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Ministry of Food
and Agriculture



Lumpy skin disease (LSD)

The disease situation & its control in Mongolia

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Fourth LSD Coordination Meeting for South-East Asia
28 – 29 November 2023, Bangkok, Thailand

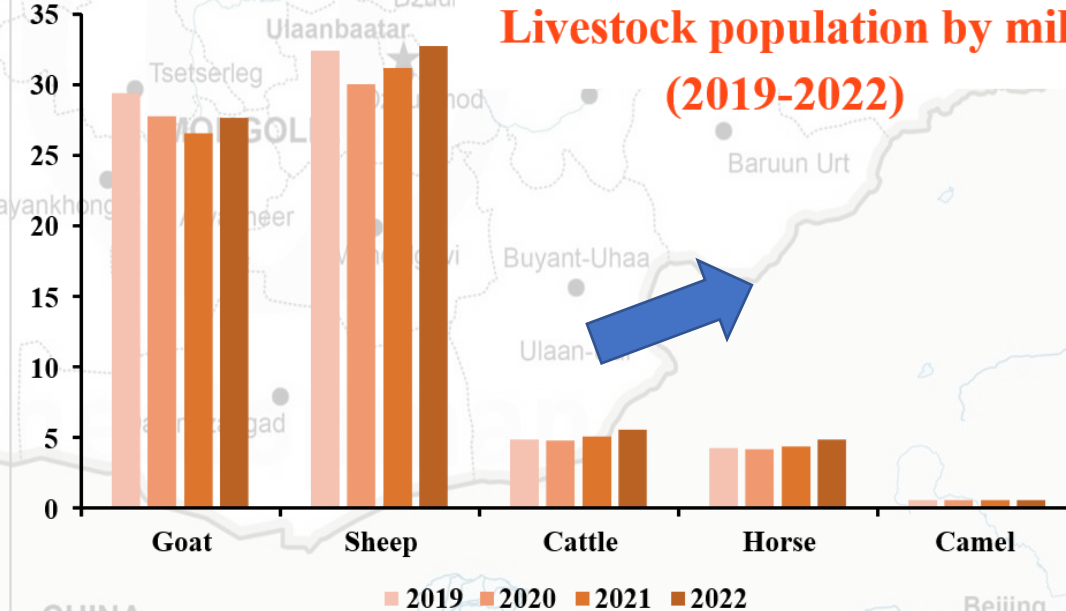
Introduction - Livestock

- 1.564 million km²
- 21 provinces

- **Livestock:**
Total: 71.7 mil (2022)

- **Sheep 46.0%**
- **Goat 38.8%**
- **Cattle 7.7%**
- **Horse 6.8%**
- **Camel 0.7%**

Livestock population by mil (2019-2022)

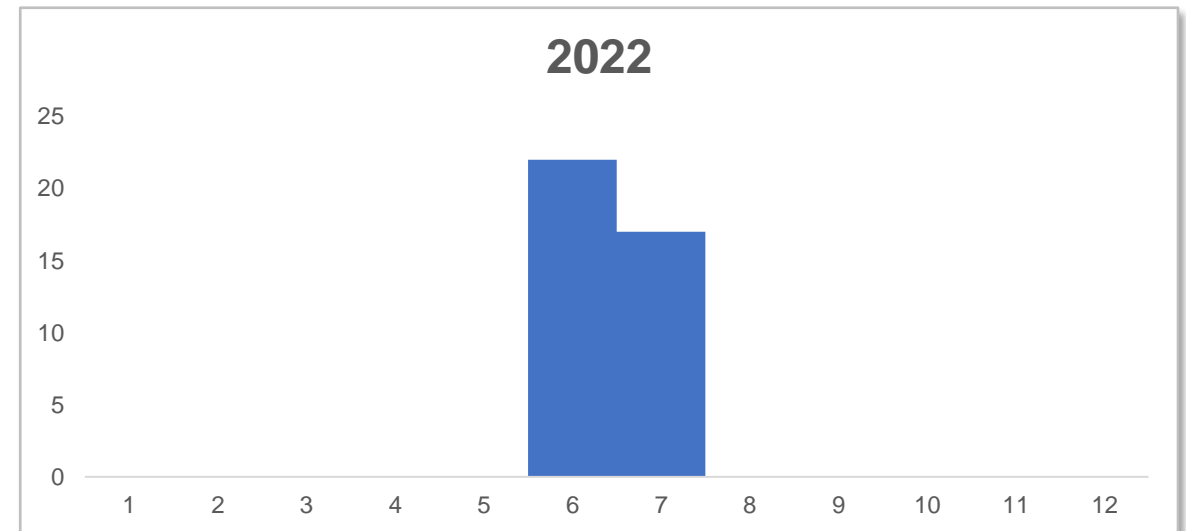
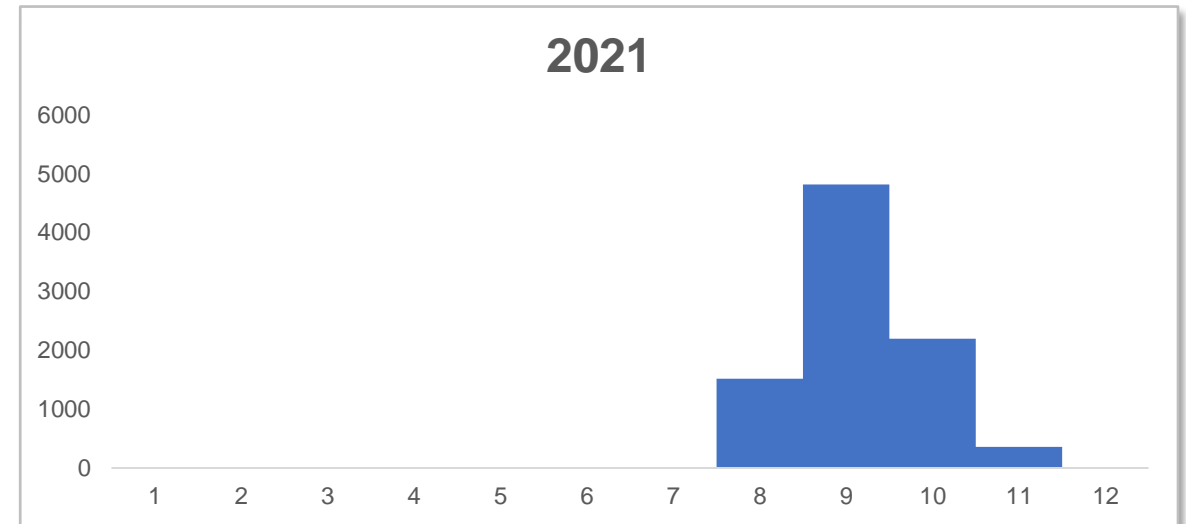


Temporal distribution

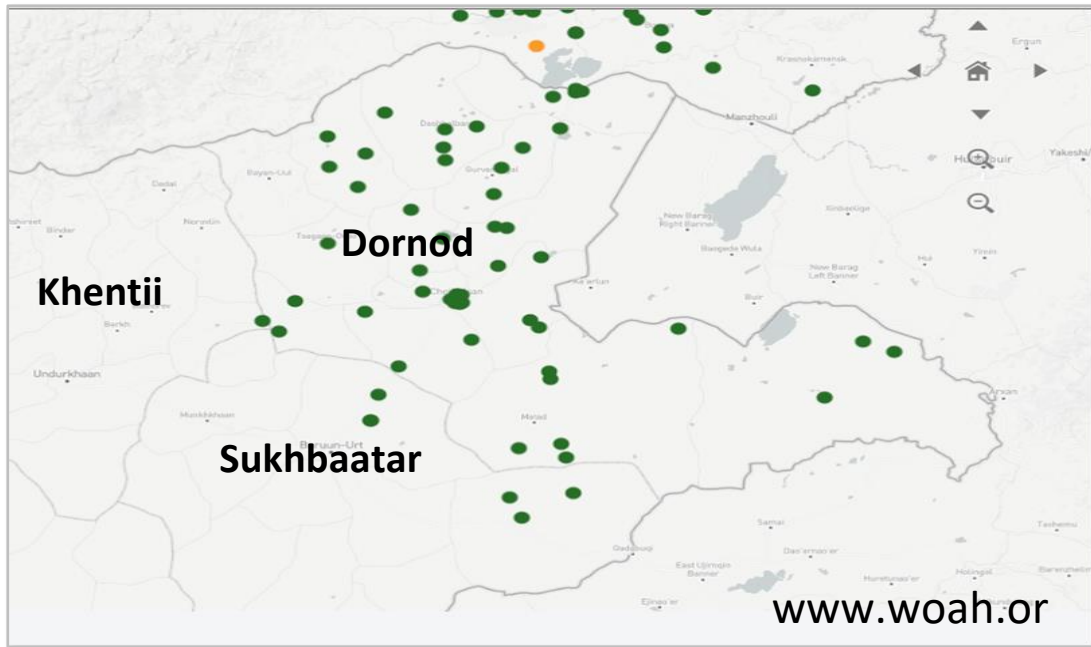
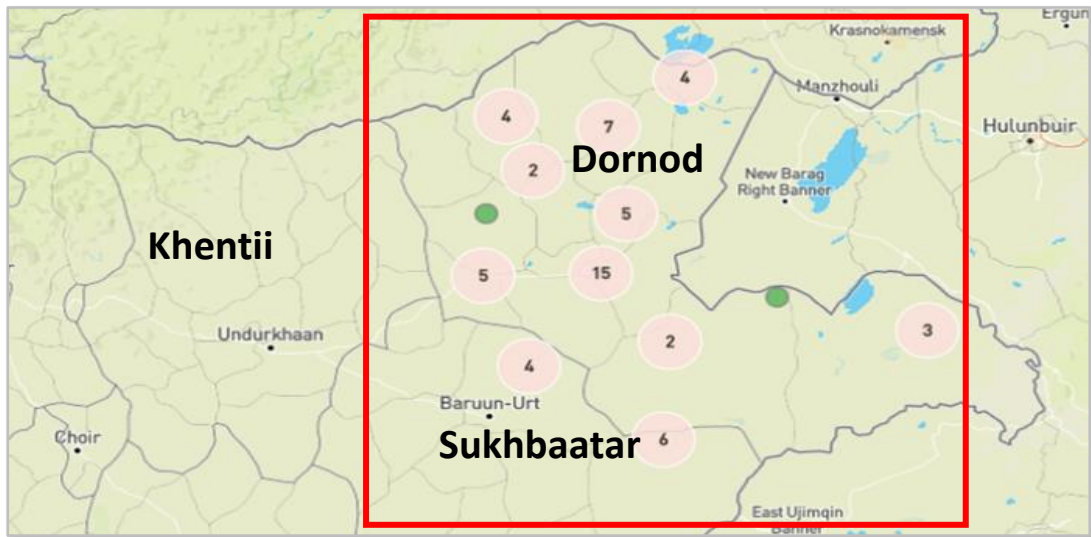
LSD outbreaks were reported:

- **First outbreak - 2021.08**
- **2022.05 – 2022.11**

No outbreak in 2023



LSD Situation



- In 2021, 53 outbreaks were registered with 2,527 cases. A total of 67 dead cattle were reported in 13 soums of **Dornod** province.
- In **Sukhbaatar** province, 6 outbreaks were reported with 38 cases.

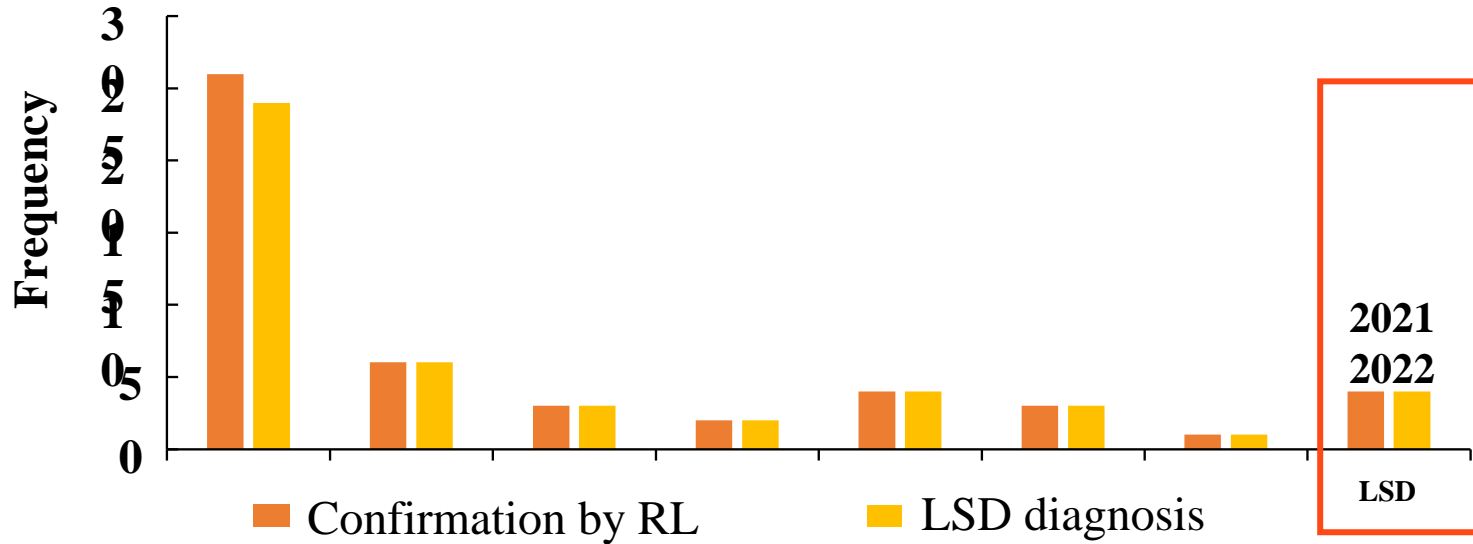
IN TOTAL:

- 59 outbreaks
- 2,578 cases
- 67 dead cattle
- 2,511 cattle were culled.
- 72,519 cattle were vaccinated
 - Dornod province
 - Sukhbaatar province
 - Khentii province

Stamping out policy was implemented.

Confirmation by reference labs (2021-2022)

Conformity of LSD diagnosis



INTERIM REPORT

LABORATORY RESULTS REPORT

Lab Ref: V1/21 Report Date: 14/09/2021
 Date Received: 13/09/2021 Country of Origin: MONGOLIA Date Tests Completed: 13/09/2021

Tests Requested and Method Followed:
 CAPRIPGX DIFFERENTIATION, CAPRIPGX real time PCR SOPs - NVR-SOP-20

A UKAS accredited testing laboratory No. 4025.

Sample Number	Animal ID	Sampling Date	Other Details	CAP DIFF#	CAP PCR	Interim Result
V1/21-001	DOR/ND	28/08/2021	LSDMOGS21/01, BOVINE, SKIN NODULE	LSDV	POS	POS
V1/21-002	DOR/ND	28/08/2021	LSDMOGS21/02, BOVINE, SKIN NODULE	LSDV	POS	POS
V1/21-003	DOR/ND	28/08/2021	LSDMOGS21/03, BOVINE, SKIN NODULE	LSDV	POS	POS
V1/21-004	DOR/ND	28/08/2021	LSDMOGS21/04, BOVINE, SKIN NODULE	LSDV	POS	POS
V1/21-005	DOR/ND	28/08/2021	LSDMOGS21/05, BOVINE, SKIN NODULE	LSDV	POS	POS

Report Date: 18/10/2022 Report Number: 587

Date Received: 11/10/2022 Country of Origin: Mongolia
 Date Tests Completed: 14/10/2022

Tests Requested* and Method Followed:
 Analysis: Capripox Virus real time PCR - Primary Assay Method: NVR-SOP-20
 CAPV Isolation # NVR-METH-42

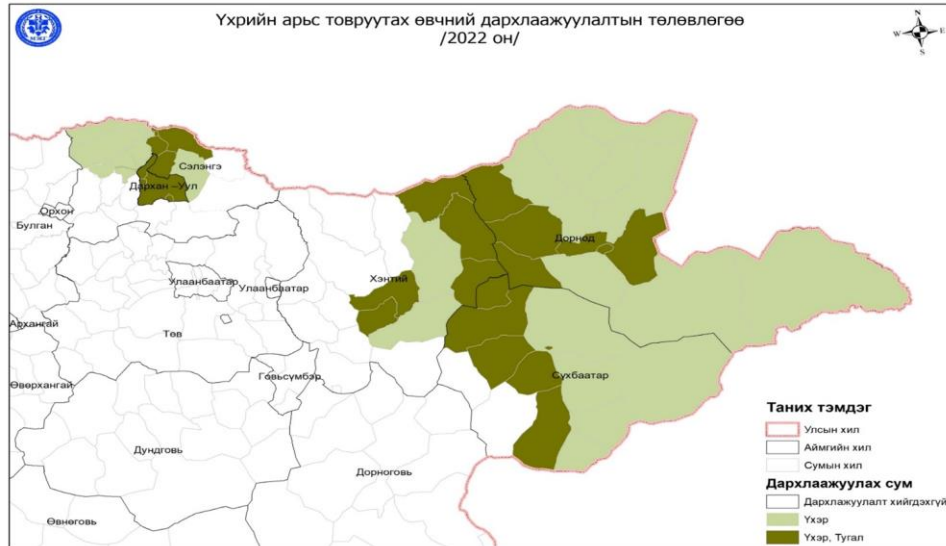
Sample Number	Animal ID	Sampling Date	CAP PCR	CAPV Isolation	Final Result
N-22-449-1		07/08/2022	POS		Positive
Other Detail*: MOG/LSD/22/1, Bovine, Skin Nodule					
N-22-449-2		10/08/2022	POS		Positive
Other Detail*: MOG/LSD/22/2, Bovine, Skin Nodule					
N-22-449-3		10/08/2022	POS		Positive
Other Detail*: MOG/LSD/22/3, Bovine, Heart					
N-22-449-4		20/08/2022	POS		Positive
Other Detail*: MOG/LSD/22/4, Bovine, Lymph Node					
N-22-449-5		21/08/2022	POS	Pending #	Pending
Other Detail*: MOG/LSD/22/5, Bovine, Skin Nodule					
N-22-449-6		31/08/2022	POS		Positive
Other Detail*: MOG/LSD/22/6, Bovine, Skin Nodule					
N-22-449-7		20/08/2022	POS	Pending #	Pending
Other Detail*: MOG/LSD/22/7, Bovine, Skin Nodule					
N-22-449-8		20/08/2022	POS		Positive
Other Detail*: MOG/LSD/22/8, Bovine, Skin Nodule					
N-22-449-9		02/09/2022	POS		Positive
Other Detail*: MOG/LSD/22/9, Bovine, Skin Nodule					
N-22-449-10		23/08/2022	POS		Positive
Other Detail*: MOG/LSD/22/10, Bovine, Skin Nodule					
N-22-449-11		23/08/2022	POS	Pending #	Pending

Confirmation activity by WOA reference laboratory:

- ❖ RUSSIA - Vladimir
- ❖ ENGLAND – Pirbright
- ❖ JAPAN - Hokkaido University
- ❖ CHINA – Harbin institute
- ❖ AUSTRIA – Seibersdorf

LSD prevention & Control activities

Vaccination in 2022

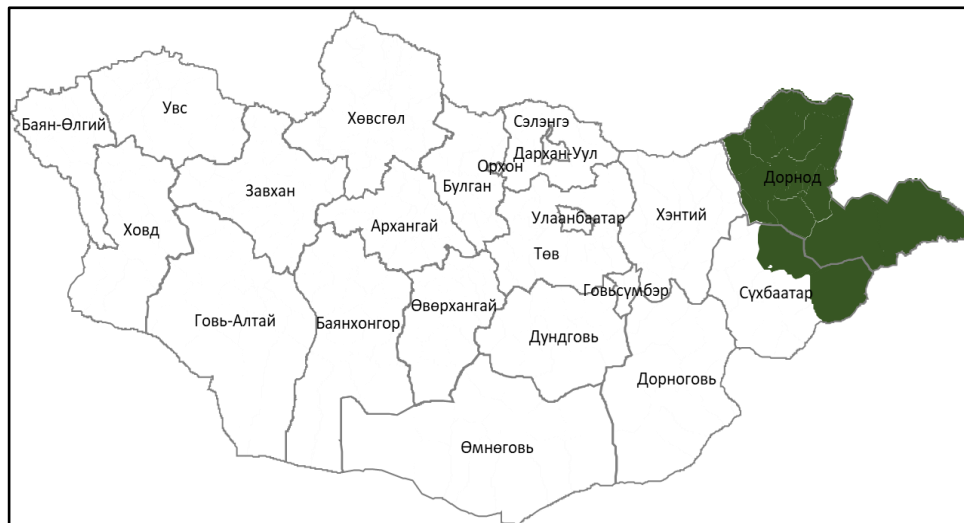


In 2022, routine vaccination was conducted in cattle herds in risky areas, since May 23, 2022.

- Sukhbaatar - 321,200
- Khentii - 207,200
- Dornod - 392,000
- Selenge - 121,200
- Darkhan - 64,000

In total, 1,105,600 head of cattle were vaccinated.

Vaccination in 2023



In 2023, the vaccination was conducted in cattle herds in risky areas, since Mar 15, 2023.

- Sukhbaatar – 69,000
- Dornod – 401,900

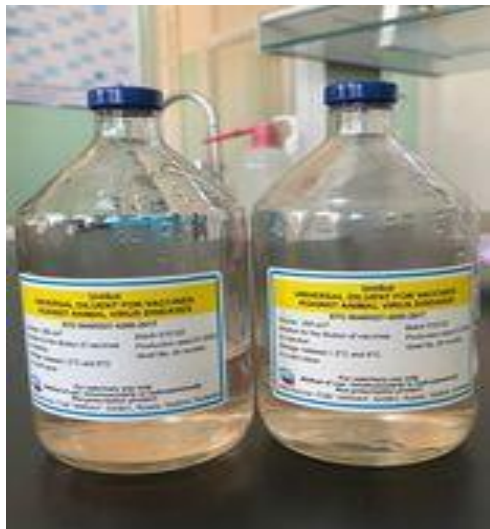
In total, 470,900 head of cattle were vaccinated.

Vaccine description LSD 2022-2023

Vaccination - 2022



- **Brand name:** Sheep pox-LSD vac
- **Manufacturer:** The Federal Center for Animal Health /ARRIAH/, Russia
- **Type of the vaccine:** Attenuated, freeze dried, live vaccine.
- **Manufacture date:** January 2022
- **Shelf life:** 24 months from manufacturing date
- **Vaccine titre:** (4lg TCID₅₀cm³).



Vaccination - 2023

- **Brand name:** LSD-NDOLL
- **Manufacturer:** Dollvet, TURKEY
- **Type of the vaccine:** Attenuated, freeze dried, live vaccine.
- **Manufacture date:** Mar 2022
- **Shelf life:** 24 months from manufacturing date
- **Vaccine titre:** (10^{3.5} - TCID₅₀).

LSD Prevention and Control activities

Promotion for herders & public

МАЛЧДАД ЗОРИУЛСАН МЭДЭЭЛЭЛ

ҮХРИЙН АРСЬ ТОВРУУТАХ ӨВЧНӨӨС УРЬДЧИЛАН СЭРГИЙЛБЭ !

Үхрийн арьс товруулах өвчин гэж юу вэ?

Зөвхөн үхэр өвчилдөг, вирусээр үүсдэг халдварт өвчин. Хүн өвчлөхгүй.

Хэрхэн халдварладаг вэ?

Шумуул, дэлэнч, хачиг гэх мэт цус сорогч шавжид хазуулах үед

Халдвар малаас малд шууд дамжина

Халдвартай үхэр эрүүл сүрэгт нийлснээр;
Дундын худаг болон тэжээлийн цэгээр;
Сүү, үрийн шингэнээр;
Мал эмнэлгийн үйлчилгээгээр (зүү, тариур);

• Хээлтүүлэгчээр (Бухын үрээр) **ИНЖ ТЭМДЭГ ИЛРЭХ ВЭ?**

Халуурна
41°C

Арьсанд үүссэн товруу нь хэсэг хугацаны дараа алга болох боловч ихэнхдээ гэмтсэн хэсэгт гүн шарх үлдэж хорхой, шавжийг төтдөг

Дүгүй халбарийн 1-5 см хэмжээтэй товруу, гүвдэрүү арьсан дээр үүснэ

Суга болон цавины булчирхай томорно, хээл хаяна

Ам, хамар дотор, уруул, зовхин дотор шархлаа үүснэ

Тэжээлдээ дургүй болж, сүү татарна

Үхрийн арьс товруулах өвчнөөс хэрхэн урьдчилан сэргийлэх вэ?

1 Сүрэг сэлбэх үхрийг зөвхөн эрүүл, баталгаатай газраас худалдан авах;
Гаднаас авчирсан үхрийг 28-аас доошгүй хоногийн хугацаанд хорио цээрт байлгаж, ажиглалт хийсний дараа сүрэгтээ нийлүүлэх;
Эрүүл мал, сүргийг вакцинжуулах;
Үхрийг гадна шимэгчдээс тогтмол хамгаалдаг байх;
Ялаа шумуул дайжуулагч хэрэглэх

2 Хэрэв сэжигтэй мал илэрвэл тухайн малыг нэн даруй эх сүргээс тусгаарлах;

3 Хэрэв сэжигтэй мал илэрвэл тухайн малыг нэн даруй эх сүргээс тусгаарлах;

4 Малын эмчдээ яаралтай дуудлага өгөх;
Эмчилгээ: Үр дүнтэй эмчлэх сонгомол арга хараахан гараагүй байна.

5 Тусгаарласан өвчтэй малд ус, өвс, тэжээл тогтмол өгөх;

- Sera-surveillance
- Clinical survey questionnaire within the country
- Vector study for LSD
- Seasonal study of vector distribution
- Control of livestock trade
- Preparedness for laboratory diagnosis
- In-person & online training for local vets

Main challenges & recommended solution

Main challenges:

- Animal movements
- Control measures
- Culling & compensation
- Financial issue
- Hiding situation & infected animal by herders

Recommended solution:

- Vaccination should be implement before vector season
- Early detection of infected animal then culling
- Better control of animal movements
- To provide proper information for herders
- Use a single needle for the cattle
- Use fly spray during hot season



**THANK YOU FOR YOUR
ATTENTION**

4th LSD Coordination Meeting
28 – 29 November 2023, Bangkok, Thailand