health conditions that must be satisfied, including required veterinary checks; these conditions are specific to each category of animal or product. Animals and animal products for import are subject to veterinary checks at the border, including document and identity checks [24, 46, 53, 57, 58]. Physical checks are carried out based on the risk profile of the commodity and the results of previous checks.

In Norway, all goods for import must be declared in an electronic customs clearance system [37]. Animal products subject to veterinary inspection are flagged for manual processing. Customs officers are required to notify the NFSA immediately on detection of third country-origin animal products that have not been checked at a BCP. Incoming consignments are flagged for veterinary checks based on information in the Common Health Entry Document uploaded to TRACES. This information is cross-checked with information from other sources, such as Customs, port authorities, coastal surveillance authorities, and cargo manifests from freight companies. The NFSA cooperates with Customs in surveillance for prohibited animal products in personal luggage and in educating travelers.

Customs inspectors are trained at the Norwegian Customs Authority Center of Competence on official control procedures and products that are prohibited entry, participate in joint national operations with the NFSA, and cooperate with local NFSA offices [36]. Notices of changes in regulations relevant to border controls are posted to an internal Customs website.

BCPs are inspected regularly by European Commission veterinary experts, who review compliance with EU legislation on import controls at the BCPs. The scope of these inspections includes all aspects of implementation of EU legislation on veterinary import control, including infrastructure, equipment, and procedures. The requirements for entry or transit of animal commodities are clearly documented in EU legislation.

Norway has 14 BCPs, of which one is at Oslo airport; one is at Storskog, a road border crossing with Russia in the far northeast of Norway; and 12 are seaports along the Norwegian coast [24, 59]. All 14 BCPs are authorized to accept animal products. The only BCPs that are authorized to accept live animals are those at Oslo airport and Storskog (ungulates and other animals) and Borg seaport in southern Norway (registered Equidae only).

The NFSA central office is responsible for official oversight of BCP facilities [24, 37]. Administratively, BCPs are part of the respective regional (Oslo) or local NFSA offices. Nine of the BCPs are headed by an official veterinarian; the other five, whose animal product authorization is limited to fishery products, are headed by an official fish inspector. All Norwegian BCP personnel must be approved by the Export and Import section of the NFSA central office; only approved signatories are authorized to sign Common Health Entry Documents. The NFSA maintains a national list of approved signatories. Approval is contingent on confirmation by the official veterinarian or official fish inspector that the individual has completed local training as prescribed in applicable NFSA procedures.

Unauthorized or noncompliant commercial consignments are returned depending on health risk or incinerated [24]. Prohibited animal products confiscated from passenger traffic are incinerated. Posters at international ports of entry and departure provide information to the public regarding prohibited animal commodities. Facilities are available at the Oslo airport and Storskog road BCPs to hold animals that are refused entry. Requirements and procedures for

documenting animals and animal products that are refused entry into Norway, and documenting the disposition of such animals and animal products, are documented in detail in Norwegian regulations [36].

Animals imported into Norway must be isolated on arrival [24, 36, 41]. Isolation and inspection requirements are specified in Norwegian regulations. The isolation facility must be approved in advance by the NFSA local office, which is also responsible for official oversight at the facility. During isolation, the animals are observed for clinical signs and tested for various diseases as prescribed by Norwegian legislation. In general, the minimum isolation period is six months for cattle, llamas, and alpacas (or until the animals are 2.5 years old, whichever is longer) and two months for swine and deer. The minimum isolation period for sheep and goats is two years, unless the animals originate from a region of negligible risk for classical scrapie as specified by EU regulation and where they have been subject to at least the same level of surveillance as in Norway.

Biosecurity procedures for live-haul trucks (loaded or empty) that transport live animals imported into Norway are prescribed by Norwegian legislation [24]. Staff from the NFSA local office are responsible for verifying compliance. The NFSA is responsible for inspecting livestock vehicles entering from third countries to determine whether they have been satisfactorily cleaned and disinfected; noncompliant vehicles are denied entry. As noted above, the only third country that shares a land border with Norway is Russia; no livestock vehicles carrying cloven-hoofed animals have entered Norway from Russia in the past 3 years.

Disposal of food waste from international traffic is strictly regulated in Norway [24, 37]. Procedures are specified in guidelines issued by the NFSA central office. The waste must be stored in sealed containers, documented, and transported to a predetermined incineration plant. The official veterinarian of the respective BCP is responsible for maintaining copies of incineration documentation and ensuring that all applicable requirements are met.

8.4 Conclusions

Norway is physically separated from potential sources of infection by large bodies of water to the north, south, and west. Animal health controls on trade from EU/EEA States, and imports from third countries, are well developed, organized, and documented, and are supported by extensive EU and Norwegian legislative authority and infrastructure.

9. Hazard detection, response, and notification

9.1 Livestock demographics and traceability

A summary of the numbers of livestock in Norway that are susceptible to the diseases under review, and the numbers of premises with such livestock, is shown Table 1 [24].

Livestock category	Number of animals	Number of premises
Cattle	877,358	13,072
Swine	741,725	1,720
Sheep and goats	1,023,664	14,243
Alpacas and llamas	2,297	295
Red deer	6,836	109

Table 1. Numbers of livestock and livestock premises in Norway.

Maps of the geographic distributions of these livestock premises are shown in Appendix 11.2. Most of the premises are located in southern and western Norway [24].

Norway imports few live animals. All imports of bovine animals, sheep, goats, and swine from at least 2010 through 2019 were sourced only from the EU Member States Austria, Denmark, and/or Sweden [60]. Since 2010, Norway has imported fewer than 50 swine, fewer than 100 cattle, fewer than 200 sheep and camelids, and no goats [36].

All livestock premises are issued a holding number by the NFSA. The NFSA maintains an electronic register of all bovine, ovine, caprine, porcine, and poultry holdings in Norway [24, 37]. The register is updated online with information from various sources including animal keepers, slaughterhouses, ear tag producers, and NFSA personnel. NFSA local offices conduct premises inspections and verify information accuracy and that applicable requirements for animal identification and registration are met.

Briefly, livestock keepers are required to maintain records of their animals in a herd book, including documentation of animal inventory, health histories, testing, treatments, and movement. These records must be maintained for at least 10 years. Keepers must provide to the NFSA on request information about the origin and destination of all their animals, as well as animal sales, and slaughter.

All cattle must be tagged at birth with a unique identification number issued by the NFSA. All cattle keepers are required to report cattle births, deaths, and movements to the NFSA within 7 days after ear tagging, death, or movement, respectively. Sheep and goats must be tagged within 30 days after birth or before being moved off the holding of birth, whichever is sooner. Farmed deer and South American camelids such as alpacas and llamas must be ear tagged at first gathering after birth (deer) or within 14 days after birth (camelids), or in any case prior to being moved off the birth premises. Swine must be identified by ear tag or tattoo as to holding of birth, as soon as possible after birth and in any case prior to leaving their premises of birth. As an exception, unidentified piglets can be moved from birth holding to fattening farm, but must be identified prior to being moved from the fattening farm to a slaughterhouse; fattening farms are prohibited from receiving unidentified piglets from more than a single premises, and export of those swine is prohibited.

In general, livestock animals in Norway are moved directly from source to destination premises, without the use of assembly centers. One exception is the occasional use of “rallying grounds”

by multiple producers for lambs going to slaughter. Animals being moved must be accompanied by documentation stating that applicable health and movement requirements are met. Minimum biosecurity requirements for livestock holdings and animal movements are specified by applicable legislation [37]. Feeding of kitchen waste and food scraps to livestock is prohibited [24].

The NFSA has identified delays in the entry of limited categories of data into the national livestock register [34]. It attributes these delays in part to technical issues, which it has identified and is in the process of resolving [36]. Other delays it attributes late reporting by industry and has engaged with industry to resolve. Compliance enforcement measures available to NFSA regional offices include sanctions to deny slaughter permission permanently or until non-compliance issues are corrected. In addition, violators of provisions of the Food Act or NFSA decisions are subject to fines or imprisonment, as provided for by statute and regulation. Enforcement actions are based on the principle of proportionality as necessary to ensure compliance. Decisions to issue fines are delegated to the regional level of the NFSA. Appeals are considered by the NFSA central office [24].

9.2 Disease detection and reporting

The NVI is the national reference laboratory in Norway for ASF, CSF, FMD, and SVD, and is the only entity in Norway that performs official diagnostic testing for those diseases [24]. The NVI is a governmental biomedical research institute and part of the Ministry of Agriculture and Food [38]. It is a self-described national leading center of expertise in biosecurity for fish and land animals. Funding sources include the Ministry of Agriculture and Food and the Ministry of Industry and Fisheries. Its primary activities include diagnostics, research, risk assessment, and consulting. As of September 2020, the NVI employed 329 individuals, of whom more than one-third held a PhD.

The NVI is accredited by Norwegian Accreditation, which is the Norwegian body for accreditation of laboratories, to the international standard ISO/IEC 17025 for the competence of testing and calibration laboratories [37]. By formal agreement with the EU, Norway is a full member of the EU reference laboratory system and participates in reference laboratory annual meetings and proficiency testing. Every one or two years, the NVI participates in ASF, CSF, FMD, and SVD testing trials that are arranged by the EU reference laboratories [36].

Testing is conducted in accordance with documented protocols and algorithms. Test methods available at the NVI include antibody ELISA (for ASF, CSF, FMD, and SVD), immunoperoxidase testing (for ASF), polymerase chain reaction (PCR; for ASF, CSF, and FMD), and nucleotide sequencing (for ASF and CSF). For all four diseases, detection by PCR is deemed conclusive. In the event of PCR-based detection of ASF, CSF, or FMD virus, samples are also sent to the appropriate EU reference laboratories for confirmation. In the event of SVD suspicion based on antibody detection, samples are sent to the EU reference laboratory in Italy for analysis.

The NVI has developed a contingency plan that specifies three “action levels” with respect to laboratory response and testing capacity [36]. The action level can be upgraded based on NVI professional judgment and the field situation at hand. The current daily maximum test capacity for a given disease is 1,400 serological tests (or 700 if the testing is conducted at biosafety level

3) and 1,000 PCR tests per day. The NFSA estimates that these capacities will be doubled when it moves to a new facility by May 2021.

Requirements and procedures for national and international reporting of suspected or confirmed occurrence of significant transmissible animal diseases, including those under review, are specified by law and regulation and in contingency plans [24, 27, 37].

Suspected occurrence of the diseases under review must be immediately reported to the NFSA [37, 41]. Reporting procedures are documented in detail and include steps to ensure rapid, successful communication to all interested entities, including contact alternates in the event that primary contacts are unavailable, and procedures for notification outside of regular business hours. The procedures also include steps for notifying industry and the general public.

The NVI must immediately report to the NFSA any laboratory findings of suspected or confirmed occurrence of ASF, CSF, FMD, and SVD, as well as negative findings for samples collected in response to suspected occurrence [24, 41]. The NFSA central office is required to notify the OIE and European Commission within 24 hours of confirmed detection of ASF, CSF, FMD. SVD is to be reported to the European Commission within 24 hours but is not listed by the OIE as a reportable disease [14, 41]. The NVI and NFSA share epidemiologic data through use of a digital system [36].

Norway does not conduct active surveillance for any of the diseases under review [36, 41]. Instead, it relies on passive surveillance; that is, reporting of suspected cases by individuals throughout the production, marketing, and processing chains. These individuals include official and private veterinarians, farmers, laboratory personnel, and the general public. Passive surveillance for ASF and CSF in Norway also includes testing of wild boar found dead and wild boar injured or killed in traffic accidents. Suspected cases are followed up by the NFSA through consultation, sampling, and laboratory analyses by the NVI as appropriate and considering the epidemiologic information available.

The NFSA and NVI conduct outreach activities designed to increase awareness and recognition of highly infectious animal diseases among producers, industry members, official and private veterinarians, and the general public [24, 41]. These activities include holding formal training courses for veterinarians, as well as posting relevant information on their websites and holding local, regional, and national informational meetings with farmers, hunters, wildlife organizations, local and regional wildlife managers, veterinarians, industry, and other target groups on topics such as clinical signs, field necropsy and sampling techniques, veterinary epidemiology, reporting requirements, disease prevention, and biosecurity. Each year, the NFSA presents lectures on such topics at the Norwegian Veterinary College [36].

Informational presentations on ASF and FMD are available in the respective NFSA contingency plans for those diseases and are designed to be used for self-study or at informational meetings [24]. Reporting obligations, including for members of the public, are emphasized at outreach meetings. The NFSA and NVI are available for contact 24/7 by field veterinarians to discuss clinical suspicions and findings, including review of photographs or videos of clinical findings [24, 36]. In addition, veterinarians responsible for official controls routinely contact the NVI for consultations on clinical findings [36].

In fall 2019 the NFSA conducted a national simulation exercise on FMD, with participation from farmers and industry [36]. It has also conducted local and regional exercises focused on FMD;

these have attracted media interest and provided an opportunity for further public outreach and education.

As of spring 2020, the NFSA has paid rewards to members of the public for reports of diseased or sick wild boar [24]. Wild boar carcasses are transported to the NVI and tested for ASF, CSF, and other diseases as appropriate to necropsy findings. The numbers of suspected cases of each of the four diseases under review reported to the NFSA from 2017 through September 10, 2020 are shown in Table 2.

		Number of suspected cases, per year			
		2017	2018	2019	2020 ^a
ASF	Domestic swine	2	0	0	2
	Wild boar	0	0	0	2
CSF	Domestic swine	2	0	0	2
	Wild boar	0	0	0	2
FMD	Domestic swine	0	0	0	0
	Wild boar	0	0	0	0
SVD	Domestic swine	0	0	0	0
	Wild boar	0	0	0	0

^aThrough September 10, 2020.

Table 2. Numbers of reported suspected cases of ASF, CSF, FMD, and SVD since 2017.

All suspected cases of ASF and CSF in domestic swine investigated since 2017 were reported by NFSA personnel based on observations of gross lesions during post-mortem inspections of carcasses at slaughter plants [24, 41]. ASF and CSF were ruled out during follow-up investigations by the NFSA in collaboration with the local veterinarians and NVI. All four suspected cases of ASF and CSF in wild boar were reported to the NFSA and investigated. Two of the wild boar were killed in traffic accidents, and two were found dead. ASF and CSF were ruled out through laboratory testing. No suspected cases of FMD or SVD have been reported to the NFSA in the past three years.

The NFSA attributes the lack of reported suspected cases of FMD and SVD to the absence from Norway of disease agents that cause vesicular lesions in FMD and SVD susceptible animals [36]. No infectious diseases that cause vesicular lesions are known to be present in Norway's swine population; in particular, Seneca Valley virus, vesicular stomatitis viruses, and vesicular exanthema of swine virus have never been detected in Norway.

The NFSA attributes the very small numbers of reported suspected cases of ASF and CSF to the rarity of occurrence of high morbidity and mortality events in Norway's swine population [36]. It notes the following diseases or infections as being present at least sporadically in the Norwegian swine population and having a differential diagnosis of ASF and/or CSF: erysipelas, porcine dermatitis and nephropathy syndrome, pasteurellosis and other septicemic conditions, infection with porcine parvovirus, and infection with atypical porcine pestivirus.

As noted above, CSF and FMD last occurred in Norway in 1963 and 1952, respectively, and ASF and SVD have never occurred in Norway. The passive surveillance approach for these diseases in Norway appears to be generally consistent with OIE and European Food Safety Authority recommendations, given the disease history and status of the country. For example,

Norway appears to meet OIE guideline criteria for historical freedom from all four diseases. These criteria include that the disease has not occurred in the region for at least the past 25 years, no vaccination has been carried out against the disease for at least the past 10 years, the disease is notifiable to the national veterinary authority, a system for timely detection and reporting is in place, measures such as import restrictions to prevent introduction of the infection are in place, and the infection is not known to be established in wildlife in the region [61]. One other criterion is that the disease agent “is likely to produce identifiable clinical or pathological signs in susceptible animals”. All four diseases under review can be associated with obvious, severe clinical signs [62-65]. The clinical presentation of ASF, CSF, and SVD can range from mild to severe, depending on host and/or viral factors. ASF and SVD can also present as subclinical disease.

The NFSA notes that the OIE accepts a passive surveillance approach as part of Norway’s annual formal reconfirmation of its FMD free status, and the European Food Safety Authority has identified passive surveillance for ASF as “the most effective and efficient method of surveillance for early detection of ASF in free areas” and “the most important tool for early detection in the current ASF epidemic, both for domestic pigs and wild boar” [36, 66, 67].

9.3 Disease control and eradication

General principles for disease control and eradication in Norway are specified by regulation, as provided for in the Food Act [37]. Procedures and requirements for investigating suspected cases of the diseases under review and emergency response to those diseases are documented in a series of contingency plans [24].

The NFSA’s Administrative Contingency Plan covers general administrative activities [68]. It includes a series of instructions on topics such as alert and notification systems, national emergency duty, managing incidents, communications, logging information, and administrative assistance; as well as information on documentation responsibilities, training requirements, cooperating agencies, and agreements with private veterinarians who are ordered to assist in response activities.

The NFSA’s General Contingency Plan for Animal Diseases covers incident response organization, obligations, guidance documents, and standard operating procedures [24]. Disease-specific contingency plans for ASF, CSF, and FMD specify preventive measures and specific procedures and measures to be taken in the event of suspected or confirmed disease occurrence. For SVD, plans are in place to implement response measures specified in SVD-specific EC legislation.

In addition, the NFSA has developed emergency vaccination plans for CSF and FMD, as well as a Norwegian/English version of the APHIS Foreign Animal Disease Investigation Manual [24]. This Field Manual covers topics such as personal protective equipment and other field equipment, disinfectant use, sampling, animal killing methods, autopsies, epidemiologic investigations, and sample transport [69]. A copy of this field manual is distributed to each veterinary student during the NFSA lectures at the Norwegian Veterinary College mentioned above [41].

In the event of suspected or confirmed occurrence of ASF, CSF, or FMD, the NFSA is authorized to take any measures necessary for disease control and eradication [37]. This includes placing quarantines and other restrictions on the affected and epidemiologically linked premises,

destruction of animals, tracing and destruction of animal products, and establishment of protection and surveillance zones. In general, all animals on the suspected or confirmed affected premises must be kept isolated, and movement of animals and unauthorized personnel to and from the premises is prohibited [37]. Removal of animal products and other fomites likely to carry the pathogen, such as feed, animal waste, and equipment, from the premises is prohibited. Access roads and premises boundaries must be marked with warning signs, and appropriate disinfection measures must be taken at facility and premises entrances and exits. Similar measures are authorized and must be taken in the event of suspected or confirmed occurrence of SVD.

The NFSA follows up on all reports of clinically suspected cases of the diseases under review with a physical examination of the affected animal(s) and herd by an official veterinarian [36]. The follow up can also include consultation with an expert team of field veterinarians, the NFSA epizootic team [41]. If appropriate, samples are collected and transported to the NVI for testing.

In response to NFSA and swine industry concerns about the potential spread of disease from wild boar to domestic swine in Norway, the NFSA commissioned a scientific assessment from the Norwegian Scientific Committee for Food and Environment [36]. The 2018 assessment report notes that “The probability of direct transmission of [ASF] from wild boar to farmed pigs is very dependent on the biosecurity conditions of farmed pigs, as well as on density of wild boar”, and that in the absence of culling and enforcement of a feed ban, the wild boar population in Norway will likely grow significantly and spread to new areas of Norway [70].

In part in response to the report, in 2019 the Ministry of Climate and Environment and the Ministry of Agriculture and Food commissioned the Norwegian Environment Agency, in cooperation with the NFSA, to develop a wild boar action plan [36, 41]. The action plan, presented in November 2019, outlines a policy that in Norway the wild boar population should be as small as possible and be located in as small an area as possible. It specifies measures to be taken to decrease and control the wild boar population, monitor its health, and decrease the risk of introduction of diseases from wild boar into the domestic swine population. These measures include widely publicized financial payments for reports of dead or sick wild boar and for carcasses of wild boar that are killed during hunting and submitted to the NVI for testing; trapping and culling of wild boar; limited deregulation of wild boar hunting (such as allowing hunting with fixed artificial lighting); a prohibition on feeding of wild boar; and public information campaigns on relevant topics. Implementation of these measures is currently in progress.

The NFSA, NVI, Norwegian Environment Agency, and Norwegian Institute for Nature Research collaborate on various activities related to wild boar study and management. This includes sharing data on wild boar observations and coordinating submissions of samples and data on hunted wild boar for studies on wild boar distribution and genetics [41].

9.4 Conclusions

Norway has well-developed systems in place for animal identification, premises registration, and livestock movement controls. These systems allow rapid tracing of animals in the event of disease detection.

Norway’s surveillance system for ASF, CSF, FMD, and SVD raises several concerns. The surveillance system for each of these four diseases is limited to passive surveillance, and the

numbers of suspected cases of these diseases reported to the NFSA in each of the past 3 years are extremely small. They are much smaller than might be expected, in particular for ASF and CSF given that several swine production diseases are present in Norway for which ASF and/or CSF is a differential diagnosis. All suspected cases were reported by NFSA personnel based on observations of gross lesions during post-mortem inspections of carcasses at slaughter plants; none were reported animal keepers or private veterinarians.

These observations, as well as the possibility of mild clinical presentation of ASF, CSF, and SVD, raise the concern that clinical signs of ASF, CSF, and/or SVD might not be recognized in a timely manner and/or might be recognized but dismissed as signs of routine production diseases and not reported quickly or at all to the NFSA. Delayed reporting, or lack of reporting, of suspected cases would result in delayed official investigation, and could result in undetected spread of the disease and risk of export of infected or contaminated commodities to the United States. However, Norway's surveillance approach for these diseases appears to be generally consistent with OIE and European Food Safety Authority recommendations, given the disease history and status of the country.

Norway's laboratory diagnostic system for the diseases under review appears to be well organized and to have the capacity and expertise for rapid and accurate testing. Disease reporting requirements are well documented and supported by training and educational outreach to appropriate targets. Animal disease control and emergency response measures are well developed and documented.

10. Conclusions and recommendations

In this review, we found no evidence that ASF, CSF, FMD, and SVD are present in Norway. The information we reviewed indicates that Norway has sufficient control measures in place to limit the risk of introduction of these diseases into Norway and export of these diseases to the United States should they be detected in Norway.

Norway's system of surveillance for each of these diseases raises several concerns. Norway relies entirely on passive surveillance for these diseases, and the numbers of suspected cases of these diseases reported to the NFSA are extremely small. This raises concerns about the potential for delayed detection and/or reporting should any of these diseases occur in Norway, which could in turn result in undetected spread of the disease and risk of export of infected or contaminated commodities to the United States. However, Norway's surveillance system appears to be generally consistent with OIE and European Food Safety Authority recommendations, given the disease history and status of the country. Norway's laboratory diagnostic capacity for the diseases under review appears sufficient for rapid and accurate testing, and its animal disease emergency response measures sufficient for rapid control in the event of disease detection and prompt notification of trading partners.

We recommend based on the findings of this review and given APHIS' current regulatory framework for animal health status recognition and downgrades that APHIS maintain the current ASF, CSF, FMD, and SVD statuses that it currently recognizes for Norway, with the associated import risk mitigations currently in place. Future APHIS reviews of Norway's animal health status should focus in particular on Norway's capacity to rapidly detect the diseases under review.

11. Appendices

11.1 Norwegian legal instruments providing authority to conduct animal health activities

The table below is condensed from one provided by the government of Norway [24]. Links to English translations of listed documents are provided where available.

Animal Health Activity	Description	Authorizing Legal Act(s) or Regulation(s)	Date(s) Authorizing Legal Act(s) or Regulation(s) Last Amended
Disease notification	§ 6 Obligation to notify for everyone and legal basis for more specific regulation	Law on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven) : Unofficial English version	Adopted 19 December 2003 No 124 Last Amended 22 June 2018 No 76
	§ 24: Animal Health personnel are obliged to report and notify what the Animal Health Authorities decides.	Law on Animal Health Personnel: lov 15. juni 2001 nr. 75 om veterinærer og annet dyrehelsepersonell	Adopted 15 June 2001 No 75 Last Amended 19 June 2015
	Veterinarians and laboratories are obliged to notify the NFSA immediately on suspicions and confirmed cases of the diseases under review. The details on the notifications are described.	Regulation 19 December 2014 No 1841 on notification of disease among animals (i.e. art 3): Forskrift 19. desember 2014 nr. 1841 om varsel og melding om sjukdom hos dyr (f.eks. relevant for art 3)	Adopted 19 December 2014 No 1841 Last Amended 1 April 2019
On-farm inspections	§ 13 The Authorities should have unrestricted access to the premises within the scope of this Act. The enterprise should facilitate inspections and provide samples free of charge.	Law on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven) : Unofficial English version	Adopted 19 December 2003 No 124 Last Amended 22 June 2018 No 76
	§23 The NFSA may make the necessary decisions to ensure compliance with laws and regulations.		
Import, export, and internal movement controls	§11 and 14 Legal basis for more specified regulations on reporting to the authorities and traceability of animals, products, food, feed etc.	Law 19 December 2003 No 124 on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven) : Unofficial English version	Adopted 19 December 2003 No 124 Last Amended 22 June 2018 No 76
	§19 Legal basis for more specified regulations on internal movement of animals.		
	§17 Animals from holdings that are not under the national surveillance programs for certain animal diseases should not be	Regulation 27 June 2002 No. 732 on measures against	Adopted 27 June 2002

	<p>moved to holdings under surveillance. While their status is under review, such animals are to be isolated. The isolation period is:</p> <ul style="list-style-type: none"> a) 6 months for bovine and camelids b) 2 years for sheep and goats c) 2 months for swine and red deer. d) 14 weeks for poultry <p>The isolation period for cattle and camelids must in all cases last until the age of 2 ½ years.</p>	<p>diseases and zoonotic agents among animals: Forskrift 27. juni 2002 nr. 732 om tiltak mot sjukdommer og zoonotiske agens hos dyr (dyrehelseforskriften)</p>	<p>Last Amended 26 April 2018</p>
	<p>§17 Animals from holdings that are not under the national surveillance programs for certain animal diseases should not be moved to holdings under surveillance. While their status is under review, such animals are to be isolated. The isolation period is:</p> <ul style="list-style-type: none"> e) 6 months for bovine and camelids f) 2 years for sheep and goats g) 2 months for swine and red deer. h) 14 weeks for poultry <p>The isolation period for cattle and camelids must in all cases last until the age of 2 ½ years.</p>	<p>Regulation 27 June 2002 No. 732 on measures against diseases and zoonotic agents among animals: Forskrift 27. juni 2002 nr. 732 om tiltak mot sjukdommer og zoonotiske agens hos dyr (dyrehelseforskriften)</p>	<p>Adopted 27 June 2002 Last Amended 26 April 2018</p>
	<p>§17 Animals from holdings that are not under the national surveillance programs for certain animal diseases should not be moved to holdings under surveillance. While their status is under review, such animals are to be isolated. The isolation period is:</p> <ul style="list-style-type: none"> i) 6 months for bovine and camelids j) 2 years for sheep and goats k) 2 months for swine and red deer. l) 14 weeks for poultry <p>The isolation period for cattle and camelids must in all cases last until the age of 2 ½ years.</p>	<p>Regulation 27 June 2002 No. 732 on measures against diseases and zoonotic agents among animals: Forskrift 27. juni 2002 nr. 732 om tiltak mot sjukdommer og zoonotiske agens hos dyr (dyrehelseforskriften)</p>	<p>Adopted 27 June 2002 Last Amended 26 April 2018</p>
	<p>Detailed regulation describing requirements for import and export from/to EEA countries and import from 3. Countries E.g. the animals and the farm they come from shall not be under restrictions for diseases, traceability should be ensured, strict measures on transport, health certificates shall follow the animals, testing of animals. It is forbidden to</p>	<p>Regulation 10 May 2011 No. 482 on animal health measures related to trade on swine Forskrift om dyrehelsemessige betingelser for innførsel og utførsel av svin</p>	<p>Adopted 5 April 2002 Last Amended 25 Sept 2017</p>

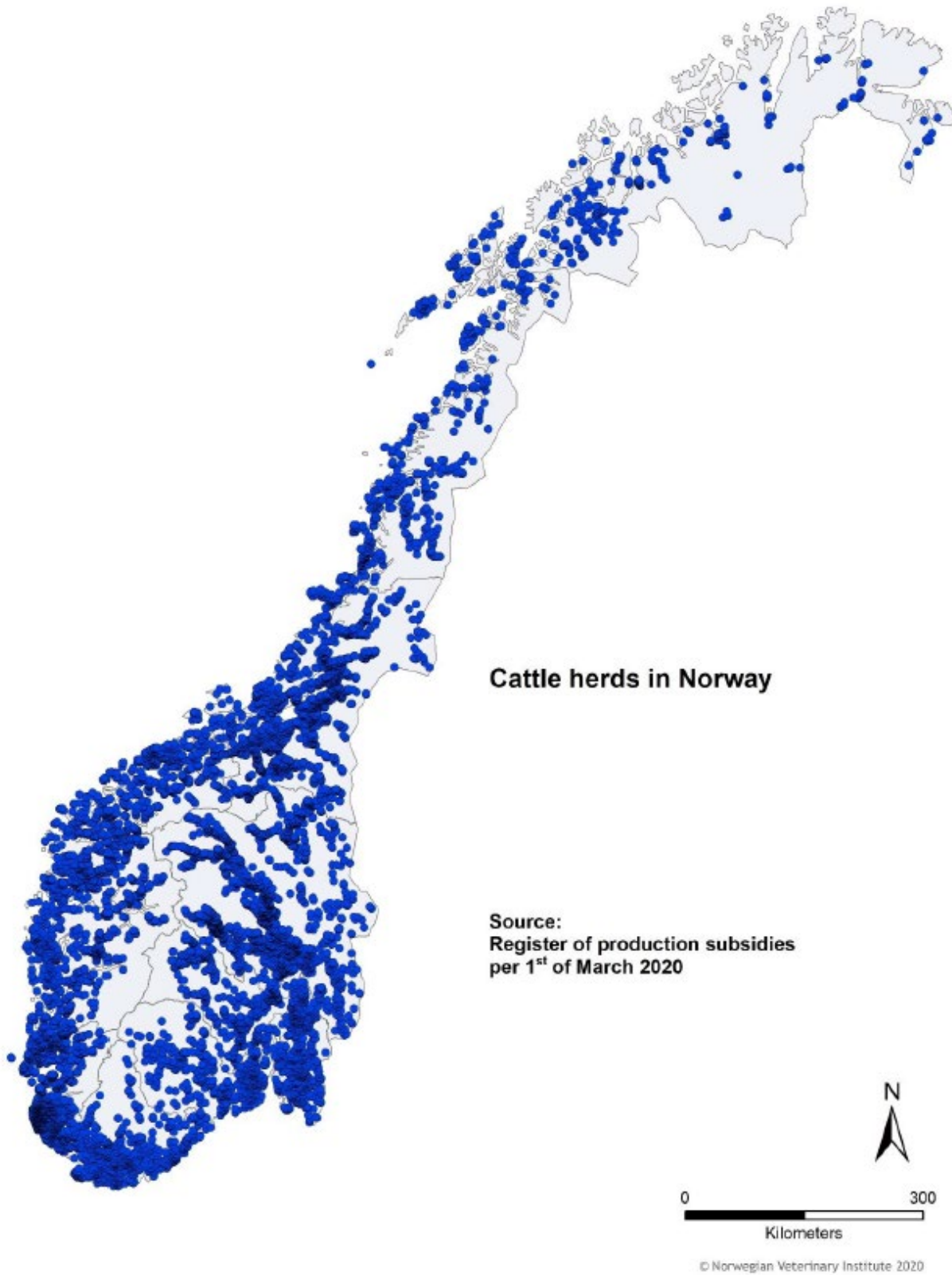
send animals vaccinated against FMD from one EEA country to another.		
Detailed regulation describing requirements for import and export from/to EEA countries and import from 3. Countries E.g. the animals and the farm they come from shall not be under restrictions for diseases, traceability should be ensured, strict measures on transport, health certificates shall follow the animals, testing of animals. It is forbidden to send animals vaccinated against FMD from one EEA country to another.	Regulation 25 March 2002 No 305 on animal health measures related to trade of swine Forskrift om dyrehelsemessige betingelser for innførsel og utførsel av svin	Adopted 25 March 2002 Last Amended 25 Sept 2017
Detailed regulation describing requirements for import and export from/to EEA countries and import from 3. Countries E.g. the animals and the farm they come from shall not be under restrictions for diseases, traceability should be ensured, strict measures on transport, health certificates shall follow the animals, testing of animals. It is forbidden to send animals vaccinated against FMD from one EEA country to another.	Regulation 5 April 2002 No on animal health measures related to trade of cattle Forskrift om dyrehelsemessige betingelser for innførsel og utførsel av storfe	Adopted 5 April 2002 Last Amended 3 May 2016
Detailed regulation on trade of semen, eggs and embryos from animals, including swine.	Regulation 20 February 2004 No. 464 on animal health measures related to trade on live animals, semen, eggs and embryos. Forskrift om dyrehelsemessige vilkår for import og eksport av levende dyr, sæd, egg og embryo (forskrift om handel med dyr)	Adopted 20 February 2004 Last Amended 15 July 2020
Implementing Decisions 206/2010 (EU) and 750/2014 (EU) Also describes additional requirements for certificates and additional guarantees for Aujeszky's disease	Regulation 23 July 2010 on import from 3. Countries of certain live animals, bees, bumblebees and fresh meat from certain animals Forskrift om import fra tredjestater av visse levende dyr, bier, humler og ferskt kjøtt av visse dyr	Adopted 23 July 2010 Last Amended 30 March 2020
Measures on cleaning, disinfection and control of transport vehicles for pigs that have been to 3. Countries with confirmed African swine fever. Implementing EU decisions 2013/0426/EU 2014/709/EU	Regulation on animal health control measures to prevent spread of African swine fever: Forskrift om særskilte beskyttelsestiltak for å hindre spredning av afrikansk svinepest	Adopted Sept 9 2011
Prohibits trade of live swine, semen, eggs and embryos and fresh meat and meat products from certain EEA	Regulation on animal health control measures to prevent	Adopted 22 May 2014 2011

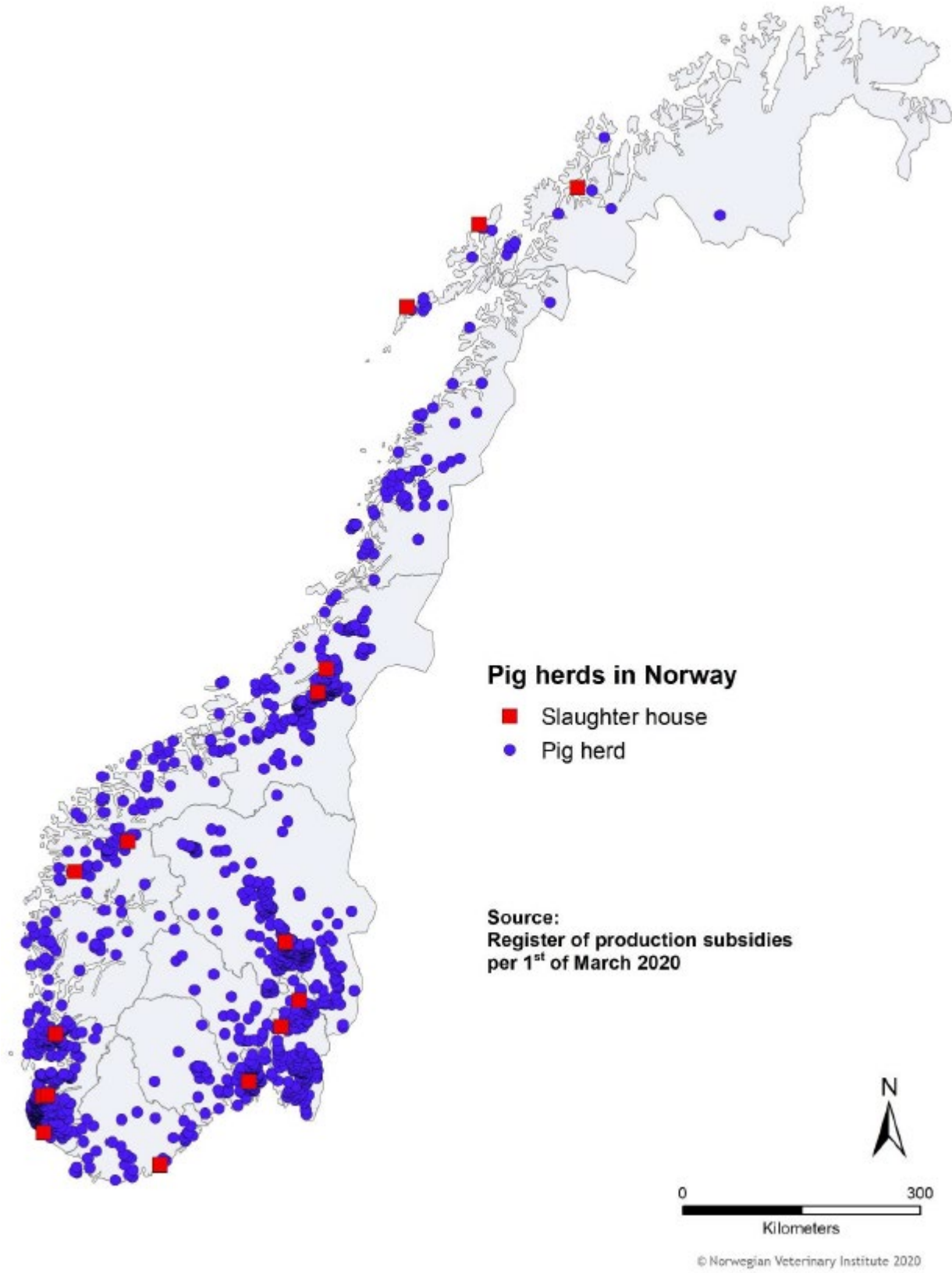
	countries. Describes some derogations for fresh meat and meat products from holdings under surveillance and free of CSF.	spread of Classical swine fever: Forskrift om særskilte beskyttelsestiltak mot klassisk svinepest i enkelte land i EØS	Last amended 15 July 2020
Quarantine of animals or farms	§19 Live animals are not to be moved if there is reason to suspect the presence of a serious transmissible animal disease that may have substantial social impacts. Legal basis for specified regulation on Quarantine of animals or farms	Law 19 December 2003 No 124 on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven): Unofficial English version	Adopted 19 December 2003No 124 Last Amended 22 June 2018 No 76
	§27 In case of suspicion or confirmed cases of the diseases under review, animals should be isolated in their stables and not removed to or from the holding. Animal products, byproducts, carcasses, feed, manure etc. should not be removed from the holding. Persons and vehicles are not allowed to leave or enter the premises without the permission of the NFSA	Regulation 27 June 2002 No. 732 on measures against diseases and zoonotic agents among animals: Forskrift 27. juni 2002 nr. 732 om tiltak mot sjukdommer og zoonotiske agens hos dyr (dyrehelseforskriften)	Adopted 27 June 2002 Last Amended 26 April 2018
Vaccination for the disease(s) under review	§19 The legal basis for regulations on approval and use of vaccines	Law 19 December 2003 No 124 on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven): Unofficial English version	Adopted 19 December 2003No 124 Last Amended 22 June 2018 No 76
	§14 General prohibition of vaccination for the diseases under review. §15 The NFSA may in special cases make decisions to vaccinate.	Regulation 27 June 2002 No. 732 on measures against diseases and zoonotic agents among animals: Forskrift 27. juni 2002 nr. 732 om tiltak mot sjukdommer og zoonotiske agens hos dyr (dyrehelseforskriften)	Adopted 27 June 2002 Last Amended 26 April 2018
Surveillance for the disease(s) under review	§ 13 The Authorities should have unrestricted access to the premises within the scope of this Act. The enterprise should facilitate inspections and provide samples free of charge	Law on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven): Unofficial English version	Adopted 19 December 2003No 124 Last Amended 22 June 2018 No 76
	§16 The NFSA may inspect any holding and take the necessary samples for surveillance and eradication of animal diseases.	Regulation 27 June 2002 No. 732 on measures against diseases and zoonotic agents among animals: Forskrift 27. juni 2002 nr. 732 om tiltak mot sjukdommer og zoonotiske agens hos dyr (dyrehelseforskriften)	Adopted 27 June 2002 Last Amended 26 April 2018

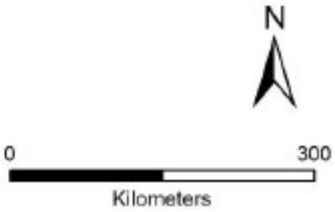
Control and eradication of the disease(s) under review	<p>§19 and §23 The legal basis for further specific regulation</p> <p>§24 The NFSA may order cleansing, disinfection, destruction of buildings, property and fittings where it is suspected that there are pathogenic agents and also impose restriction on use.</p> <p>Orders may also be issued to bury dead animals or infected material on the owner's property, or in special cases on another person's property</p>	<p>Law 19 December 2003 No 124 on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven): Unofficial English version</p>	<p>Adopted 19 December 2003 No 124 Last Amended 22 June 2018 No 76</p>
	<p>§27 In case of suspicion or confirmed cases of the diseases under review, animals should be isolated in their stables and not removed to or from the holding. Animal products, byproducts, carcasses, feed, manure etc. should not be removed from the holding. Persons and vehicles are not allowed to leave or enter the premises without the permission of the NFSA.</p> <p>In addition, the NFSA can use all measures they find necessary, including killing and destruction of all animals and products and washing and disinfection of all personnel, buildings, objects, environment etc. in holdings with confirmed cases or on suspicion.</p>	<p>Regulation 27 June 2002 No. 732 on measures against diseases and zoonotic agents among animals: Forskrift 27. juni 2002 nr. 732 om tiltak mot sjukdommer og zoonotiske agens hos dyr (dyrehelseforskriften)</p>	<p>Adopted 27 June 2002 Last Amended 26 April 2018</p>
	<p>Carcasses of dead or killed animals due to contagious animal diseases may be buried or burnt if necessary, if transport to a destruction plant will be a risk for spreading the disease. The burial or burning ground shall be decided by the NFSA in cooperation with the municipality.</p>	<p>Regulation 7 May 2008 No 438 on handling of animal cadavers during outbreaks of contagious animal diseases: Forskrift 7. mai 2008 nr. 438 om håndtering av dyrekadaver ved utbrudd av smittsomme dyresjukdommer</p>	<p>Adopted 7 May 2008</p>
Animal identification and farm registration	<p>§11 The legal basis for further regulations relating to the traceability of animals</p> <p>§29 The NFSA may establish registers of information or links to such registers</p>	<p>Law 19 December 2003 No 124 on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven): Unofficial English version</p>	<p>Adopted 19 December 2003 No 124 Last Amended 22 June 2018 No 76</p>
	<p>The regulation describes in detail the registration of holdings with swine, the identification of swine in the holding, the registration of movement of swine between holdings and the use of transport documents.</p>	<p>Regulation 4 October 2011 No. 5 on traceability of pigs: Forskrift 4. oktober 2011 nr 5 om sporbarhet hos svin Implementing EU-decisions Directive 2008/71/EC and Decision 2000/678/EC</p>	<p>Adopted 5 October 2011 Last Amended 1 July 2018</p>

	<p>The regulation describes in detail the registration of holdings with cattle, the identification of cattle in the holding, the registration of movement of cattle between holdings, the use of passports and the traceability of bovine meat. Implements the Regulations 1760/2000 (EU), 494/98 (EU), 509/1999 (EU), 1082/2003 (EU), 911/2004 (EU), 644/2005 (EU), 2017/949 (EU),</p>	<p>Regulation 9 July 2020 No. 1131 on traceability of cattle and bovine meat Forskrift om sporbarhet og merking av storfe og storfekjøtt</p>	<p>Adopted 9 July 2010 Last Amended 17 Dec 2019</p>
Emergency response activities	<p>§ 13 The Authorities should have unrestricted access to the premises within the scope of this Act. The enterprise should facilitate inspections and provide samples free of charge.</p> <p>§23 The NFSA may make the necessary decisions to ensure compliance with laws and regulations</p> <p>§24 The NFSA may order cleansing, disinfection, destruction of buildings, property and fittings where it is suspected that there are pathogenic agents and also impose restriction on use.</p> <p>Orders may also be issued to bury dead animals or infected material on the owner's property, or in special cases on another person's property</p>	<p>Law 19 December 2003 No 124 on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven): Unofficial English version</p>	<p>Adopted 19 December 2003 No 124 Last Amended 22 June 2018 No 76</p>
Seizure, depopulation, and compensation	<p>§ 13 The Authorities should have unrestricted access to the premises within the scope of this Act. The enterprise should facilitate inspections and provide samples free of charge.</p> <p>§23 The NFSA may make the necessary decisions to ensure compliance with laws and regulations</p> <p>§24 The NFSA may order cleansing, disinfection, destruction of buildings, property and fittings where it is suspected that there are pathogenic agents and also impose restriction on use.</p> <p>Orders may also be issued to bury dead animals or infected material on the owner's property, or in special cases on another person's property</p>	<p>Law 19 December 2003 No 124 on food production and food safety (food law) lov 19. desember 2003 nr. 124 om matproduksjon og mattrygghet mv. (matloven): Unofficial English version</p>	<p>Adopted 19 December 2003 No 124 Last Amended 22 June 2018 No 76</p>

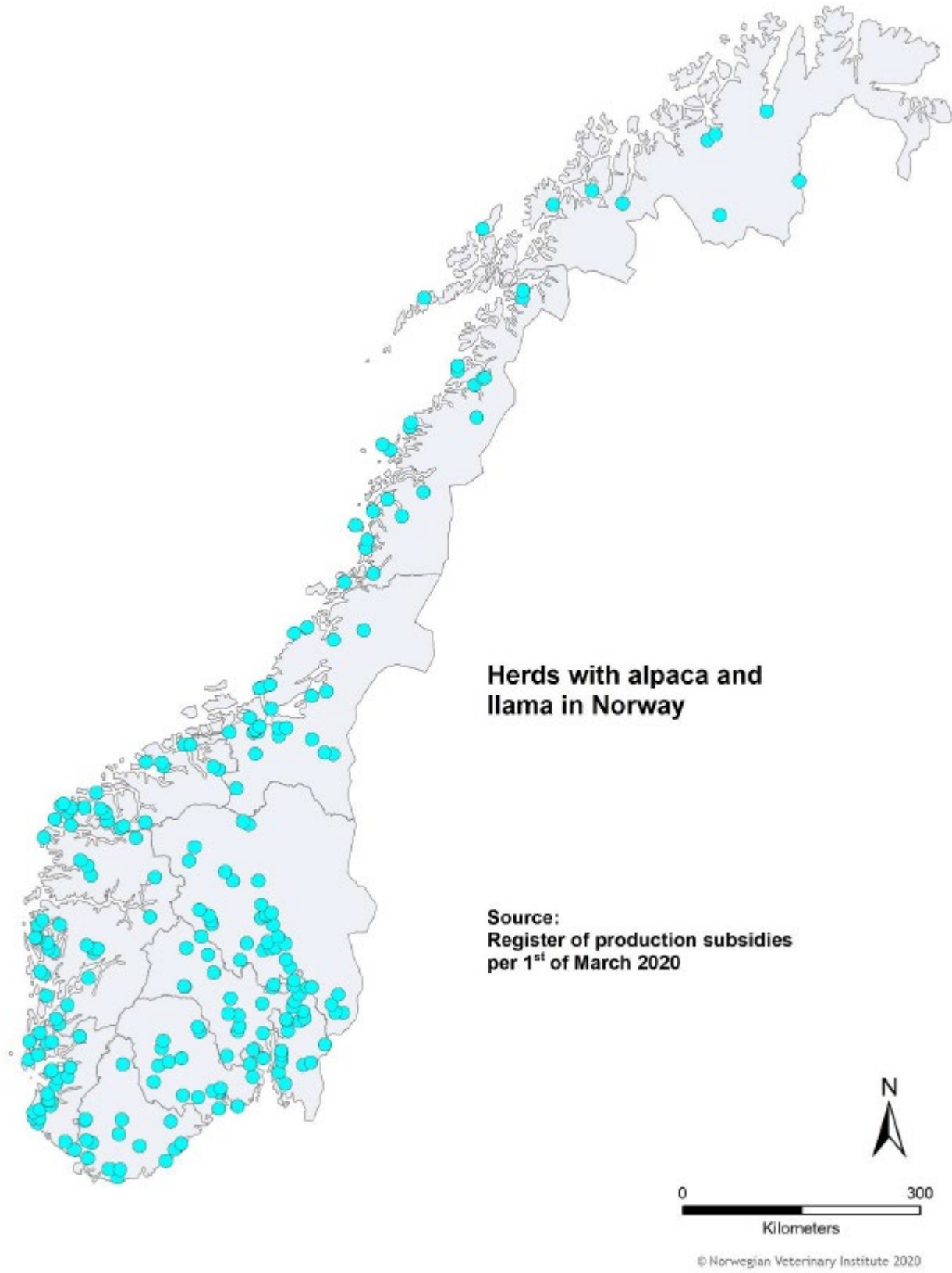
11.2 Geographic distribution of livestock premises in Norway

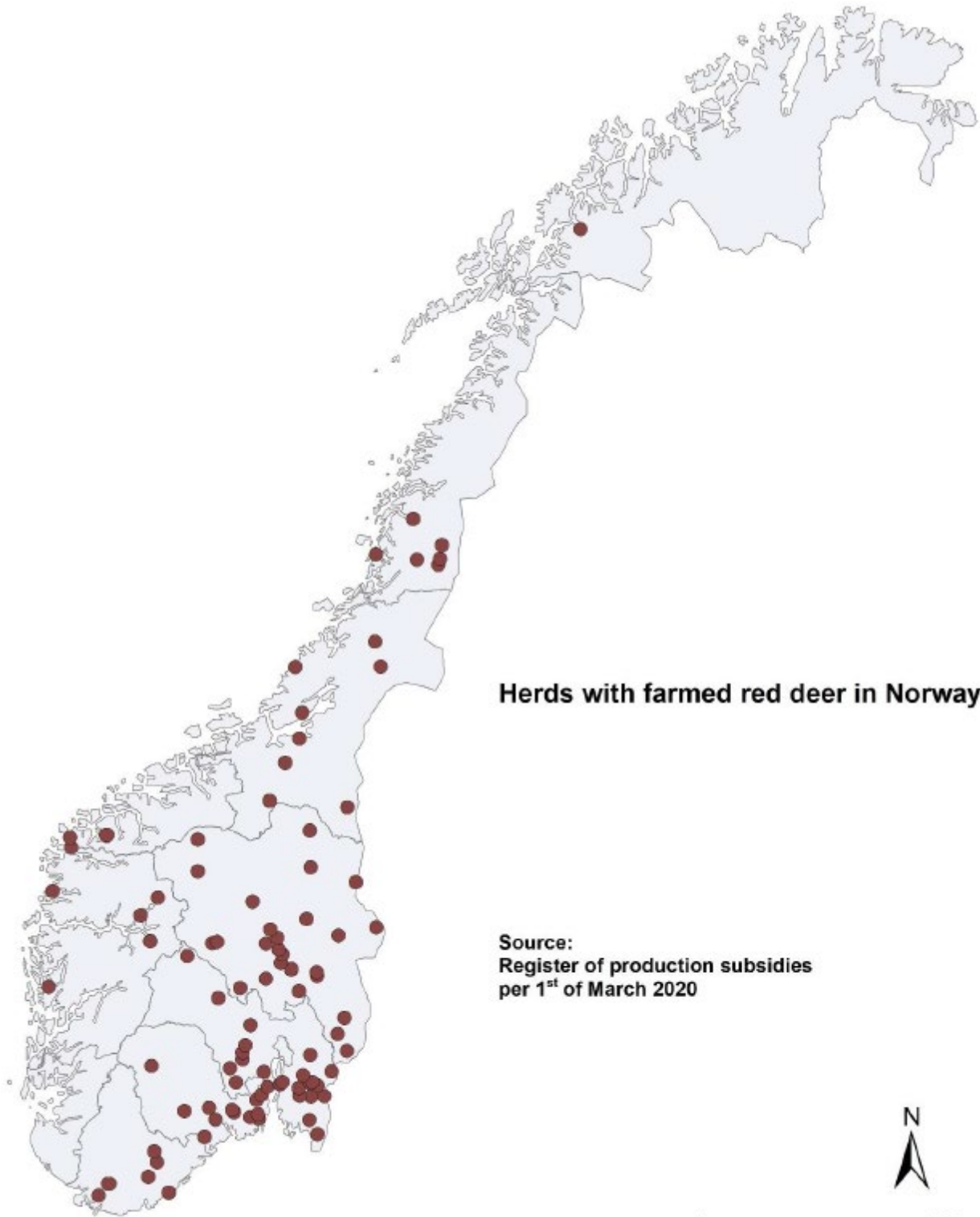






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Herds with farmed red deer in Norway

**Source:
Register of production subsidies
per 1st of March 2020**



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12. References

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