



Report on the Review of Chile's Animal Health Statuses

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Executive Summary

The United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) currently considers Chile to be free of foot-and-mouth disease (FMD), classical swine fever (CSF), Newcastle disease (ND), and swine vesicular disease (SVD). APHIS has conducted a document review to determine whether or not conditions in Chile justify maintaining free statuses for the above diseases.

To conduct this review, APHIS collected and evaluated information from records of the Agriculture and Livestock Service (SAG – Servicio Agrícola y Ganadero) and from the World Organization for Animal Health (OIE). Based on the review of the documentation provided by Chile, APHIS concluded that the disease agents under review are not likely to be present in Chile and that sufficient import measures exist to prevent disease entry into the country. In the event that any of the hazards under review is introduced into Chile, SAG has the capability to rapidly detect the incursion and contain spread. Review of the veterinary infrastructure information provided by Chile demonstrated an adequate infrastructure for rapid detection of the diseases under review, disease surveillance, control and eradication, and export certification programs. In addition, Chile has demonstrated a history of prompt reporting of disease events, taking appropriate measures to prevent their export to the United States.

Therefore, APHIS has concluded that the information provided by Chile supports the continuation of the APHIS-granted animal health statuses for CSF, FMD, ND, and SVD, and related import requirements.

Table of Contents

Executive Summary	1
Table of Contents	2
Abbreviations	4
Background.....	6
1 Status of hazards under review in Chile	6
1.1 Disease Occurrence	6
1.2 Vaccination	7
1.3 Wildlife.....	7
1.4 Status of hazards conclusion.....	7
2 Likelihood of hazard entry into Chile.....	8
2.1 Characteristics of the region	8
2.2 Veterinary infrastructure	8
2.2.1 The Livestock Protection Division	8
2.2.2 Laboratories and quarantine stations	9
2.2.3 Financial Resources	9
2.3 Import controls.....	10
2.3.1 Status determination and import requirements.....	10
2.3.2 Border inspection	10
2.4 Hazard entry conclusions	11
3 Likelihood of hazard detection, response, and notification	12
3.1 Surveillance	12
3.1.1 Active surveillance.....	12
3.1.2 Passive surveillance and reporting	13
3.1.3 Laboratory Support	13
3.2 Animal disease investigation and response	14
4 Export controls	14
4.1 Livestock production	14
4.2 Identification and traceability	15
4.3 Movement controls.....	16
4.4 International certification.....	16
4.4.1 Animal Products	16
4.4.2 Live animals	17

4.5	Hazard detection, response, and reporting conclusions	17
5	Review conclusions	18
6	Recommendations	18
	References	19
	Appendices	20
	Appendix 1.....	20
	Appendix 2 - Legal Acts and Regulations.....	26
	Appendix 3 - Tables	32
	Appendix 4 - Summary of active surveillance for hazards under review*	34
	Appendix 5 – Livestock Export Inspection Request	35

Acronyms

APHIS	Animal and Plant Health Inspection Service
AHEMS	Animal Health Emergency Management System
ASPROCER	Chilean Pig Producer Association
CFR	U.S. Code of Federal Regulations
CSF	Classical swine fever
CZE	Export Zoosanitary Certificate
DELCAP	Department of Agricultural Laboratories and Livestock Quarantine Stations
DPP	Livestock Protection Division
EITB	Enzyme-linked Immuno-electrotransfer Blot
ELISA	Enzyme-Linked Immunosorbent Assay
EU	European Union
FMA	Animal Movement Form
FMD	Foot-and-mouth Disease
HI	Haemagglutination Inhibition Test
HRZ	Zoosanitary Requirements Sheet
ICPI	Intracerebral Pathogenicity Index
MVO	Official Veterinarian (Médico Veterinario Oficial)
NVSL	National Veterinary Services Laboratories
ND	Newcastle Disease
OIE	World Organization for Animal Health
PANAFTOSA	Pan-American Foot-and-Mouth Disease Center
PCR	Polymerase Chain Reaction Test
PED	Porcine Epidemic Diarrhea
PI	SAG Entry Point Offices
PRRS	Porcine Reproductive and Respiratory Syndrome
PVS Tool	OIE Tool for the Evaluation of Performance of Veterinary Services
PZI	Zoosanitary Import Permit
RCP	Livestock Products Certificate for Human Consumption
RCZAP	Livestock Products Certificate Non-Human Consumption

RT-PCR	Reverse Transcription Polymerase Chain Reaction Test
SAG	Servicio Agrícola y Ganadero
SVD	Swine vesicular disease
TGE/C	Transmittable gastroenteritis/coronavirus
TIO	Official Inspection Technician (Técnico Inspector Oficial)

Report on the Review of Chile's Animal Health Statuses

Background

Consistent with regulations in title 9 of the *Code of Federal Regulations* (9 CFR 92) [1], the Animal and Plant Health Inspection Service (APHIS) has conducted a review of Chile's animal health statuses for foot-and-mouth disease (FMD), classical swine fever (CSF), Newcastle disease (ND), and swine vesicular disease (SVD)¹. A status review is an assessment of the animal health conditions in a foreign region that currently has one or more animal health statuses recognized by APHIS. These reviews are conducted on a periodic basis in order to determine whether the conditions in the region support the continuation of APHIS' recognition of the region's animal health status. More details of APHIS' review program are available on its website at: [APHIS Animal Health Status Review](#) [2].

APHIS collected and analyzed information relevant to the factors used to conduct evaluations to establish initial animal health statuses as described in 9 CFR Section 92.2 [3]. All information was collected from records of the Agriculture and Livestock Service (SAG – Servicio Agrícola y Ganadero) and from disease reports available at the World Organization for Animal Health (OIE) website [4, 5]. APHIS decided that a document review was sufficient for the purposes of reviewing Chile's animal health statuses; therefore, a site visit to Chile was not conducted.

The focus of this review was to establish a comprehensive representation of Chile's veterinary infrastructure, livestock demographics, livestock movement and marketing patterns, surveillance programs, disease control capabilities, veterinary laboratory diagnostic capabilities, and emergency response systems for the specified hazards². APHIS aimed to determine the following: 1) the hazard is not present in Chile; 2) the hazard is unlikely to be introduced into Chile and ultimately infect or contaminate the commodity being exported to the United States because of measures taken by SAG and/or epidemiological barriers; and, 3) if Chile has a hazard incursion, it will be rapidly detected and eradicated, and exports to the United States will be promptly stopped to prevent the introduction of the hazard into the United States. In addition, APHIS evaluated Chile's ability to control export procedures and to certify its exports in accordance to APHIS import requirements. These elements will be addressed in the following sections.

1 Status of hazards under review in Chile

1.1 Disease Occurrence

FMD was eradicated from Chile in 1981. However, in 1987, an outbreak occurred in the Regions of Arica-Parinacota to Los Lagos which affected small ruminants, South American camelids, cattle and swine. The last outbreak of CSF in domestic swine was in August 1996, the country has been free of the disease ever since [6]. SVD has never been reported in Chile [4, 5].

The last case of ND in domestic poultry occurred in 1975. The last time reportable ND detection occurred in wild birds was in June 2007, and affected seabirds of different species, mainly: the Guanay cormorant (*Phalacrocorax bougainvillii*), the Magellanic penguin (*Spheniscus magellanicus*), the Peruvian booby (*Sula*

¹ Lists of APHIS-recognized animal health statuses of regions regarding specific animal diseases or pests, or acceptable commodities are available at: [APHIS Animal Health Status of Regions](#).

² For the purposes of this report, hazard refers to the causative agent of any of the five diseases under review.

variegata) and the Peruvian pelican. However, between June 30 and July 4, 2016, a total of 2 out of 16 kelp gulls found dead at several locations of the Metropolitan and Valparaíso Regions were found infected with a lentogenic ND virus which is not considered a reportable ND according to OIE's definition of infection with ND virus [7]. Nonetheless, SAG activated the first stage of the emergency system while carrying out confirmatory testing and surveillance in a 3-km area around each point where the dead birds were found. All birds underwent a necropsy and the samples collected from 2 birds tested positive using RT-PCR and were submitted to further PCR testing to differentiate the virus from the lentogenic strains [6].

1.2 Vaccination

Vaccination against FMD and CSF is prohibited in Chile since 1997. There has never been vaccination against SVD since the disease have never been reported [6]. Routine ND vaccination programs are applied in Chile using inactivated vaccines made from lentogenic strains of the ND virus which must be registered with SAG. The populations that are vaccinated are broilers, broiler breeders, turkey breeders, layer breeder hens, table egg layers, and meat turkeys. In commercial companies, vaccinations are recorded in the production spreadsheets of each lot and are subject to inspection by SAG officials. Companies use serology to test for immunity in vaccinated birds. There are no restrictions on domestic movement of vaccinated birds [6].

1.3 Wildlife

FMD has never been reported in susceptible wild species. Similarly, there have been no reported occurrences of CSF and SVD in wild species [6].

The only wild species present in Chile with epidemiological importance for FMD, CSF, and SVD, is the wild boar (*sus scrofa*). Wild boar is an invasive exotic species which was introduced across the border from Argentina. Its distribution is generally limited to areas situated in the Los Andes mountain range and foothills from the Region of Maule and to the south. The limited access into these areas, hinders the possibility of conducting surveillance in wild boar. However, these areas are geographically isolated and very far from the swine and pork production centers which makes interaction with wild populations difficult. In addition, active surveillance for these diseases in domestic populations with the highest risk of contact with wild animals has demonstrated their absence which indirectly supports absence in wild populations [6].

Wild birds are considered to be a reservoir for ND. There are around 470 species of wild birds in Chile; of these, 47 species are migratory boreal birds. They are distributed throughout the country, in different environments. Most are aquatic, and are found on the coast in the discharge of rivers and wetlands [6].

1.4 Status of hazards conclusion

APHIS did not find evidence to suggest the presence of any of the hazards under review in Chile. There have been no detections of FMD since 1987; CSF since 1996; and ND in domestic poultry since 1975. SVD has never occurred in Chile. With the exception of ND, vaccination against these diseases is prohibited or has never been used. In addition, APHIS does not have any available evidence to suggest that these diseases may exist in wildlife populations in Chile. Therefore, APHIS concludes that the likelihood of presence of the hazards under review in Chile is negligible.

2 Likelihood of hazard entry into Chile

2.1 Characteristics of the region

Chile is a long and narrow country in the southwestern part of South America that lies between 17° 30' south latitude in the south to 56° 30' south latitude in the north. It borders the continent of Antarctica in the south and the Pacific Ocean to the west. Chile borders Peru to the north and is separated from Bolivia and Argentina by the Andes Mountain Range to the east. APHIS does not recognize Peru and Bolivia as free of any of the hazards under review (Peru is currently being evaluated by APHIS for FMD free status recognition). APHIS recognizes all of Argentina as free of ND and only the regions of Patagonia South and Patagonia North B as free of FMD. In addition, APHIS authorizes entry into the United States of beef exports from northern Argentina [6, 8]. However, the OIE currently recognizes all of Peru as free of FMD; two FMD free zones (with or without vaccination covering the whole territory of Bolivia; and five FMD free zones (with or without vaccination) covering all of Argentina. In addition, the OIE recognizes all of Argentina as free of CSF.

Chile is divided into 15 regions, 53 provinces and 346 counties. There are 102 border crossings (air, sea and land) for the inspection of luggage and means of transport - of these, 33 crossing points are set up for the entry of forestry, farming and livestock cargo (see figures 1 and 2 in **Appendix 1**) [6].

2.2 Veterinary infrastructure

2.2.1 The Livestock Protection Division

Within SAG, the Livestock Protection Division (DPP), is the main animal health authority responsible for conducting and enforcing all animal health program activities and regulations in the country (see figures 3 and 4 in **Appendix 1**) [6, 9].

The DPP consists of three main departments – Animal Health, Food Safety and Exportation, and Transversal Projects department. The function of these technical units are organized into national (central), regional, and sectorial or local offices. The central office is responsible for publishing and enforcing animal health regulations (**Appendix 2**) and for establishing national policies for food safety, export certification, and operational management of animal health programs, specific projects and institutional plans. The regional services consists of 15 regional offices; each regional office is supervised by a Regional Livestock Supervisor who must be an official veterinarian (MVO) and is responsible for managing all animal health programs in the region including supervision of local offices within that region. There are 65 local offices covering the entire national territory. These offices are strategically located in major cities or other geographic locations as determined by the DPP. There is at least one MVO in each office who manages all activities related to animal health, certification of exported animals and animal products, animal welfare, and traceability [6].

The main functions of the DPP are summarized as follows:

1. Animal Health: Maintenance and improvement of Chile's animal health status through the prevention of entry and establishment of exotic diseases and control of endemic diseases that have a significant social and/or economic impact.
2. Livestock Supplies: Registration and control of supplies for animal use, such as drugs, vaccines and animal feed to provide quality guarantees for the health of animals.

3. Inspection and Certification: Certification of exported animals and animal products to ensure compliance with requirements of importing countries (see section 4).
4. Animal welfare: Enforce Chilean Law No. 20.380 and supplementary regulations on animal health protection.
5. Livestock Information System and animal traceability: Conduct the official animal traceability program which supports all animal health programs and ensures the safety of domestic and exported animals and animal products.

The DPP employs 461 MVOs of which 78 MVOs work in the central DPP units and the other 383 MVOs are distributed among the 15 regional and local offices. Their work is supported by 302 veterinary technicians. In 2016, Chile had 2023 veterinarians, veterinary technicians and other animal health professionals working in private practice. There are 709 private veterinarians who are authorized by the DPP to conduct animal health activities in one or more of the official programs for bovines, sheep, poultry and swine. Authorized veterinarians can only carry out these activities in accordance with official procedures of the programs [6].

2.2.2 Laboratories and quarantine stations

The Department of Agricultural Laboratories and Livestock Quarantine Stations (DELCA) has the primary mission of diagnosing and conducting the necessary analyses to evaluate and certify the sanitary status and quality of plants, animals, and their products in Chile. The DELCA consists of a network of laboratories distributed nationwide consisting of the SAG central laboratory (“Lo Aguirre”) and three other regional laboratories. The DELCA employs 41 veterinarians and 26 technicians [6].

The Lo Aguirre Laboratory and the three regional laboratories, provide diagnostic services for all DPP disease surveillance, export certification, and import inspection programs as well as providing services to industry and private parties. The laboratories follow OIE’s Manual of Diagnostic Tests and Vaccines for Terrestrial Animals [10]. Assistance can be requested from internationally renowned laboratories such as the Pan-American Foot-and-Mouth Disease Center (PANAFTOSA) in Brazil, Pirbright Institute in the United Kingdom, Virology Institute in Germany, and the National Veterinary Services Laboratories (NVSL) in the United States. Along with providing diagnostic services, the DELCA prepares rules and procedures in diagnostic techniques as needed, participates in the authorization of private laboratories, and controls the evaluation and registration of pharmaceutical products for veterinary use. In addition, the DELCA maintains the diagnostic standards required internationally and is responsible for implementing new diagnostic methodologies and maintains quality assurance standards [6].

The Livestock Quarantine Stations is part of DELCA. Its main function is to conduct inspection and quarantine activities at quarantine stations and verify compliance with import requirements as defined by the DPP. More details on quarantine requirements and border inspection procedures are presented in the following section 2.3.2 [6, 9].

2.2.3 Financial Resources

In accordance with the national budget law, SAG’s annual budget is allocated as part of the overall Chilean Government budget. The budget process is similar to the process in the United States: first, the National Budget Office prepares a draft budget law for all government institutions, followed by discussions and voting/approval in Congress, then the monthly distribution of money to each public institution. In 2016, the budget for the official veterinary service was a little over \$52 million, the majority of which was

allocated to surveillance and monitoring of endemic and exotic diseases (including control and eradication of endemic diseases); control and eradication of bovine brucellosis, bovine tuberculosis, and porcine reproductive and respiratory syndrome (PRRS); import and transit controls and quarantine; and registration of veterinary drugs [6].

2.3 Import controls

Chile prohibits imports of animals or animal products from countries or zones not considered free from the hazards under evaluation, except when products are treated to inactivate the virus in accordance with recommendations in the OIE Terrestrial Animal Health Code [11]. The vast majority of live animals and poultry are imported from Brazil, and to a lesser degree from the European Union (EU), Canada, Australia, and New Zealand. Chile imports beef primarily from Paraguay followed by Brazil, Argentina, and the United States. For poultry and poultry products, the vast majority is imported from the United States, followed by Brazil and Argentina. Pork is mainly imported from the United States, Brazil, and Poland (see Tables 1 and 2 in **Appendix 3**) [6, 9].

2.3.1 Status determination and import requirements

Importation of animals and animal products is only permitted from countries or regions that SAG has previously evaluated for the status of specific diseases, and determined that such importation can be allowed – for example, beef and pork imports only from countries or regions free from FMD, CSF, SVD, etc. SAG status evaluations are based on the recommendations contained in the OIE’s Terrestrial Animal Health Code and the OIE Tool for Evaluation of Performance of Veterinary Services [11, 12], and include a critical review of documents submitted by the exporting country regarding its sanitary status and veterinary infrastructure. If the results of the evaluation are favorable, a visit to the exporting country is conducted to verify the information on the ground [6, 9].

SAG must first authorize and register establishments in exporting countries before they can ship animals and animal products. Imports are only allowed from authorized establishments. In some cases, SAG will conduct a system audit and delegate authorizations of establishments to the pertinent authorities of exporting countries such as the United States. An international health certificate issued by the authorized official veterinary services in the country of origin must accompany all shipments, and must include all general and country-specific import requirements such as pre-shipment quarantine, required diagnostic tests, etc., previously defined and recognized by SAG [6, 9, 13].

2.3.2 Border inspection

As mentioned previously, there are 33 entry points set up for the entry of forestry, farming and livestock cargo (see figure 2 in **Appendix 1**). SAG has an established procedure for the inspection and control of animals and animal products at borders posts (see figure 5 in **Appendix 1**). Border posts consists mainly of the SAG Entry Point Offices (PI) which could be at a Primary Zone or a Duty- Free Zone, and SAG Sectorial Offices which are warehouses at destination or at other authorized places [6, 9].

All shipments of animals and/or animal products must be presented at a SAG-authorized PI, otherwise, the shipment will be rejected and can only be re-presented at an authorized PI. Rejected shipments of animals and/or animal products will either be re-exported or destroyed. The method of destruction varies on a case-by-case basis according to the nature of the shipment and the country or region of origin [6].

Upon importation, a SAG inspector reviews the import documents accompanying the shipment to ensure that it complies with all SAG import requirements. The import documents include the appropriate import permit, health certificate, identification requirements, pre-export isolation, testing, and/or treatments, and food safety requirements for commodities intended for human consumption, etc. [6, 9]. For animal products, the health certificate must be issued by the competent authority of the origin country and signed by an authorized government official at the SAG-approved and registered establishment of origin. If all documents are in order and deemed to be in compliance with all import requirements, the shipment will be physically inspected and will be allowed entry if no further actions such as registration or further sampling are required at the PI or at destination [6, 9].

Livestock presented for importation are required to undergo official post-arrival quarantine under SAG's official control once the import documents and the health certificate are deemed to be in order at the PI. The duration of the quarantine varies depending on the species of imported livestock, mainly cattle and swine are kept in quarantine for 21 days, and poultry and other birds are kept for 30 days. During quarantine, livestock undergo isolation and veterinary inspection by SAG which involves checking identification, verifying pre-export laboratory results, and conducting physical and clinical inspections for signs of disease. Samples are taken as appropriate to confirm absence of disease agents and/or detection of antibodies in some cases. Live haul trucks must comply with biosecurity conditions as required in the general sanitary requirements for entry of animals and in resolutions specific for each species. However, as a general requirement, the means of transport must comply with the cleaning and disinfection requirements prior to loading the animals, and must be designed to prevent entry of insects or arthropods and be conditioned to avoid the runoff of liquids to the exterior [6, 9].

Additionally, all passenger luggage entering Chile is inspected at any of the PI, sea ports, and airports. All those over 18 years of age are requested to complete the Joint Customs/SAG Sworn Statement, declaring products of animal origin they are carrying. Passenger vehicles are also inspected for undeclared animals and/or animal products. These inspections are done at most border points using non-intrusive methodology, such as x-ray equipment and/or sniffer dogs; however, manual inspections can be carried out if necessary [6, 9].

2.4 Hazard entry conclusions

APHIS concludes that SAG has sufficient legal authority to carry out official control, eradication, quarantine, and international certification activities. The DPP has an adequate technical infrastructure of MVOs, support staff, and financial resources for carrying out field programs and for implementing import controls and quarantine requirements.

APHIS considers that the Andes mountain range along the borders with Bolivia and Argentina form a natural barrier and is sufficient for restricting animal movement and human traffic. Movement of susceptible species or products into Chile could occur with little or no physical barriers through the international border with Peru. However, Chile imposes a stringent system of import controls for animals and animal products and the international borders are actively monitored. This system begins with the evaluation of the exporting region for disease statuses and concludes with a system of import requirements verification and inspections and quarantine. Border controls are enforced to protect international borders and mitigate against introduction of the diseases under review into Chile. In addition, there is no evidence available to APHIS to suggest that illegal movement of animal and animal products occurs through international borders.

The feeding of pigs with waste of animal origin, originated from slaughterhouses, restaurants, hospitals, or other establishments is prohibited, unless by express and founded resolution authorized by the Service. Likewise, it is prohibited to feed pigs with waste coming from waste disposal sites.

Therefore, APHIS concludes that sufficient controls exist to demonstrate that the likelihood of entry of the diseases under review into Chile is negligible.

3 Likelihood of hazard detection, response, and export controls

3.1 Surveillance

Chile is a country that is considered free of the hazards under evaluation; therefore, surveillance strategies in the country are mainly directed at monitoring its free status rather than demonstrating freedom from the hazards under evaluation. SAG implements both active and passive surveillance strategies for detection of animal diseases.

3.1.1 Active surveillance

The objective of the active surveillance program in Chile is rapid detection of foreign animal diseases. SAG implements its annual nationwide “Animal diseases surveillance plan” based on the likelihood of entry and dissemination of a specific disease. All active surveillance conducted for the hazards under review is carried out by SAG MVOs.

Chile has conducted active surveillance for FMD since the 1960’s at the start of the control and eradication program. As the control and eradication of FMD in bordering countries has been favorable, Chile has modified its active surveillance to focus on high-risk areas for FMD introduction. The number of samples tested since 2014 are presented in **Appendix 4** - all samples were negative for FMD [6, 9, 13].

For swine diseases, active surveillance is categorized by population type – i.e., commercial and non-commercial swine. For the commercial swine sector, SAG coordinates with the Pig Producer Association (ASPROCER) to implement the National Pig Diseases Surveillance Program which includes CSF, pseudorabies, swine brucellosis (*B. suis*), transmittable gastroenteritis/coronavirus (TGE/C) and porcine endemic diarrhea (PED). The program covers breeding swine, multi-site commercial farms, and single-site commercial farms. For non-commercial swine, SAG focuses on swine farms in the Macro north zone (Arica and Parinacota, Tarapacá, Antofagasta), and wild boar breeders to specifically monitor for FMD, CSF, ASF, pseudorabies, and PED. All surveillance activities in non-commercial swine are conducted by SAG official veterinarians. The number of samples tested for CSF since 2014 are presented in **Appendix 4**; all samples were negative for the disease [6, 9, 13].

Active surveillance for ND is directed towards commercial poultry flocks that are not vaccinated against the disease as are most broilers, backyard birds, ratites, fighting cocks and birds sold at live bird markets. Other types of birds are included as well such as pet birds, zoo birds, educational farms, and wild bird in wetlands and rehabilitation centers. SAG uses a two-stage sampling design with expected prevalence between 1 and 5% and at the 95% confidence level. In addition, during import quarantine, hatching eggs and day-old chicks, as well as other birds such as ornamental ones are tested for ND. All samples are tested by RT-PCR. Since 2016 (**Appendix 4**); there was no identification of ND virus that required notification in accordance with OIE’s Terrestrial Animals Code [6, 7, 9, 13].

There is no active surveillance conducted for SVD since the disease has never been reported in Chile [6]. However, the two diseases are subject to passive surveillance in accordance with SAG reportable diseases regulations (see below).

3.1.2 Passive surveillance and reporting

Passive surveillance is conducted through SAG's nationwide mandatory notification program for reportable diseases. Any animals or birds with clinical signs compatible with any of the hazards under review must be immediately reported to SAG and are subject to investigation and emergency response measures under SAG's Decree 389 of November 2014. Wildlife species susceptible to the hazards under review are also subject to passive surveillance and notification. Failure to report will result in heavy fines. From 2014 to 2016, SAG investigated a total of 8 FMD suspect reports in sheep, cattle and pigs and 9 CSF and SVD suspect reports. All investigations have resulted in negative findings. There were no reports of ND suspect cases in domestic poultry during the same period (see section 1.1 for reports in wild birds) [6, 9].

SAG also uses other animal health program activities as opportunities to enhance its passive surveillance and disease detection capabilities such as: during inspections for animal movement controls; export certification; activities related to disease control and eradication programs; slaughterhouse inspections; and response to disease reports [6, 9].

Chile is an active member of the OIE. As such, Chile is obligated to promptly report occurrences of all hazards under evaluation to its trading partners as well as the OIE. Information available on the OIE website indicates that this has been the case since at least 1996, the earliest available date of online reporting information [4, 5].

3.1.3 Laboratory Support

As mentioned previously, the Lo Aguirre central and regional laboratories are the only laboratories that perform diagnostic testing for the hazards under review (except SVD for which the Lo Aguirre laboratories do not perform any diagnostic tests). The Lo Aguirre laboratories implements ISO17025 standards; however, the laboratory is officially accredited under ISO17025 for the enzyme linked immunosorbent assay (ELISA) (IDEXX) for CSF and ELISA (PRIOCHECK) for FMD. Proficiency panels are imported from OIE Reference Laboratories: the Virology Institute in Germany for CSF; PANAFTOSA in Brazil and Pirbright in United Kingdom for FMD; and NVSL in in the United States for ND. All results are reported through the laboratory's informatics reporting system [6].

For FMD, the Lo Aguirre laboratory conducts NSP (FMD virus Nonstructural proteins) ELISA [Enzyme-Linked Immunosorbent Assay (PRIOCHECK, IDVet and AOC PANAFTOSA)] and EITB (Enzyme-Linked Immunosorbent Assay) for bovines. Reactor serological samples and epithelial samples are sent to PANAFTOSA for confirmation. The average time for reporting FMD test results by Lo Aguirre is 2-7 days [6].

For CSF, diagnostic tests include indirect ELISA (IDEXX) for serological samples and the reverse transcription polymerase chain reaction test (RT-PCR) in case of clinical suspicion and sequencing. For confirmation, samples are sent to the OIE Reference Laboratory in Hannover, Germany (Virology Institute). The average time for reporting CSF test results by Lo Aguirre is 2-7 days [6].

Serological samples for ND are tested by ELISA and HI. Molecular techniques include RT-PCR for Matrix and Fusion gene, isolation into SPF chicken embryos, intracerebral pathogenicity index (ICPI) test, and

sequencing. The average time for reporting ND test results by Lo Aguirre is 2-7 days for serology, 2-7 days for RT-PCR, 2 weeks for isolation (two passages), and 12 days for ICPI [6].

3.2 Animal disease investigation and response

As mentioned previously, disease reporting is required in accordance with Chilean laws. All animals and birds demonstrating clinical signs suggestive of foreign animal diseases must be immediately reported to SAG. Suspect cases are investigated immediately, and if a foreign animal disease is confirmed, SAG along with private sector partners put into operation a response system called the Animal Health Emergency Management System (AHEMS) designed to rapidly control and eradicate the incident and minimize the impact in the country. SAG uses the AHEMS to implement all technical, logistics, and communication response actions to control and eradicate any of the hazards under review. The AHEMS consists of a Master Plan for emergency response as well as specific contingency plans for certain diseases. The Master Plan provides general structure of the emergency organization and strategies to implement during animal disease emergencies, while the contingency plans provides the specific technical emergency actions to be followed by SAG and the private sectors during all the emergency stages [6, 9].

Currently, Chile has formal contingency plans for FMD, CSF and ND. In general, each plan consists of two stages, the suspicion and emergency stages. The suspicion stage is usually brief and includes temporary restrictions on establishment(s) where suspect cases have been reported, sampling of animals or birds, implementation of AHEMS actions specific for suspect cases, etc. The emergency stage starts when the disease is confirmed and includes all response actions such as establishing response zone (infected and surveillance zones), quarantine, depopulation, movement restrictions, surveillance, epidemiological investigation, cleaning and disinfections, OIE notification and trading partners, etc. The emergency stage ends when all quarantines are lifted and the incident is declared over. There is no specific SVD contingency plan since the disease has never occurred in Chile; however, SVD is considered a foreign animal disease and emergency response will be conducted similar to the other three hazards [6, 9].

SAG implements an annual training program for continued education/training of official veterinarians in sample collection for laboratory diagnosis, disease reporting, veterinary epidemiology of reportable diseases, and response and investigation of these diseases. The annual training program is conducted by various universities that have agreements with SAG, as well as by SAG's central level officials. SAG also conducts training sessions and informational meetings with private veterinarians, industry associations and livestock producers [6, 9].

3.3 Export controls

SAG's ability to ensure that exported animals and animal products comply with importing country requirements centers on its systems for identification and traceability, movement controls, and export certification. The following is a description of these systems. A summary of the livestock production systems for cattle, swine and poultry is also included.

3.3.1 Livestock production

Cattle production is concentrated in the central area of the country with approximately 75% of the cattle population present in the regions of Biobio, La Araucania, Los Rios and Los Lagos (see figure 1 in **Appendix 1**). High-density milk production is concentrated in the central region and tends to be less extensive in the livestock area towards the southern part of the central region. On the other hand, production of cattle for meat is more extensive in the livestock area in the south. A high proportion of cattle are sold and

bought in livestock fairs regulated by SAG that are concentrated between the regions of Valparaíso and Aysén. Sheep production is extensive in southern Chile in the Region of Magallanes, while goat production is concentrated in the Region of Coquimbo. Sheep and goats are raised for both milk and meat production [6].

In Chile, there are three systems of pork production: backyard, commercial, and wild boars. Commercial pork production is highly commercialized and is concentrated in the central zone of the country close to locations of SAG-authorized and inspected slaughtering plants, while backyard and wild boar production tend to be concentrated in the south of the country [6].

Production of broilers is vertically integrated and is concentrated in the regions of Arica y Parinacota, Valparaíso, Metropolitan and O'Higgins. Commercial Turkey farms are located in the region of Valparaíso and are also vertically integrated. Commercial production of table egg layers is mainly located in the regions of Arica y Parinacota, Coquimbo, Valparaíso, Metropolitan, O'Higgins, Maule and Biobío, given the proximity to the main consumption centers of Chile [6].

There are 21 slaughter establishments that are authorized to export animal products in Chile covering the main susceptible species (cattle, sheep, swine, and poultry). All 21 establishments are under official inspection by SAG to ensure that products destined for exports are produced in accordance with SAG and importing country requirements. In addition, all of these plants are listed in two national registers, namely, List of Exporting Establishments of Livestock Products for (1) human consumption (LEEPP), and (2) animal consumption (LEEAA) [6, 9].

3.3.2 Identification and traceability

According to current regulations of Chile's Animal Traceability Program, a livestock establishment is defined as: any place where there are live animals, kept temporarily or permanently, destined for reproduction, breeding, production, all activities whose purpose is the commercialization of their products or by-products, self-consumption, slaughter, exhibition, sports activities, or recovery and rehabilitation [6].

All livestock establishments must be registered with SAG in its online official informatics system (SIPEC) which can be accessed by SAG officials anywhere in the country. In order for an owner to register his or her establishment, they must fill out an official establishment and animal registration form and submit it to SAG with all required information such as owner information, establishment type, risk criteria, and number and species present. A SAG MVO will review all information, and if approved, a unique 9-digit national number called a Unique Livestock Role (RUP) is assigned to the establishment. Animal identification can be applied by farmers, private veterinarians or official veterinaries. SAG's main focus is to register the identification number for every animal in SIPEC [6, 9].

SAG implements the traceability regulations through two systems: 1) Individual animal identification which is mandatory, and applies only to cattle via use of official ear tags; and 2) Group animal identification in which the use of official ear tags is not mandatory, but when the animals are moving they must be registered on the official identification form. For both individual and group identification, multiple copies of the official identification form must be distributed as follows, one copy to SAG, a second copy accompanying the animals during transport and must to be kept at the final destination, and the last copy must be kept at the farm of origin [6, 9].

SAG has authority under the traceability regulation to monitor and enforce compliance with identification. Generally, when a noncompliance is detected the official veterinarian must register a noncompliance infraction against the owner of the animals [6].

3.3.3 Movement controls

All cattle, horses, pigs, sheep, goats, cervids, llamas, alpacas, wild boars and buffalos moved between livestock establishments that have a RUP number must be accompanied by an official Animal Movement Form (FMA). The FMA is the official SAG document used to track all movements of animals within the country and the form is readily available at any SAG office [6].

When animals are moved, the owner of the establishment or the person authorized by them, must deliver the completed FMA to the SAG office that has jurisdiction in their area within a maximum of five business days subsequent to the departure of the animals. A copy of the FMA accompanies the shipment and is kept at destination, and the other copy must be kept at the establishment of origin. Once SAG receives the FMA, the information is registered in the SIPEC. In this way, all animal movements between farms, livestock fairs, and slaughterhouses is readily available in SIPEC which allows SAG officials to trace back animals to their establishments of origin [6, 9].

The commercial poultry industry in Chile is vertically integrated and birds are tracked in batches with information kept in the traceability systems of the industry. Commercial poultry shipments must be accompanied by a Guide of Dispatch issued by the company [6].

3.3.4 International certification

SAG utilizes a structured system for export inspection controls to ensure that all shipments of live animals and animal products comply with requirements of the importing country as well as with SAG's export requirements. Only authorized establishments are allowed to export. The export certification system is similar for live animals and animal products with the only difference being the process for establishing and approving export quarantines for live animals [6, 9].

3.3.4.1 Animal Products

All individuals or establishments wishing to export animal products must submit an export inspection request form to the SAG office in their area at least 24 hours prior to shipment (**Appendix 5**). The form identifies the exporting company and the processing establishments including its SAG registration number (RUP) as well as applicable registration numbers in the LEEPP and LEEAA national registers. In addition, the form must include the requested date of the inspection visit and detailed information on the goods shipped, port of embarkation, means of transportation, loading date, date of shipment, and destination [6, 9]. The exporter must also attach the following documents to the form:

1. Zoosanitary Import Permit (PZI) – the official import permit issued by the competent authority of the importing country.
2. Zoosanitary Requirements Sheet (HRZ) – import requirements issued by the importing country.
3. Export requirements for live animals and animal commodities issued by SAG and published on its website.

Once SAG receives the form, an MVO or an Official Inspector Technician (TIO) will review it to determine whether it complies with all requirements. If so, the date of the inspection visit will be scheduled. During the inspection visit, the MVO or TIO conducts a second review of the export request and supporting documentation in addition to the following documents:

1. Lot approval report – a certificate issued and signed by an establishment representative to certify compliance of each lot of products in the consignment with import requirements as listed in the HRZ and the establishment’s Quality Assurance System.
2. Livestock product certificate – a certificate issued by an MVO for certifying compliance with the destination country requirements which authorizes the domestic movement of products destined for human consumption (RCP) or for non-human consumption products (RCZAP).
3. Packing list for the consignment.
4. Certificate of washing and disinfection of the means of transport.

If all documents are in order, the MVO and TIO will carry out a physical inspection to verify the products, means of transport, and loading location. If there are doubts concerning the products condition, the inspector will sample the products using SAG’s general sampling scheme for livestock exports. Once the inspection has been approved, the cargo will be sealed as applicable and the Export Zoosanitary Certificate (CZE) is issued in accordance with SAG instructions for issuance and modification of CZEs. If the domestic movement certificates (RCP and RCZAP) were not issued prior to the inspection, the MVO will proceed to issue them as appropriate [6, 9].

3.3.4.2 Live animals

In addition to the livestock export request form as detailed above, SAG requires additional documents to be attached to the request that detail all treatments and vaccinations the animals may have received as well as a certificate of the sanitary condition of the farm of origin. SAG also requires the exporting company to submit an application to authorize the establishment as an export quarantine establishment. Once all conditions of establishing quarantine are met and the verification inspection results are deemed favorable, MVO will issue the quarantine authorization which must be signed by the Regional Directorate to be valid [6, 9].

During quarantine, the MVO observes the animals to determine the presence or absence of any disease signs as listed in the animal health certificate and supervises the diagnostic tests as defined in the sanitary requirements of the importing countries. To dispatch the animals from quarantine, the MVO issues a RCP certificate authorizing moving the animals to the port of embarkation. In addition, the MVO verifies that the transport vehicle has been cleaned and disinfected and oversees compliance with animal welfare regulations throughout the process of confinement, loading, transport and unloading at the port of embarkation. The SAG team seals the transport vehicle the animals are sent to the port accompanied by all documents necessary to certify the shipment at the point of departure (individual identification, FMA, diagnostic test results, etc.) [9, 13].

The MVO stationed at the port of embarkation inspects the RCP certificate issued at the official quarantine and all other documents accompanying the animals and verifies all seals are valid and intact. The MVO proceeds to clinically examine the animals to ensure the absence of traumas, injuries, lacerations, fractures, or signs of infectious and transmissible diseases. If the results of the inspection are favorable, the MVO issues the official animal health certificate and authorizes exporting the animals [9, 13].

3.4 Hazard detection, response, and export controls conclusions

APHIS concludes that Chile has a comprehensive surveillance system capable of detecting the hazards under review. Active surveillance systems for FMD, CSF, and ND are in place and are appropriate given Chile’s disease history, geographical location, and import practices. SAG takes into consideration important factors such as higher risk areas, production type (commercial vs. non-commercial), vaccination

status, and presence of and interaction with susceptible wild animals and birds, when designing its active surveillance programs. By law, all of the hazards under review are reportable in Chile and SAG's passive surveillance program depends on this mandatory reporting requirement. SAG enhances its passive surveillance through outreach/education to producers. Adequate laboratory procedures and capabilities are available to support surveillance programs and testing is conducted in accordance to OIE Manual.

APHIS considers Chile to have sufficient controls in place to rapidly detect the hazards under review and manage its animal disease investigation, response, and control programs effectively using comprehensive emergency response plans and available resources. Adequate protocols and authority for control of potential occurrences of the hazards are in place and all animal disease events are investigated by trained official veterinarians and staff. Chile has demonstrated that it can promptly notify the United States and/or the OIE of hazard events, and respond to the outbreak events sufficiently to prevent introduction of the hazards into the United States via imports of infected animals and/or contaminated animal products from Chile.

SAG applies adequate movement controls on animals and animal products, implements appropriate animal identification systems, and implements stringent systems of verification, inspection, and quarantine for certifying exports of animals and their products. Therefore, APHIS concludes that Chile's export verification and certification systems ensure that all exported animals and animal products, beginning at the farm and extending through all components of production, meet importing country specifications and ineligible animals and animal products are not exported to the United States. APHIS further concludes that if the hazards under review were to be introduced, the likelihood they will spread all over Chile and remain undetected to be negligible.

4 Review conclusions

Based on documentation provided by Chile, APHIS concludes that Chile is free of the hazards under review and conducts sufficient import measures to prevent their entry into the country. In the event that any of the hazards under review is introduced into Chile, SAG has the capability to rapidly detect the incursion and contain spread. In addition, APHIS concludes that Chile will promptly report all disease incursions to trading partners and the OIE and will take the necessary measures to prevent their export to the United States. Review of the veterinary infrastructure information provided by Chile demonstrated an adequate infrastructure for rapid detection of the diseases under review and for carrying out surveillance and eradication programs.

5 Recommendations

Based on the above conclusions, APHIS recommends maintenance of Chile's current animal health statuses and import mitigations for classical swine fever, foot-and-mouth disease, Newcastle disease, and swine vesicular disease. Recognition of these statuses will be maintained until the next APHIS review or until a change in Chile's animal health status is reported.

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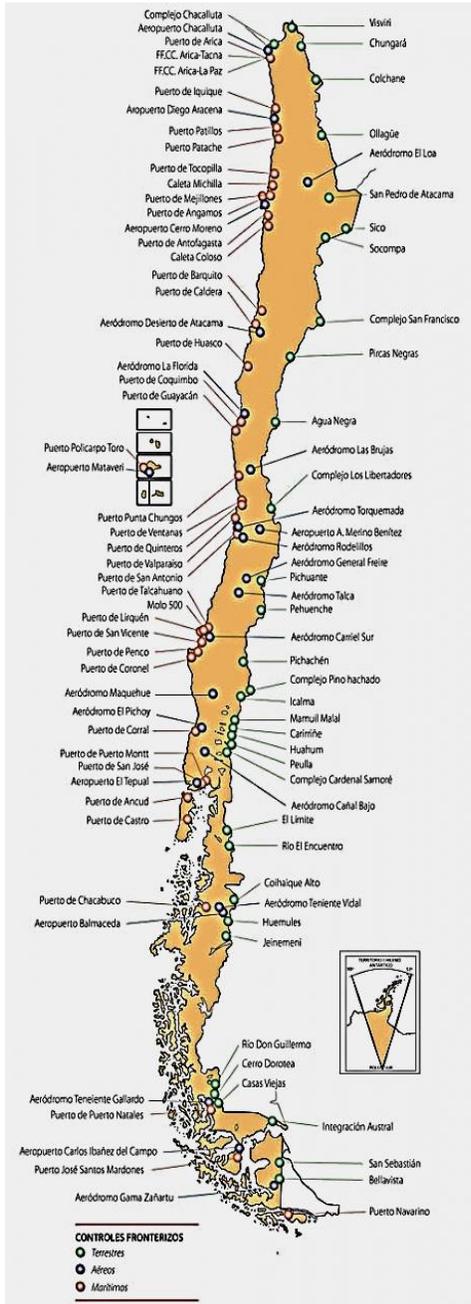
Appendices

Appendix 1

Figure 1: Maps of Chile - Borders and Administrative Divisions



Figure 2: Locations of checkpoints and border posts



PUNTOS HABILITADOS PARA IMPORTACIÓN

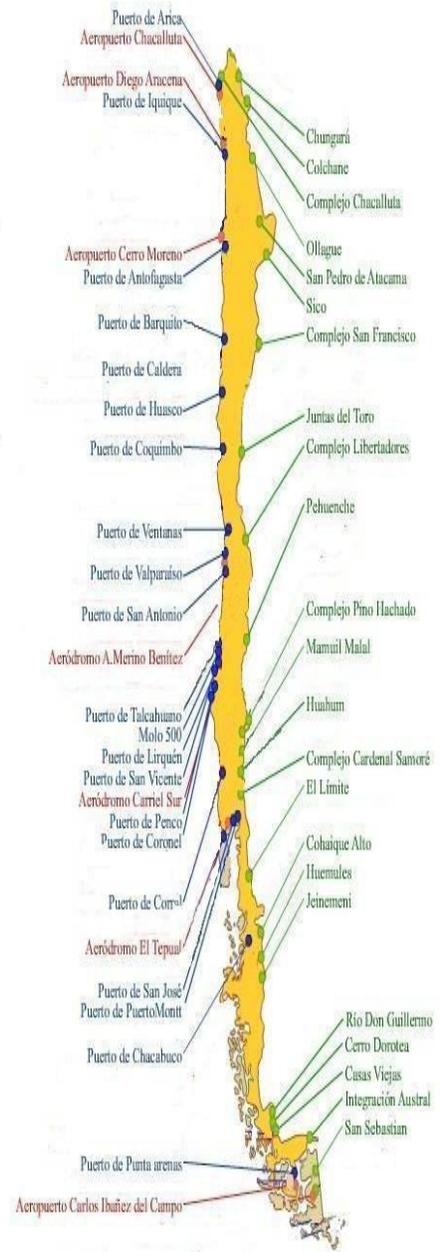


Figure 3: Organization of the Agricultural and Livestock Service (SAG) – Central Level

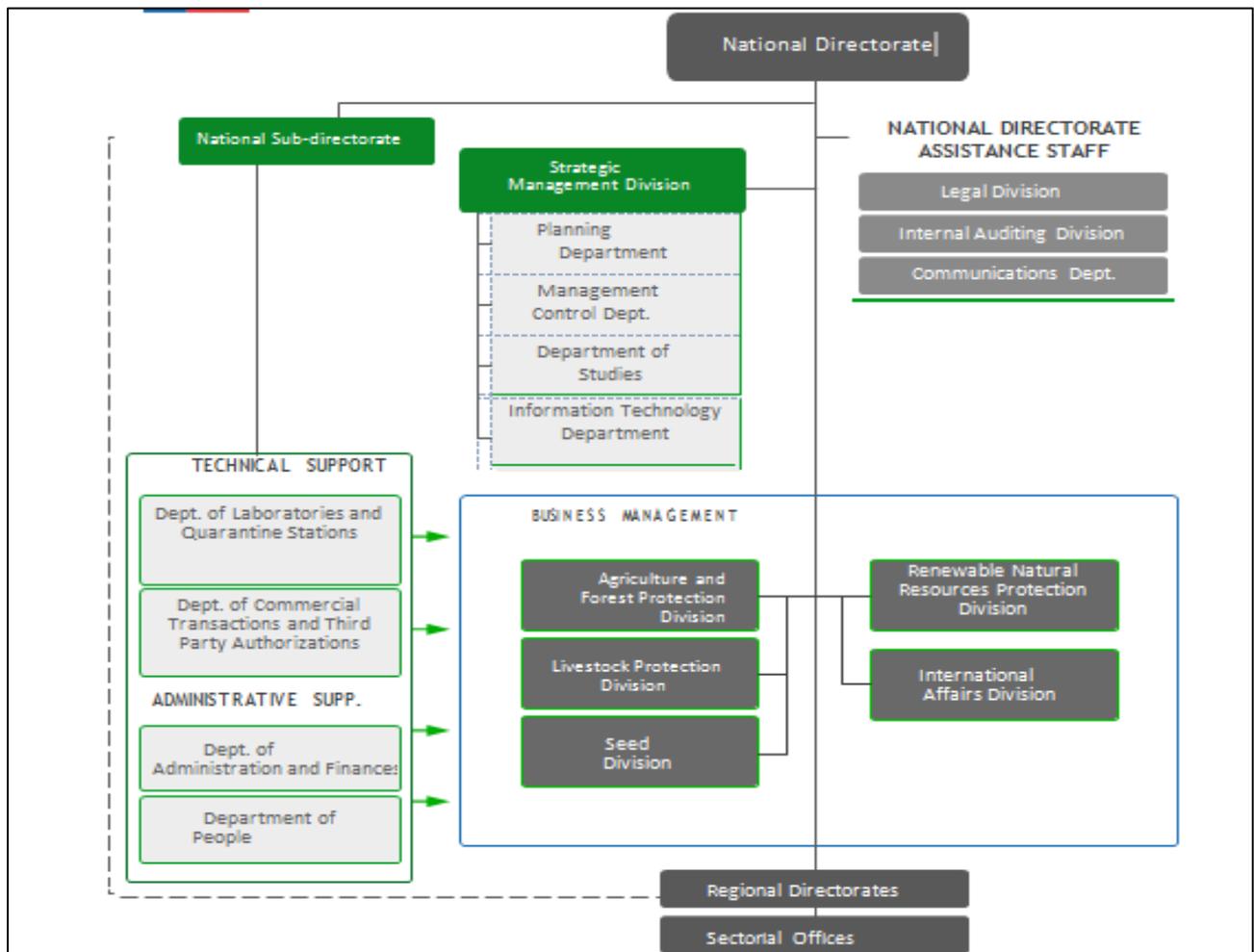


Figure 4: Organization of the Livestock Protection Division (DPP) – Central Level

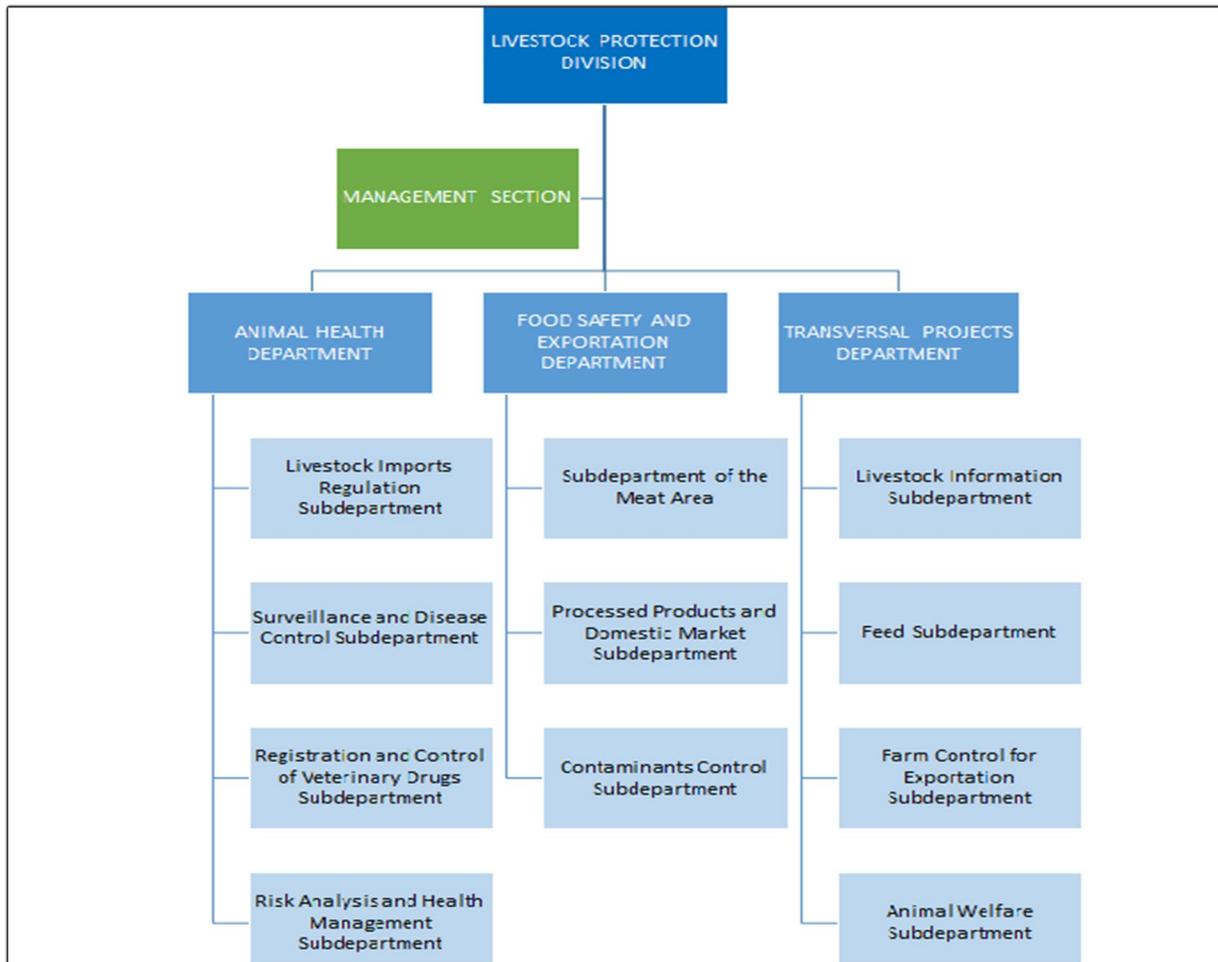
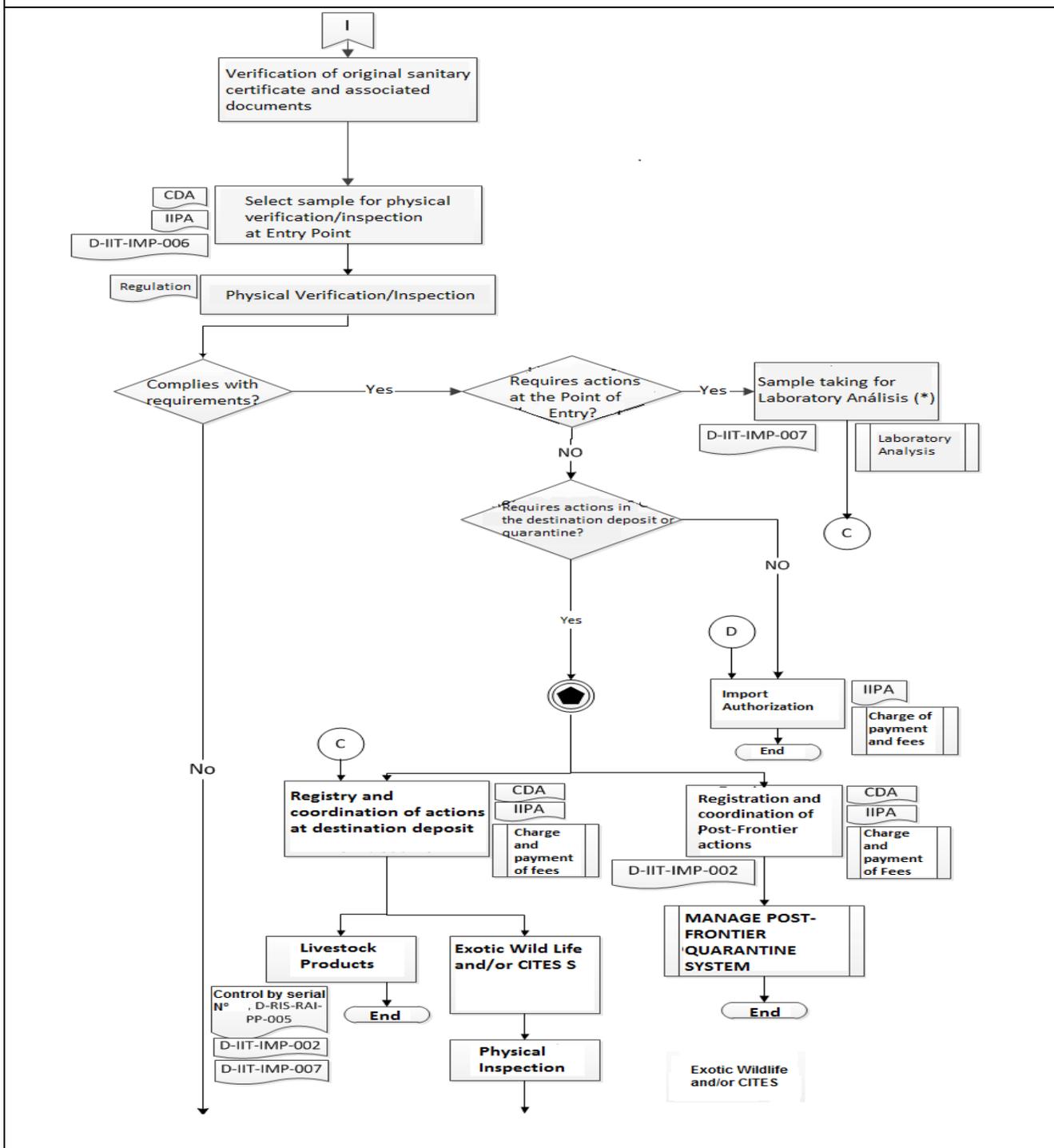
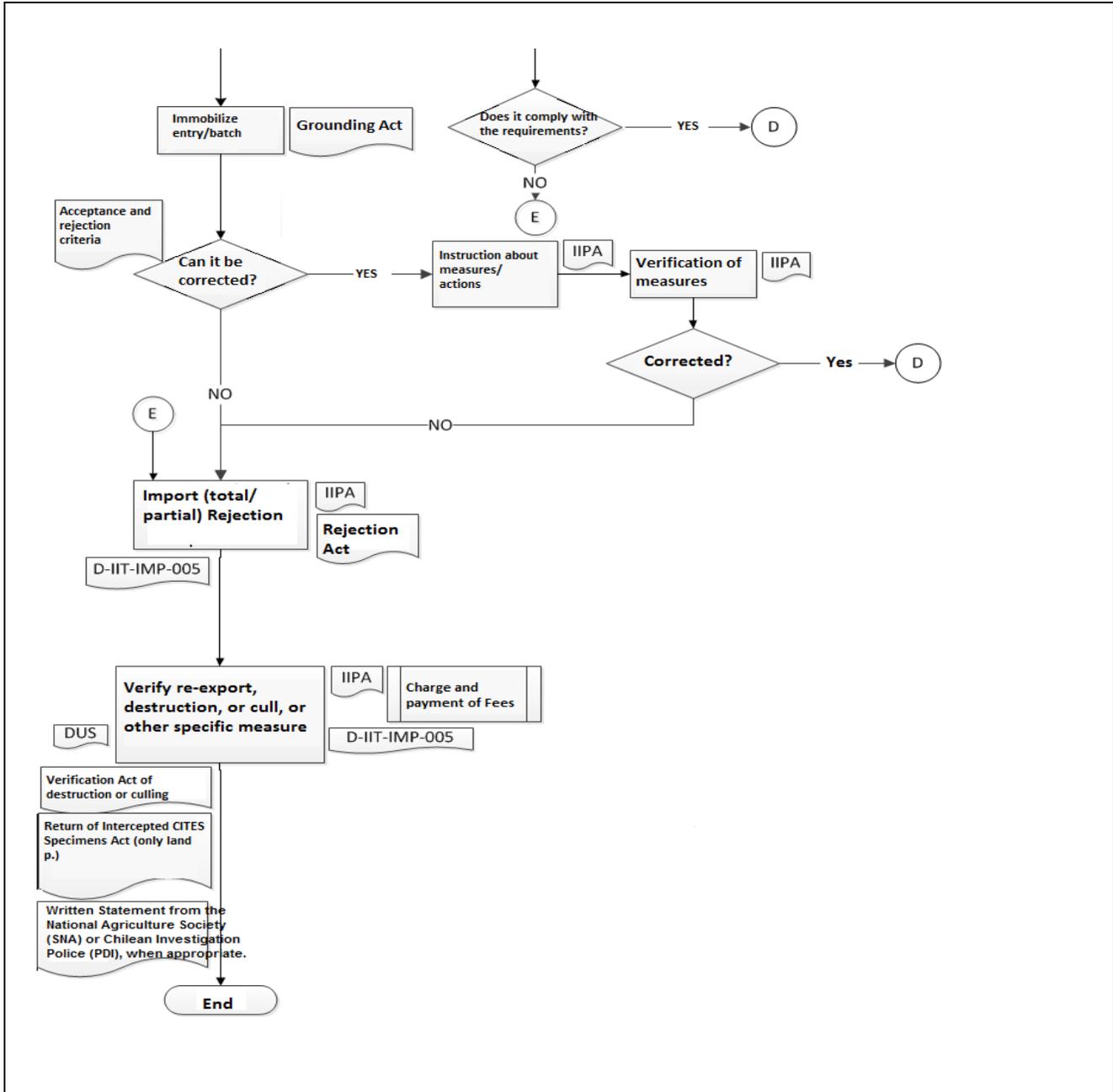


Figure 5: Flow chart of the physical inspection/verification for imported animals and animal products





Appendix 2 - Legal Acts and Regulations

Disease under review: Foot-and-mouth disease			
Animal Health Activity	Description	Authorizing Legal Act(s) or Regulation(s)	Date(s) Authorizing Legal Act(s) or Regulation(s) Last Amended
Disease notification	<p>a) Establishes rules on animal health and protection</p> <p>b) Establishes diseases that must be reported for the application of sanitary measures</p> <p>c) Updates biosecurity program for fairground premises and revokes Resolution 4.887 of 2005</p>	<p>Statutory Decree no. 16 of 1963</p> <p>Decree 389 of 2014</p> <p>Resolution 8569 of 2014</p>	1985
On-farm inspections	Regulations of the law on animal health policy	Decree 318 of 1925	2014
Import, export, and internal movement controls	<p>Establishes rules on animal health and protection</p> <p>Approves regulations for the prevention and Control of foot-and-mouth disease</p> <p>Cattle for fattening</p> <p>Cattle for slaughtering</p> <p>Cattle suitable for reproducing</p> <p>Cattle from the U.S.A.</p> <p>Small ruminants for reproduction (sheep and goats)</p> <p>Swine for reproduction</p> <p>Frozen cattle semen</p> <p>Sheep and goat semen</p>	<p>Statutory Decree no. 16 of 1963</p> <p>Decree 46 of 1978</p> <p>Resolution 2.404/1996</p> <p>Resolution 1.447/ 1995</p> <p>Resolution 1.487/1992</p> <p>Resolution 1.692/ 1992</p> <p>Resolution 4.382/2013</p> <p>Consolidated text</p> <p>Resolution 2.344/2015</p> <p>Resolution 5.618/2013</p> <p>Resolution 4.410/2013</p>	<p>1985</p> <p>Resolution <u>7.093/2015</u></p> <p>2015</p>

	Swine semen	Resolution 25 of 2000	2015
	Cattle embryos	Resolution 1.720/1995	2015
	Swine oocytes, ovules and embryos	Resolution 4.906/2006	2015
	Embryos/oocytes (in Beef	Resolution 298/2014	2009
	Refrigerated or frozen pork	Resolution 833 of 2000	Resolution 7348 of 2015
	Milk and dairy products	Resolution 3.397/1998	Resolution 7.095/2015
		Resolution 1194 of 2001	
Quarantine of animals or farms	Regulations of the law on animal health policy	Decree 318 of 1925	2014
Vaccination for the disease(s) under review	Approves Regulation for the prevention and control of foot-and-mouth disease	Decree 46 of 1978	1985
Surveillance for the disease(s) under review	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Control and eradication of the disease(s) under review	a) Regulation of the law on animal health policy	Decree 318 of 1925	2014
	b) Approves regulation for the prevention and control of foot-and-mouth disease	Decree 46 of 1978	1985
Animal identification and farm registration	Updates the Animal traceability official program	Exempt resolution N° 6774	2015
Emergency response activities	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Seizure, depopulation, and compensation	a) Establishes rules for indemnity for the slaughter of animals for the control of foot-and-mouth disease	Law 18.617 of May 19, 1987	1988
	b) Approves regulation for the prevention and control of foot-and-mouth disease	Decree 46 of 1978	1985
	c) Approves Regulation for the Eradication of Classical swine fever, prohibits waste feeding	c)Exempt Decree 32 of 1996	

Disease under review: Classical swine fever			
Animal Health Activity	Description	Authorizing Legal Act(s) or Regulation(s)	Date(s) Authorizing Legal Act(s) or Regulation(s) Last Amended
Disease notification	Establishes diseases that must be reported for the application of sanitary measures	Decree 389 of 2014	
On-farm inspections	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Import, export, and internal movement controls	Establishes rules on animal health and protection	Statutory Decree no. 16 of 1963	1985
Quarantine of animals or farms	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Vaccination for the disease(s) under review	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Surveillance for the disease(s) under review	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Control and eradication of the disease(s) under review	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Seizure, depopulation, and compensation controls	<p>a) Establishes rules on animal health protection and requirements for entry of swine into Chile for reproduction</p> <p>b) Establishes sanitary requirements for entry of refrigerated or frozen pork into Chile</p> <p>c) Establishes sanitary requirements for entry of wild boar meat into Chile</p> <p>d) Establishes sanitary requirements for entry of pork tripe into Chile</p> <p>e) Establishes sanitary requirements for entry of bacon, edible pork skin and beef suet into Chile</p>	<p>a) Statutory Decree no. 16 of 1963</p> <p>b) Exempt Res. 3397/1998</p> <p>c) Exempt Res. 3397/1997</p> <p>d) Exempt Res. 3275/1994</p> <p>e) Exempt Res. 27/2000</p>	<p>1963</p> <p>2015</p>

Animal identification and farm registration	a) Updates the Animal traceability official program b) Establishes traceability requirements for industrial production poultry and pork	Exempt resolution N° 6774 of 2015 Exempt resolution N° 8203 of 2015	
Emergency response activities	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Quarantine of animals or farms	Law on Animal Health and Protection	Decree RRA-16 of 1963	2012
Vaccination for the disease(s) under review	N/A		
Surveillance for the disease(s) under review	a) Declares the Republic of Chile as free of Classical Swine Fever b) Establishes diseases of obligatory notification for sanitary measures	Exempt resolution N°987 of April 14, 1998 Exempt Decree 389 of November 21, 2014	
Control and eradication of the disease(s) under review, emergency response activities, and seizure, depopulation, and compensation	a) Regulation of the law on animal health policy b) Law on Animal Health and Protection c) Approves Regulation for the Eradication of Classical swine fever, prohibits waste feeding	a) Decree 318 of 1925 b) Decree RRA-16 of 1963 c) Exempt Decree 32 of 1996	2014 2012

Disease under review: Swine vesicular disease			
Animal Health Activity	Description	Authorizing Legal Act(s) or Regulation(s)	Last Amended
Disease notification	Establishes diseases that must be reported for the application of sanitary measures	Exempt Decree 389	2014
On-farm inspections	Law on Animal Health and Protection	Decree RRA-16 of 1963	2012
Import, internal controls export, and movement	<p>a) Establishes sanitary requirements for entry of swine for reproduction.</p> <p>b) Establishes sanitary requirement for entry of swine semen into Chile.</p> <p>c) Establishes sanitary requirements for entry of refrigerated or frozen pork meat into Chile.</p> <p>d) Establishes sanitary requirements for entry of wild boar meat into Chile.</p> <p>e) Establishes sanitary requirements for the entry of pork tripe into Chile.</p>	<p>a) Res. Ex 2344/2015</p> <p>b) Res. Ex 25/2000</p> <p>c) Res. Ex 3397/1998</p> <p>d) Res. Ex 3397/1997</p> <p>e) Res. Ex 3275/1994</p>	2015
Quarantine of animals or farms	Law on Animal Health and Protection	Decree RRA-16 of 1963	2012
Surveillance for the disease(s) under review	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Control and eradication of the disease(s) under review, emergency response activities, and seizure, depopulation, and compensation	<p>a) Regulation of the law on animal health policy</p> <p>b) Law on Animal Health and Protection</p> <p>c) Approves regulation for the Eradication of Classical swine fever, prohibits waste feeding</p>	<p>a) Decree 318 of 1925</p> <p>b) Decree RRA-16 of 1963</p> <p>c) Exempt Decree 32 of 1996</p>	<p>2014</p> <p>2012</p>
Animal identification and farm registration	<p>a) Updates the Animal traceability official program</p> <p>b) Establishes traceability requirements for industrial production poultry and pork</p>	<p>Exempt resolution N° 6774</p> <p>Exempt resolution N° 8203</p>	<p>2015</p> <p>2015</p>

Disease under review: Newcastle Disease			
Animal Health Activity	Description	Authorizing Legal Act(s) or Regulation(s)	Last Amended
Disease notification	a) Establishes regulations on animal health and protection b) Establishes diseases that must be reported for the application of sanitary measures	Statutory Decree no. 16 of 1963 Decree 389 of 2014	1985
On-farm inspections	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Import, export, and internal movement controls	Establishes regulations on animal health and protection Import requirements for companion birds Import requirements for one-day-old birds and fertile poultry eggs Pet birds	Statutory Decree no. 16 of 1963 Res. Ex. 7352 Res. Ex. 839 and 2174 Res. Ex. 5459	1985 2012 2010 2007
Quarantine of animals or farms	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Vaccination for the disease(s) under review	Not applicable		
Surveillance for the disease(s) under review	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Control and eradication of the disease(s) under review	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Animal identification and farm registration	Establishes traceability requirements for industrial production poultry and pork	Exempt resolution N° 8203 of 2015	
Emergency response activities	Regulation of the law on animal health policy	Decree 318 of 1925	2014
Seizure, depopulation, and compensation	Contingency Plan		2012

Appendix 3 - Tables

Table 1: Numbers of animal imports into Chile – 2014 to 2017

Año de importación	País exportador	Especie animal	Cantidad	Propósito
2014	AUSTRALIA	OVINOS	5	REPRODUCCIÓN
2014	CANADA	PORCINOS REPRODUCTORES	121	REPRODUCCIÓN
2014	BRASIL	POLLITOS 1 DIA	271.216	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2014	CANADA	POLLITOS 1 DIA	24.860	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2014	EEUU	POLLITOS 1 DIA	25.650	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2014	ALEMANIA	POLLITOS 1 DIA	24.192	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2014	INGLATERRA	POLLITOS 1 DIA	11.970	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2015	NUEVA ZELANDA	OVINOS	3	REPRODUCCIÓN
2015	AUSTRALIA	OVINOS	20	REPRODUCCIÓN
2015	CANADA	PORCINOS	270	REPRODUCCIÓN
2015	NORUEGA	PORCINOS	33	REPRODUCCIÓN
2015	ESPAÑA	GALLINAS	6	REPRODUCCIÓN
2015	EEUU	POLLITOS 1 DIA	11.325	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2015	CANADA	POLLITOS 1 DIA	21.770	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2015	BRASIL	POLLITOS 1 DIA	337.147	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2015	ALEMANIA	POLLITOS 1 DIA	30.400	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2015	FRANCIA	POLLITOS 1 DIA	9.201	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2016	NUEVA ZELANDA	OVINOS	4	REPRODUCCIÓN
2016	CANADA	PORCINOS	207	REPRODUCCIÓN
2016	NORUEGA	PORCINOS	45	REPRODUCCIÓN
2016	EEUU	POLLITOS 1 DIA	50.100	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2016	CANADA	POLLITOS 1 DIA	55.561	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2016	BRASIL	POLLITOS 1 DIA	309.369	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2017	AUSTRALIA	OVINOS	6	REPRODUCCIÓN
2017	NUEVA ZELANDA	OVINOS	5	REPRODUCCIÓN
2017	AUSTRALIA	CARNEROS REPRODUCTORES	6	REPRODUCCIÓN
2017	CANADA	PORCINOS	303	REPRODUCCIÓN
2017	BRASIL	POLLITOS 1 DIA	358.269	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2017	EEUU	POLLITOS 1 DIA	78.570	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2017	ALEMANIA	POLLITOS 1 DIA	10.480	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA
2017	CANADA	POLLITOS 1 DIA	20.235	REPRODUCCIÓN/PRODUCCIÓN BROILERS/POSTURA

Table 2: Imports of beef, poultry meat, and pork – 2015 to 2017 (Tons)

Exporting country	2015			2016			2017		
	Beef	Poultry	Pork	Beef	Poultry	Pork	Beef	Poultry	Pork
Argentina	21,595.120	14,679.287	-	25,747.869	10,045.865	-	14,721.857	5,339.784	-
Australia	69.798	-	-	-	-	-	0.047	-	-
Brazil	52,139.918	40,577.803	7,943.719	69,804.209	47,616.054	22,294.858	26,206.302	21,439.802	9,825.684
Canada	116.836	47.422	12,109.409	454.754	-	9,772.524	190.918	-	6,102.103
Colombia	-	-	-	-	-	-	97.873	-	-
South Korea	-	-	-	-	0.233	-	-	0.108	-
Denmark	-	-	26.271	-	-	-	-	-	176.060
Spain	-	18.368	89.401	-	-	70.970	-	-	198.680
USA	6,552.583	51,963.952	13,561.802	6,765.007	77,248.475	16,127.723	4,395.794	41,473.362	12,459.371
France	-	0.002	-	-	0.005	-	-	-	-
Holland	-	-	-	-	-	25.000	-	-	-
Hungary	-	-	-	-	-	-	-	-	95.985
Italy	-	-	-	-	0.002	-	-	-	0.001
Mexico	-	-	-	0.027	-	-	-	-	-
Paraguay	64,658.789	-	-	77,155.402	-	-	44,859.820	-	-
Poland	-	-	569.476	-	-	5,784.373	-	-	3,776.269
Portugal	-	-	-	-	-	98.780	-	-	-
United Kingdom	-	-	-	-	-	76.480	-	-	-
Uruguay	6,005.923	46.015	-	5,085.670	46.994	22.986	2,584.294	-	-
General Total	151,138.967	107,332.849	34,300.078	185,012.938	134,957.628	54,273.694	93,056.905	68,253.056	32,634.153

Appendix 4 - Summary of active surveillance for hazards under review*

Disease agent	2014	2015	2016	2017	2018 Up to May 15
Foot-and-mouth disease	4,850	588	624	3,037	1,823
Classical swine fever	4,551	5,371	5,139	5,288	1,117
Newcastle disease	2,656	1,272	4,500	3,754	P**

* No active surveillance is conducted for SVD.

** P – In process.

