



Department
for Environment
Food & Rural Affairs



**The Scottish
Government**
Riaghaltas na h-Alba



Llywodraeth Cymru
Welsh Government

Lumpy Skin Disease

Control Strategy for Great Britain

June 2018



© Crown copyright 2018

You may re-use this information (excluding logos) free of charge in any format or medium, under the terms of the Open Government Licence v.3. To view this licence visit www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ or email PSI@nationalarchives.gsi.gov.uk

This publication is available at www.gov.uk/government/publications

Any enquiries regarding this publication should be sent to us at

Animal Health Policy and Implementation
Defra
Area 5C
Nobel House
17 Smith Square
London SW1P 3JR

PB 14516

www.gov.uk/defra

Contents

Introduction	4
The disease	4
Signs of infection	5
Transmission	6
Prevention	7
Suspicion of infection	7
Notification to Animal and Plant Health Agency (APHA)	7
Veterinary inquiry	8
Testing and diagnosis	8
Area restrictions around the suspect premises	8
Epidemiological inquiry	9
Suspicion of disease at a slaughterhouse	9
Outcome of investigation of suspect premises and animals	10
Disease confirmed in GB	10
Disease control objectives	10
Trade restrictions	11
Actions at an infected premises	11
Human and food safety	11
Culling	11
Compensation and valuation	11
Disposal of carcasses	12
Cleansing and disinfection (C&D)	12
Restocking of depopulated premises	13
Confirmation of disease at a slaughterhouse	13
Tracings and contact premises	13
Disease control zones	14
General principles	14
Cross-border zones in GB	14
Size of zones	14
Movement restrictions	16
Protection Zone & Surveillance Zone	16
Vaccination	16
Vaccination zones	17
Vaccination surveillance zone (VSZ)	18
Recovery	19
Duration of zones	19
Resuming international trade	19
Regaining disease free status	19
Annex A: Relevant legislation	21
Annex B: Control measures by zone	23
Annex C: Table of restrictions	25

Introduction

1. This document sets out the disease control measures and policies government would consider and implement if Lumpy Skin Disease (LSD) was suspected or confirmed in Great Britain (GB), within the remit of national and European law.
2. LSD is a compulsory notifiable disease in GB under the Specified Diseases (Notification) Order 1996 (Si No.1996/2628). It is also notifiable to the European Union (EU) and Office International des Epizooties (OIE – also known as the World Animal Health Organisation). The disease affects cattle and water buffalo and belongs to a genus of viruses called Capripox. The virus is not transmissible to humans.
3. This strategy has been produced jointly by the Scottish and Welsh Governments and Defra, and in consultation with experts and industry stakeholders.
4. Responsibility for managing an outbreak in the countries that form GB falls to the respective governments. However as LSD could spread irrespective of geographical and political boundaries, the approach to movement controls, restrictions, vaccination and managing an outbreak seeks complementary, consistent and co-ordinating measures across the whole of GB. The [United Kingdom Contingency Plan for Exotic Notifiable Diseases of Animals](#) sets out the structures, roles, and responsibilities for a rapid and effective response to animal disease.
5. The disease control strategy includes good biosecurity and animal care, responsible sourcing of animals, monitoring of the disease situation in Europe and internationally, and having in place appropriate risk based import conditions and testing.
6. The control measures set out in legislation and this control strategy are aimed at preventing disease spread through managing risks and taking appropriate evidence based action at the right time, and eradicating disease on infected holdings. This control strategy is for government, operational partners, industry, and anyone keeping LSD susceptible animals.

The disease

7. LSD has the potential for rapid spread and production loss to the cattle industry, and is of major importance to the international trade of livestock.

8. The disease is known to affect bovine animals, particularly cattle (*Bos taurus* and *Bos indicus*) and water buffalo (*Bubalus bubalis*)¹. American bison (*bison bison*) and european bison (*bison bonasus*) are potentially susceptible to the disease. The impacts of the disease can be significant and include damage to hides, loss of milk and beef production, abortion in females, sterility (which can be permanent in males), and death. Some infected animals do not show clinical signs but may still be viraemic and have the potential to transmit the virus (subclinical infection).
9. LSD has been endemic in North Africa and the Middle East for several years, but since 2015 has rapidly spread throughout the Balkan and Caucasus regions, with major outbreaks occurring in 2015 and 2016 in the EU member states of Greece and Bulgaria, and several other Balkan countries.

Signs of infection

10. The incubation period of the disease is usually around 6-9 days. The morbidity varies from 5-45%² but is typically around 10%. It is therefore possible that only a few animals in the herd will show clinical signs, which can range from mild to severe. Some infected animals may not show any clinical signs (subclinical infection).
11. The following clinical signs may be exhibited:
 - Fever and malaise, followed by
 - One or more firm nodules (lumps) which can appear anywhere on the body but are commonly found on the head, sides, udders and genitalia;
 - Ulcers in the nose and digestive tract;
 - Increased salivation and nasal discharge;
 - Generalised inflammation of the lymph nodes (lymphadenopathy);
 - Decreased milk yield in lactating cattle;
 - Abortion in pregnant animals;
 - Temporary sterility in cows;
 - Temporary or permanent sterility in bulls;
 - Death in some clinically infected animals.

¹ Water buffalo are present in the UK in low numbers with some farmed animals and the remainder in licensed zoological collections.

² From the OIE technical disease card:

http://www.OIE.int/fileadmin/Home/eng/Media_Center/docs/pdf/Posters/EN_Poster_LSD_2016.pdf

Transmission

12. The main route of transmission from one animal to another is believed to be through blood sucking insects, which act as vectors when exposed to the virus whilst feeding on skin including scabs and nodules where the virus is most concentrated.
13. There are many vectors that may be capable of spreading LSD present in the UK, including stable flies (*stomoxys spp*), mosquitoes (*culex spp*) and horse flies (*tabanidae*), though no specific responsible vector has been specified to date. Tick species have also been implicated in transmission of LSD and there is some debate over the possibility of vertical transmission within tick species.
14. The vectors capable of transmitting the disease are more prevalent in the UK during warmer weather. Therefore, establishment of the disease and localised outbreaks are considered more likely if the primary case occurs throughout warmer periods. If the primary case occurs in the winter, the risk of localised outbreaks is reduced but cannot be ruled out.
15. Infected cattle can be viraemic and infectious from as early as 6 days following infection and remain viraemic for 1-2 weeks from the onset of clinical signs. The disease therefore has the potential to quickly spread undetected during the vector season if animals are grazing and not examined at regular intervals. Sub-clinically infected animals can also be viraemic and have the potential to spread the infection, though clinically infected animals with nodules are likely to be more important in the transmission of the disease.
16. Other potential routes of infection include:
 - direct and indirect contact with infected saliva, tissues (e.g. scabs), food and water;
 - ingestion of unpasteurised milk from infected animals;
 - contact with untreated animal hides (a APHA risk assessment concluded that the risk of importing an infected animal from the EU or contaminated hides from the EU or a third country was low);
 - vertical transmission through infected semen;
 - transmission from mother to foetus; and
 - infected needles and blood.
17. The virus is very stable in the environment. It can survive for long periods at ambient temperatures in dried scabs and infected tissues and can persist for several months in the right environmental conditions (for example in scabs in shaded animal pens). It is susceptible to sunlight and detergents containing lipid solvents, so good biosecurity, cleansing and disinfection (C&D) should be observed to reduce the risk of transmission from these sources.

18. UK (native) livestock are likely to be highly susceptible to LSD infection and show signs of disease because they have not been exposed to the disease before and will have no acquired immunity or protection from previous infection. There is limited evidence of infection in non-livestock species and it is unlikely that wildlife would be affected.

Prevention

19. Given the means by which this disease spreads and the risk of contamination of the environment, it is imperative that good biosecurity measures are followed. This includes responsible sourcing of susceptible animals, checking their health status, vigilance by animal keepers and discussing any concerns with their vet promptly. Vigilance should also be maintained at slaughterhouses.
20. Early detection through vigilance, good biosecurity and prompt reporting are important aspects in controlling the spread of LSD. If an animal keeper, farmer or vet has any concerns about potential LSD in an animal or carcass they must report this as soon as possible to the Animal and Plant Health Agency (APHA).
21. Defra monitors the international disease situation closely. Preliminary outbreak assessments are published on the Defra website on notification of a disease outbreak from the EU or OIE. For outbreaks of LSD in an EU member state (MS), a country bordering the EU or a trading partner, more in-depth qualitative risk assessments may be carried out by Defra. These are designed to give a balanced account of the threat of the disease incident to GB at present and in the future. Both assessments are used to inform government's advice on the risk level of LSD to GB and inform the consideration of post-import controls.
22. Should the risk of incursion of LSD into the UK increase, government will inform stakeholder organisations to allow them to consider appropriate preventative measures. Assessments are available at:
<https://www.gov.uk/government/collections/animal-diseases-international-monitoring>.

Suspicion of infection

Notification to Animal and Plant Health Agency (APHA)

23. If disease is suspected then this must be reported using one of the following methods:
- In England, by reporting suspicion of the disease to [Defra Rural Services Helpline](#).

- In Scotland, by reporting suspicion of the disease to your local [APHA Field Services office](#).
- In Wales, by reporting suspicion of the disease to the [APHA Field Services Wales Helpline](#).

Veterinary inquiry

24. In response to the notification of suspicion of LSD, a veterinary inquiry will be conducted at the suspect premises by a government veterinary inspector (VI). The premises will be under movement restrictions during this time. If the VI cannot rule disease out following a clinical assessment of the affected animal(s), samples will be taken from susceptible animals and submitted for testing at the national reference laboratory at the Pirbright Institute.
25. An inventory of all animals on the premises will be compiled by the VI. This will include:
- information on all animals by species clinically affected, dead and clinically normal
 - veterinary history of the herd (e.g. medicine use)
 - movements of LSD-susceptible animals onto and off the suspect premises for at least the previous 28 days and details of any contact premises
 - possible vector breeding sites.

Testing and diagnosis

26. The VI will send samples of blood and tissues from susceptible animals for polymerase chemical reaction (PCR) testing to the OiE capripox reference laboratory at the Pirbright Institute.
27. The PCR test is highly sensitive and specific and will be the primary test used to support diagnosis of the disease. PCR results are normally available within 24 hours.

Area restrictions around the suspect premises

28. If the VI is unable to clinically rule out suspicion of the disease, restrictions will continue to be applied to the suspect premises to prohibit the movement (except under licence) of:
- people, equipment and vehicles to or from the suspect premises,
 - all animals including animals of other species not susceptible to the disease,
 - meat, unpasteurised milk, animal carcasses, animal feed, manure and equipment,

- waste – including milk from dairy cattle, bedding, litter,
 - hides and skins,
 - anything else with potential to transmit the disease.
29. Further restrictions and requirements may be applied to prevent the spread of disease. These may include disinfection arrangements at entrances and exits, and keeping susceptible animals indoors or isolated. These measures may also be applied to associated holdings and contact premises. This is more likely if animals are traced from a location already confirmed with disease.
30. If the LSD virus is already circulating in GB, a Temporary Control Zone (TCZ) may also be declared around the premises. The size of this will be based on veterinary advice and will consider:
- geographical boundaries;
 - seasonal vector activity and weather conditions;
 - density of susceptible species in the area surrounding the IP;
 - tracing of recent cattle movements to and from the infected area;
 - the specific circumstances of the outbreak

Epidemiological inquiry

31. Information will also be gathered so that an epidemiological inquiry can begin. This inquiry will progress if disease is confirmed and will look to determine:
- the period during which LSD may have been present on the premises;
 - the source and spread of the disease;
 - any other premises that may have been contaminated from the same origin;
 - the extent to which other susceptible animals may have been infected or contaminated;
 - any premises to or from which the virus may have spread.

Suspicion of disease at a slaughterhouse

32. If disease is suspected at a slaughterhouse and the VI cannot rule disease out, a notice will be served restricting the movement of all animals, people and anything with the potential to transmit LSD disease from the premises. The suspect animals will be slaughtered and stored separately, and APHA will undertake a veterinary inquiry at the originating premises.

Outcome of investigation of suspect premises and animals

33. There are two possible outcomes:

- LSD is not confirmed – restrictions would be lifted
- LSD is detected in the animals tested.

34. At this time, the CVOs of the four UK administrations will convene to consider the outcome of the veterinary inquiry and emerging lab results. If it looks likely that disease will be found, an 'amber' teleconference will be arranged, chaired by the Chief Veterinary Officer (CVO) and attended by government representatives, to apprise all concerned of the developing situation and agree the next steps. Government will also consider when to inform the relevant industry and stakeholder organisations.

35. If LSD is detected in the PCR results, the laboratory will inform the relevant CVO(s) for the country(s) affected and the CVO will, if satisfied with the results, confirm the presence of LSD in the UK. The CVO UK will notify the European Commission and OIE.

Disease confirmed in GB

Disease control objectives

36. If a notifiable exotic disease is confirmed in Great Britain (GB) government will act swiftly and decisively, in partnership with operational partners and stakeholders to:

- protect the health and safety of the public and those directly involved in controlling the outbreak;
- eradicate the disease and regain disease-free status;
- minimise the burden on the taxpayer and public as well as the economic impact of the outbreak on industry.

37. We will endeavour to:

- control disease and safeguard animal health and welfare, and humanely destroy as few animals as necessary;
- minimise adverse impacts on animal health and welfare, the rural and wider economy, the public, rural communities and the environment.

Trade restrictions

38. In the event of an outbreak in GB, trade in live animals or products of susceptible species, (such as semen, embryos, ova, products for agricultural or industrial use) would be suspended from premises within the infected area(s), according to guidance from the OIE Terrestrial Code³. The European Commission may request additional assurances, as may third country trading partners. Wherever possible, government would look to apply regionalisation in accordance with OIE principles in order to allow trade to continue from unaffected areas.

Actions at an infected premises

39. On the premises where disease is confirmed, restrictions already imposed on the premises will remain in force. Susceptible animals will be humanely culled. Their carcasses will be disposed of and preliminary C&D will be carried out on the farm under APHA supervision. The epidemiological investigation will continue to seek to establish where the disease came from and where it may have spread.

Human and food safety

40. LSD is not transmissible to humans and there are no implications for food or human health.

Culling

41. If LSD is confirmed, all susceptible animals on the infected premises will be humanely culled in accordance with EU and domestic law. There are certain animals on the UK breeds at risk list which may be spared from culling. This will be subject to a veterinary risk assessment and the European Commission will be informed if this approach is to be taken. If there are multiple infected premises and culling is considered to be less effective, government may approach the EU to request a deviation from the EU requirement to cull whole herds.

Compensation and valuation

42. Compensation provisions for animals culled for disease control purposes are set out in the Animal Health Act 1981. This provides that the compensation will be the value of the animal immediately before it was slaughtered.

³ OIE Terrestrial Animal Health Code: http://www.OiE.int/index.php?id=169&L=0&htmfile=chapitre_lsd.htm

43. Compensation will be paid for anything that has to be seized and destroyed by APHA because it poses a risk of transmitting disease and cannot be cleansed and disinfected. This will be at the value of the item at the time of seizure (that is in its contaminated state, which often means the item has no value).
44. Compensation is not paid for any meat, milk or by-product that is required to be disposed of following trace investigations of potential sources of disease spread.

Disposal of carcasses

45. On premises where susceptible animals have been culled for disease control purposes, the carcase of any animal that dies or is culled on that premises will be removed under the authority of the relevant Minister, and disposed of in such a way as to prevent the onward spread of LSD.
46. On premises where no animals have been culled for disease control purposes, disposal of carcasses shall remain the responsibility of the owner of the animals. Carcasses must be disposed of in accordance with the Animal By-Products (Enforcement) (England) Regulations 2013, the Animal By-Products (Enforcement) (Scotland) Regulations 2013 or the Animal By-Products (Enforcement) (Wales) Regulations 2011.

Cleansing and disinfection (C&D)

Primary C&D

47. After the carcasses have been disposed of, preliminary C&D of the premises will be carried out under the supervision of APHA and at the cost of government.

Secondary C&D

48. Secondary C&D will be required prior to restocking with replacement animals, and this will be carried out to a satisfactory standard by the owner at their own expense, and subject to government sign-off. This will include:
 - disinfection of animal housing and equipment using government's list of [disinfectants approved for use in Scotland, England and Wales](#);
 - the destruction of contaminated feed, bedding litter, manure and slurry by incineration or treatment according to APHA guidance;
 - insecticide application where appropriate.

Restocking of depopulated premises

49. As the LSD virus is vector borne and can persist for long periods in the environment, unprotected replacement animals are at risk of being infected if they are introduced to a previously infected premises too soon. It is therefore important to ensure that replacement animals are vaccinated prior to being brought on to a previously infected premises.
50. Restocking with vaccinated susceptible animals will not be permitted until at least 21 days after completion of secondary C&D of the infected premises. The replacement animals must have been vaccinated at least 28 days prior to moving onto the previously infected premises, to allow immunity to have developed.
51. If the keeper is unable to source replacement vaccinated animals, permission to restock with unvaccinated susceptible animals may only be granted following an individual risk assessment (completed by government) and only after a sufficient amount of time has passed to reduce the risk of LSD virus still being present in the environment and vector populations. Additional restrictions and monitoring may apply to the replacement animals, their products, and any areas of the premises that cannot be adequately cleansed and disinfected, based on the findings of the risk assessment.

Confirmation of disease at a slaughterhouse

52. All carcasses originating from the source farm will be destroyed under official supervision. No compensation is payable. No further animals will be allowed into the slaughterhouse until all relevant areas that may have been contaminated have been thoroughly cleansed and disinfected in agreement with APHA, and to their satisfaction. The premises of origin will be traced and a veterinary investigation carried out to determine what further action is required.
53. Restrictions may apply to the movement and trade of certain animal by-products. These are detailed within the table at annex B.

Tracings and contact premises

54. As a result of the epidemiological inquiry, other premises may be identified where the infection may have come from or spread to (for example, via movement of live animals or movement of infected materials). These are referred to as contact premises.
55. When a contact premises is identified through tracing to and from the IP, an assessment will be made about the level of risk that any susceptible animals have been exposed to. If the risk of exposure is high then restrictions will be served on the contact premises and the animals' health status will be regularly monitored over a period of 28 days from the last known contact with the IP.

56. In some circumstances the risk to susceptible animals is found to be exceptionally high – particularly when live animals have been moved from an infected premises during the infectious period. In these situations the premises will most likely be considered a dangerous contact and all susceptible animals at the premises may be culled.

Disease control zones

General principles

57. On confirmation of disease a declaratory order issued by the relevant administration(s) would outline area-based movement restrictions on premises around the infected premises (IP). Within these zones there will be restrictions on the movement of susceptible animals and other things likely to transmit LSD. Movements of cattle to and from these zones are also liable to be subject to restrictions. The rationale behind these measures is to minimise the risk of onward spread of disease to other susceptible animals. Susceptible animals in these zones, particularly in close proximity to infected premises, will be subject to inspection or examination.

Cross-border zones in GB

58. If the IP where disease has been confirmed is located near the border with another GB country, or where the zone(s) declared extend into that country, then both administrations will make the declaration relating to the zones.

Size of zones

59. Although EU legislation sets a legal minimum for the size of zones (3km and 10km radius for a protection zone and surveillance zone respectively) outbreaks on the continent and studies of the spread rate of LSD⁴ have shown this to be ineffective in controlling the spread of virus. In GB the following movement restriction zones would be required as a minimum:

- An inner protection zone (PZ) of at least 20km radius
- A surveillance zone (SZ) of at least a further 20km radius

These zones will collectively be referred to as the infected area.

⁴ Spread rate of lumpy skin disease in the Balkans, 2015–2016:
<https://www.ncbi.nlm.nih.gov/pubmed/28239954>

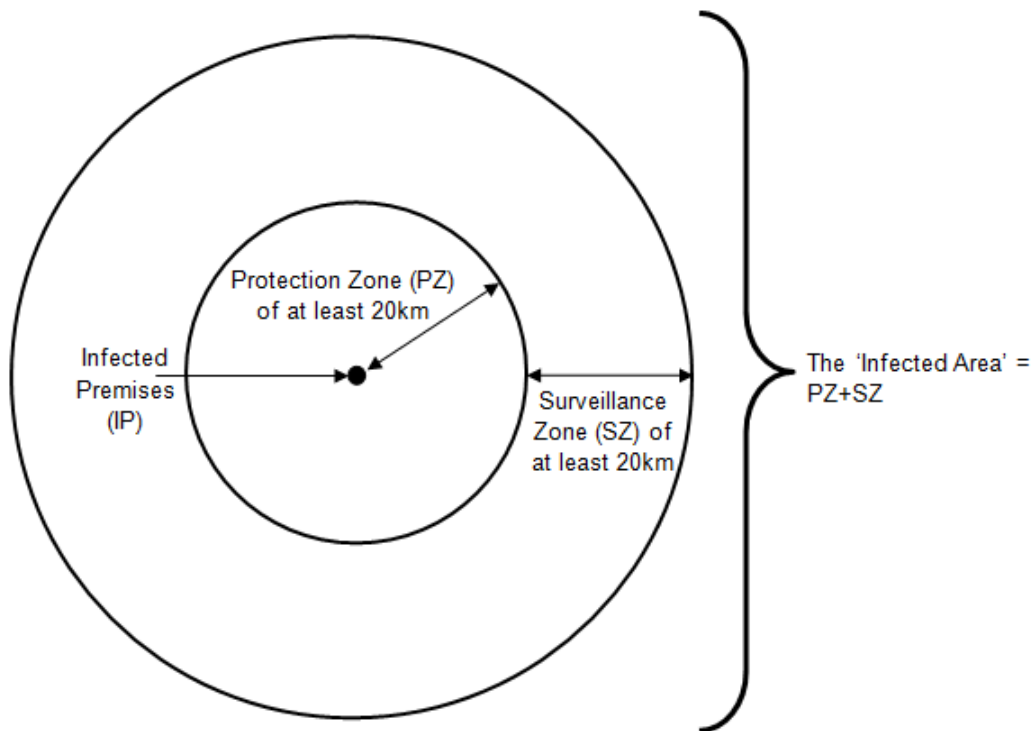


Fig1: Illustration of zones around an infected premises.

60. When determining the size of zones to be applied, government will take account of:

- geographical boundaries;
- seasonal vector activity and weather conditions;
- density of susceptible species in the area surrounding the IP;
- tracing of recent cattle movements to and from the infected area;
- the specific circumstances of the outbreak

61. There may be occasions when it is proportionate to extend the boundaries of a zone to minimise the impact of the restrictions on industry (e.g. to provide access to a slaughterhouse).

62. Alternatively, if permitted following a risk assessment, a slaughterhouse may be designated to receive animals transported under licence out of a PZ or SZ. In such cases the operator of the slaughterhouse will likely be required to follow certain licence conditions, such as the slaughter of the animal(s) that are subjected to movement controls within 24 hours of arrival, and following a satisfactory clinical inspection of the animals on the day of transport. It might

also be necessary to restrict the times animals can be transported to minimise exposure of susceptible livestock to biting insects.

63. The European Commission may also amend the boundaries after consideration of the results of investigations and surveillance submitted by the UK.
64. The table at Annex B details the disease control measures that will apply in each of the declared zones.

Movement restrictions

65. Animals and animal products present variable levels of risk. The movement of cattle, raw hides and skin from infected susceptible animals pose a higher risk in terms exposure and consequence than other products such as milk and dairy products, treated hides and skin or fresh meat and fresh meat products. Please see the table of restrictions (Annex B) for more detailed information on restrictions within and between zones.
66. Susceptible animals must remain within the zones for at least the maximum incubation period of the virus (for the LSD virus this is 28 days) following the most recent recorded case of disease. In the zones the movement and transport of susceptible animals on public roads (and on private roads in the PZ) or by rail is prohibited except under certain conditions. Certain animal movements may be permitted under licence, subject to a risk assessment.
67. A consequence of the requirement for susceptible animals to be kept in the zones for the incubation periods is that a designated slaughterhouse for emergency slaughter must be within the PZ or SZ (see paragraph 62 for exceptions.) Such movements can only take place if none of the animals are suspected of being infected. Hides from slaughterhouses are covered by the animal by-products regulations. Animal waste such as feed, bedding litter, manure and slurry (if considered likely to be contaminated) are to be incinerated or treated according to guidance from APHA.

Protection Zone & Surveillance Zone

68. The details of the applicable movement restrictions in these zones are detailed in the table at Annexes B & C.

Vaccination

69. Vaccination can play a major role in controlling LSD by:
 - preventing or reducing incidents of clinical disease when animals are exposed to virus;
 - reducing the number of infected vectors;

- preventing or reducing the amount of virus produced by infected animals. This reduces the likelihood of spread to other animals and in turn reduces the number of animals killed during an outbreak.

However, on occasion, LSD vaccination can also cause side effects such as:

- lumps that are smaller and fewer than seen in cattle infected with LSD (usually less than 10)
- fever;
- a reduction in milk production.

It can also prolong the length of time taken to regain disease freedom.

70. The routine preventative vaccination for LSD is usually prohibited within EU member states, but the commission may authorise an emergency vaccination programme where the virus is already present and provided that it is supplementary to the control measures already detailed above. Preventative vaccination programmes can also be considered if there is a very high risk of incursion through other routes, for example from a neighbouring infected territory.
71. The vaccine against LSD is a live vaccine. The use of it would place restrictions on the international trade of live animals and animal products from the [vaccination zone](#) for a minimum period of 8 months if vaccination is used preventatively without any incursion of the disease, and 14 months if it is used as a disease control measure following an outbreak. It would therefore potentially lengthen the period required for the UK to regain disease freedom. However, without vaccination LSD could rapidly spread throughout GB and become endemic in cattle.
72. In the event of an LSD outbreak in GB, the CVOs of the UK administrations will consider the merits of vaccination. Industry groups would be consulted prior to any recommendations being put to ministers to vaccinate. Where vaccination is considered a necessary and proportionate disease control measure, the UK CVO will inform the European Commission of our intention to commence an emergency vaccination programme.
73. In all instances where vaccination is considered, we would aim to implement the smallest possible vaccination zone required in order to stop the onward spread of disease.

Vaccination zones

74. Where an emergency vaccination programme is approved, government will declare one or more vaccination zones (VZ) of a suitable size to control disease spread, and the vaccination of all susceptible animals within the VZ(s) will be compulsory. The expected duration of the vaccination programme will be included in the declaration.

75. Vaccinations will be administered on the premises under the control of government. The National Experts Group (NEG) will meet to consider the most effective delivery strategy for vaccinating cattle in the VZ based on the specific circumstances of the outbreak. That strategy will be discussed with industry and put to the UK Animal Disease Policy Group (ADPG) for agreement. It is most likely that vaccine will be administered by a VI, delivery partner, authorised private vet or lay-vaccinator.
76. A VZ will always incorporate the infected area, which will be equivalent to the existing PZ and SZ in place around an IP as a minimum. This will be called the 'infected area vaccination zone (IVZ)'.
77. Government may also decide to vaccinate cattle in a 'free area vaccination zone (FVZ)'. A free area is an area where animals are being preventatively vaccinated to stop disease from spreading outside of the infected area.
78. There will be a requirement to:
- vaccinate all bovines independent of age, sex, gestational or productive status (but in accordance with the vaccine manufacturer's instructions.)
 - vaccinate the over four-month old offspring of vaccinated cows in accordance with the vaccine manufacturer's instructions.
 - revaccinate all bovines in accordance with vaccine manufacturer's instructions.
 - return all unused vaccine to the point of vaccine distribution with a written record on the number of animals vaccinated and the number of doses used.
79. Consideration will be given to the vaccination of other LSD susceptible species, such as water buffalo and bison.
80. The passport numbers of vaccinated animals will be centrally recorded by APHA or its contractor. The unvaccinated offspring of vaccinated cattle will also be recorded, along with their dam's ID. Key information on animals vaccinated will be recorded by government to meet minimum EU recording standards.
81. Vaccinated animals are protected from clinical signs but not necessarily from infection and not all vaccinated animals respond with a protective immunity. For this reason, vaccinated animals will not be able to move out of a VZ until certain conditions have been met. Restrictions will differ depending on whether the animal was vaccinated in the IVZ or FVZ. The restrictions will be set out in full if an emergency vaccination programme is to take place.

Vaccination surveillance zone (VSZ)

82. Around any zone where vaccination is carried out, and additional VSZ of at least 20km will be declared. Intensified surveillance will be carried out in this zone and vaccination of animals will be prohibited.

Recovery

Duration of zones

83. If a TCZ was declared it will remain in place until disease is either ruled out or confirmed. Where disease is ruled out, the zone will end and all restrictions will be lifted. Where disease is confirmed, the zone will end and will be replaced by the mandatory PZ and SZ.
84. The PZ must remain in place for a minimum of 28 days following primary C&D of the last infected premises. If no animals within the PZ show clinical signs or test positive for the virus within this 28 day period the PZ can become part of the SZ and the PZ restrictions can end.
85. The SZ will remain in place for a further of 28 days following the collapse of the PZ. Provided that no animals within the SZ show clinical signs or test positive for the virus within this period, the SZ and its associated restrictions can end.
86. Where an Emergency Vaccination Programme is underway, the VZ restrictions will still apply following collapse of the PZ and SZ. The expected length and duration of the vaccination programme and zone will be specified at the outset of any emergency vaccination programme.

Resuming international trade

87. The timing for resuming exports will vary depending on whether or not an emergency vaccination programme was implemented and will be subject to various criteria. The table at Annex B shows some examples of the trade restrictions that apply to each of the different zones.

Regaining disease free status

88. The OIE Terrestrial Animal Health Code sets out requirements which determine whether a country is regarded as disease free.

[OIE Terrestrial Animal Health Code – LSD Chapter.](#)

89. Following an outbreak of LSD, GB can be considered disease free when:

- A clinical, virological and serological surveillance programme has found no evidence of LSD virus in the 14 months following the case of LSD or the last vaccination, whichever is later; or
- A clinical surveillance programme has found no evidence of LSD virus in 3 the 26 months following the last case of LSD or the last vaccination, whichever is later.

90. The GB Government are strongly supportive of the OiE measures and surveillance activities following an outbreak of LSD would focus on gathering the necessary evidence to seek to declare disease freedom and return to trade as quickly as possible.

Annex A: Relevant legislation

EU legislation

[Council Directive 92/119](#)

UK Primary Legislation

[The Animal Health Act 1981](#)

[The Animal Health Act 2002 \(England and Wales\)](#)

[The Animal Health and Welfare \(Scotland\) Act 2006](#)

UK Secondary Legislation

Great Britain

[The Specified Diseases \(Notification and Slaughter\) Order 1992](#)

[The Specified Diseases \(Notification\) Order 1996](#)

England

[Movement of Animals \(Restrictions\) England Order 2002](#)

[Movement of Animals \(Restrictions\) \(England\) \(Amendment\) Order 2007](#)

[The Animal By-Products \(Enforcement\) \(England\) Regulations 2013](#)

[The Animal By-Products \(Enforcement\) \(England\) \(Amendment\) Regulations 2015](#)

Scotland

[The Movement of Animals \(Restrictions\) \(Scotland\) Order 2003](#)

[The Animal By-Products \(Enforcement\) \(Scotland\) Regulations 2013](#)

[The Animal By-Products \(Miscellaneous Amendments\) \(Scotland\) Regulations 2015](#)

Wales

[The Movement of Animals \(Restrictions\) \(Wales\) Order 2003](#)

[The Movement of Animals \(Restrictions\) \(Wales\) \(Amendment\) Order 2009](#)

[The Animal By-Products \(Enforcement\) \(Wales\) Regulations 2011](#)

[The Animal By-Products \(Enforcement\) \(Wales\) Regulations 2014](#)

Annex B: Control measures by zone

Control measure	Infected Premises (IP)	Protection Zone (PZ)	Surveillance Zone (SZ)	Vaccination Zones (IVZ and FVZ)
Detection: horizon scanning; checks on health certificates; post import testing from current LSD areas.	N/A	Yes	Yes	Yes
Increase and maintain awareness in the farming and veterinary community	Yes	Yes	Yes	Yes
Whole herd cull	Yes*	N/A: any infected animal creates a new IP		
Movement restrictions on animals, carcasses, hides and skins, ovum, embryos, semen	Yes	Yes	Yes	Yes
Vaccination with live vaccines	N/A	No, unless an emergency vaccination programme is authorised		Yes

Monitoring & Surveillance of live animals	N/A	Yes	Yes	Yes
Vector control in premises and on animals if possible (dependent on type of vector, if known)	Yes Thorough C&D with approved disinfectants	No	No	No
Export trade restrictions	Yes	Yes	Yes	Yes

***There are certain animals on the UK breeds at risk list which may be spared from culling.**

Annex C: Table of restrictions

Movements of live animals (cattle, water buffalo, bison) and germplasm (ovum, embryos, semen) in a Lumpy Skin Disease outbreak.

Zone	Restrictions
<p>Temporary Control Zone (TCZ)</p> <p>The size of any TCZ will be based on veterinary advice based on the specific circumstances of the case. A TCZ is unlikely to be declared if disease has not already been confirmed in GB.</p>	<p>Movement Restrictions: Restrictions on the movements of susceptible animals into and out of the TCZ, except:</p> <ul style="list-style-type: none"> • Through the zone without stopping; or • To complete a journey started before the creation of the zone; <p>Restrictions on movement of susceptible animals between premises within the TCZ.</p>
<p>Protection Zone (PZ)</p> <p>The PZ will cover at least a 20km radius around the infected premises – the actual size of the zone will be determined following consideration of all relevant factors at the time of the outbreak.</p>	<p>Movement Restrictions: Restrictions on movements of all susceptible animals along public or private roads between premises within the PZ, except under licence for:</p> <ul style="list-style-type: none"> • Movement to a slaughterhouse for ‘emergency slaughter’ <p>Restrictions on movements along public or private roads into and out of the PZ, except under licence for:</p> <ul style="list-style-type: none"> • Transport through the zone without stopping or unloading; • Transport from outside the zone for immediate slaughter in a slaughterhouse within the PZ; • Transport from the PZ to a slaughterhouse within the SZ for emergency slaughter; • Transport to an officially designated slaughterhouse outside of the SZ for

	<p>emergency slaughter (subject to a satisfactory clinical inspection on the day of transport and provided that a minimum of 28 days has passed since the last recorded case of LSD);</p> <p>Controls (under licence) for the collection of milk, transport and processing of milk and milk products.</p> <p>Trade restrictions: Restrictions will apply to the dispatch of consignments of:</p> <ul style="list-style-type: none"> • Live cattle, water buffalo and bison • Semen, Ova and Embryos • Unprocessed animal by-products • Untreated animal hides • Colostrum, Milk and Dairy Products
<p>Surveillance Zone (SZ)</p> <p>The SZ will cover a minimum of 20km radius around the PZ – but likely to be larger in order to control spread of disease.</p>	<p>Movement Restrictions: Restrictions on movements of all susceptible animals along public roads within the SZ, except for:</p> <ul style="list-style-type: none"> • Movement to pasture or animal housing on another part of the same premises within the SZ; <p>Restrictions on movements along public roads into and out of the SZ, except under licence for:</p> <ul style="list-style-type: none"> • Transport through the zone without stopping or unloading; • Transport from outside the zone for immediate slaughter in a slaughterhouse within the SZ; • Transport to an officially designated slaughterhouse outside of the SZ for emergency slaughter (subject to a satisfactory clinical inspection on the day of transport and provided that a minimum of 28 days has passed since the

	<p>last recorded case of LSD);</p> <p>Controls (under licence) for the collection of milk, transport and processing of milk and milk products.</p> <p>Trade restrictions: Restrictions will apply to the dispatch of consignments of:</p> <ul style="list-style-type: none"> • Live cattle, water buffalo and bison • Semen, Ova and Embryos • Unprocessed animal by-products • Untreated animal hides • Colostrum, Milk and Dairy Products
<p>Infected Area (IA)</p> <p>The IA is the term used to describe the combined area of the PZ and SZ.</p> <p>If an emergency vaccination programme is used as a disease control measure, the IA will become the 'Infected Area Vaccination Zone'</p>	<p>Please see the boxes for the PZ and SZ for the details of applicable restrictions.</p>
<p>Infected Area Vaccination Zone (IVZ)</p> <p>An IVZ will be declared following the authorisation to commence with an Emergency Vaccine Programme. The IVZ will be of equal size to the IA.</p> <p>If vaccinations are not taking place</p>	<p>The movement and trade restrictions in this zone will be specified at the outset of an emergency vaccination programme.</p>

<p>outside of the IVZ, an additional VSZ of at least 20km will be placed around the IVZ.</p>	
<p>Free Area Vaccination Zone (FVZ)</p> <p>An FVZ may be declared following the authorisation to commence with an Emergency Vaccine Programme. The FVZ will be of a suitable size to effectively control the spread of disease and will normally be located around an IVZ. An additional VSZ of at least 20km will be placed around the FVZ.</p>	<p>The movement and trade restrictions in this zone will be specified at the outset of an emergency vaccination programme.</p>
<p>Vaccination Surveillance Zone (VSZ)</p>	<p>No vaccination permitted. Clinical surveillance and testing of susceptible species required to be carried out by APHA.</p>