



Introductory Presentation on the practical issues on LSD Vaccination

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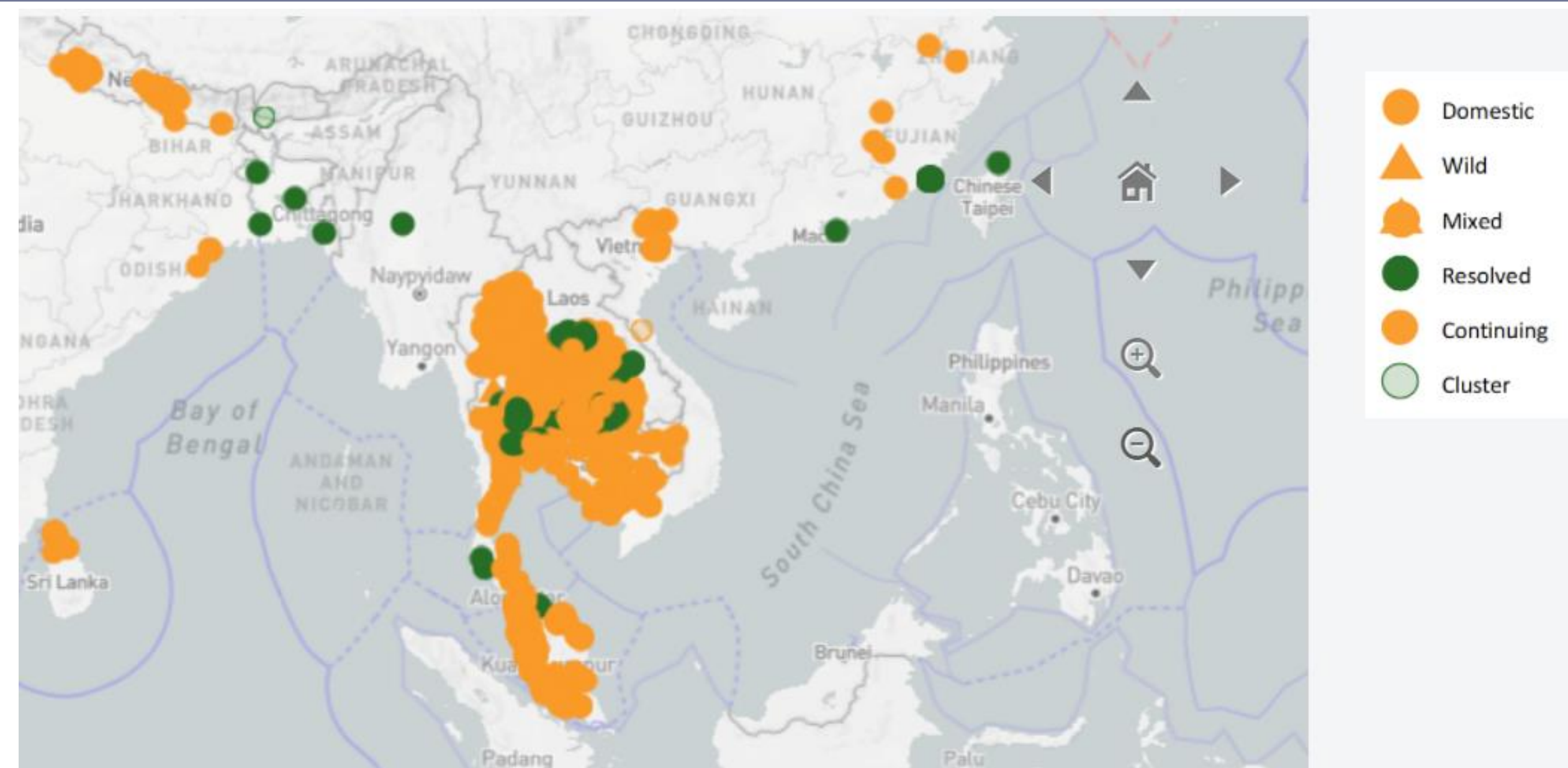


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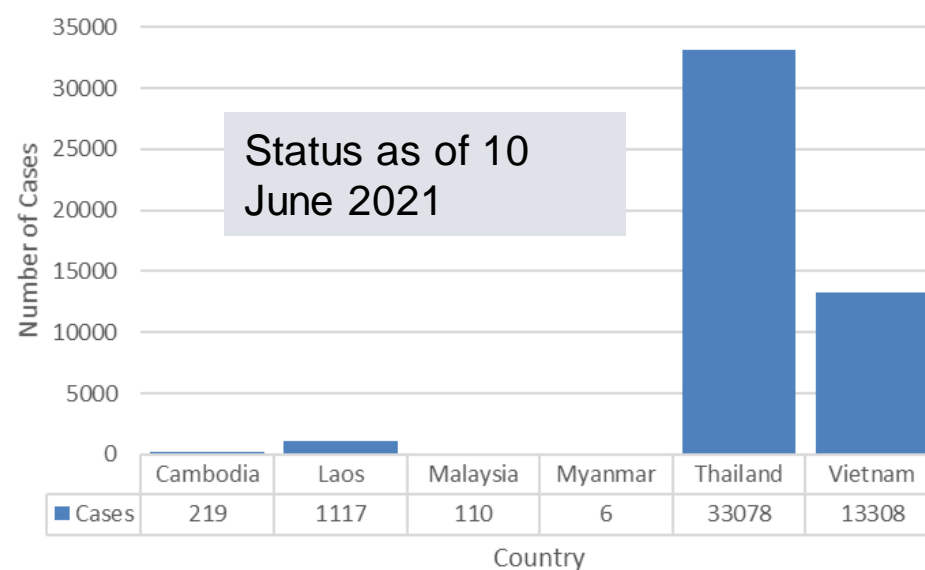
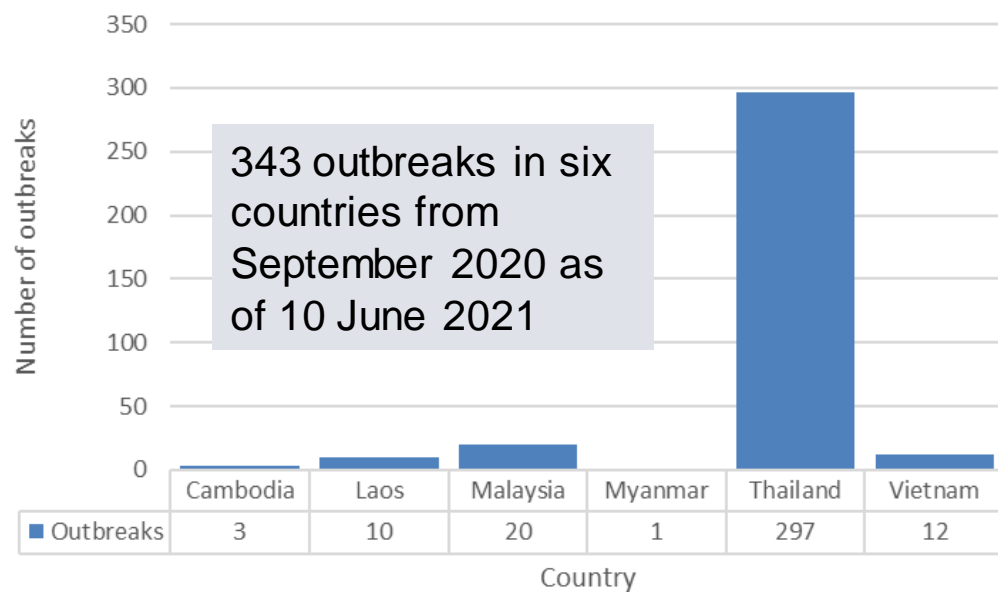
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LSD outbreak situation (based on country report, Source: WAHIS)

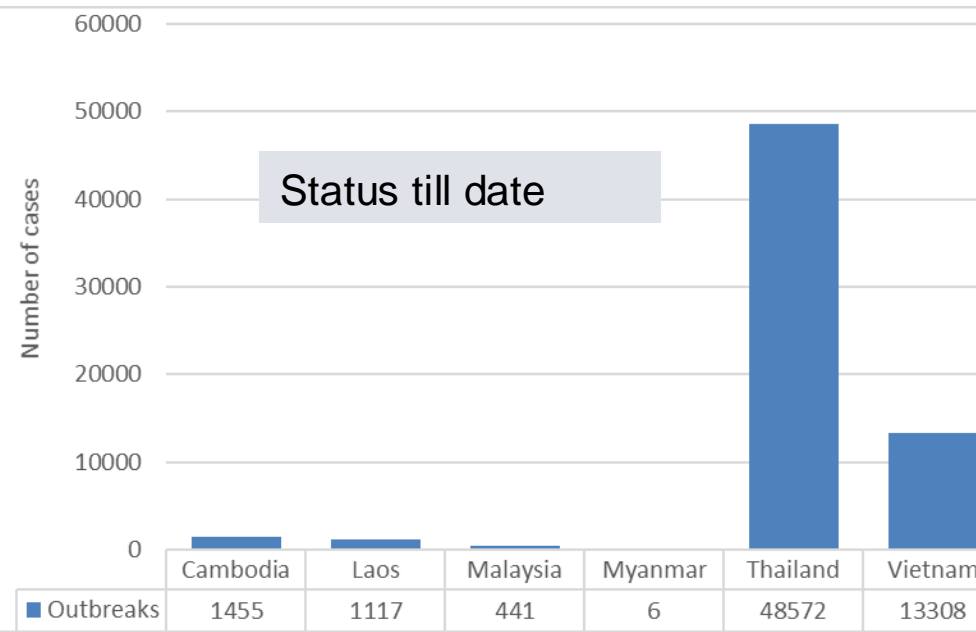
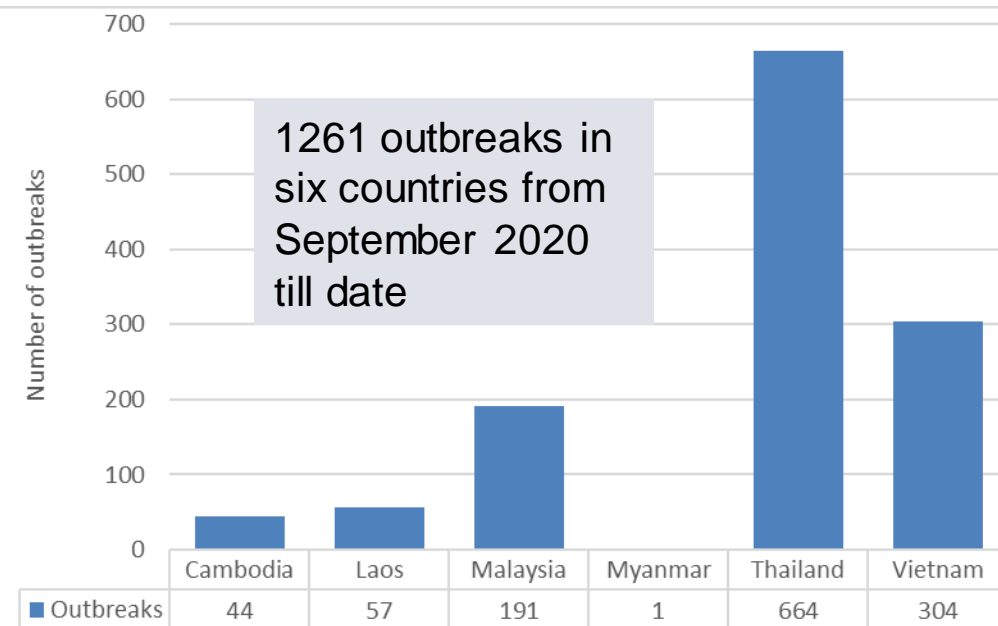


LSD Outbreaks in South-East Asia (based on country report, Source: WAHIS)



Animals culled

- 1177 in Vietnam
- 20 in Thailand
- 45 in Malaysia



2590 vaccinated including 311 buffaloes in Laos

??????

Vaccination of Animals

- The geographical distribution of lumpy skin disease (LSD), reached an unprecedented extent.

Vector Control - Low
 Biosecurity – Low
 Movement control - Moderate

Stamping out – Low
 Early detection – High
Vaccination – Most effective

- Vaccination is the only way to prevent the spread of the infection in endemic and newly affected regions.
- In the event of an outbreak, selection of the best vaccine is a major challenge for veterinary authorities and farmers.
- The available vaccine products vary in terms of quality, efficacy, safety, side effects, and price.



Only live attenuated vaccines are currently available for LSD



Both homologous and heterologous vaccines are used against LSD



No 'Differentiating Infected from Vaccinated Animals' (DIVA) vaccine

Most commonly used vaccines registered for use in cattle against lumpy skin disease.

(Source: Tuppurainen *et al.*, Vaccines 2021, 9, 1136. <https://doi.org/10.3390/vaccines910113>)

Manufacturer	Product Name and Virus Strain	Target Species	Titre, Dose, Administration	Presentation Doses/Vial
Onderstepoort Biological Products (OBP) South Africa Email: info@obpvaccines.co.za http://www.obpvaccines.co.za (accessed on 22 September 2021)	Lumpy Skin Disease Vaccine for Cattle (LSD Neethling strain)	Cattle	Not known 2 ml SC	25/50
Intervet (Pty) South Africa/MSD Animal Health http://www.msd-animal-health.co.za (accessed on 29 September 2021)	Lumpyvax™ (LSD SIS Neethling type strain)	Cattle	10 ^{4.0} TCID ₅₀ /dose 1 ml SC	20/100
MCI Santé Animale Morocco Email: contact@mci-santeanimale.com http://www.mci-santeanimale.com/en/ (accessed on 29 September 2021)	Bovivax-LSD™ (LSD Neethling strain)	Cattle	10 ^{3.5} TCID ₅₀ /dose 2 ml SC	25/50/100
Jordan Bio-Industries Center (JOVAC) Jordan Email: sales@jovacccenter.com http://www.jovacccenter.com (accessed on 29 September 2021)	LumpyShield-N™ (LSD Neethling strain)	Cattle	10 ^{4.0} TCID ₅₀ /dose 1 ml SC	5/10/25/50/100
Middle East for Vaccines (MEVAC) Egypt Email: marketing@me_vac.com https://www.me-vac.com/about (accessed on 29 September 2021)	MEVAC LSD (LSD Neethling strain)	Cattle	10 ^{3.5} TCID ₅₀ /dose 1 ml SC	10/25/50
National Veterinary Institute (NVI) Ethiopia Email: nvi-rt@ethionet.et	Lumpy Skin Disease Vaccine (LSD Neethling strain)	Cattle	10 ^{3.0} TCID ₅₀ /dose 1 ml SC	5/20/100
Kenya Veterinary Vaccines Production Institute (KEVEVAPI) http://www.kevevapi.org/ (accessed on 29 September 2021)	Lumpivax™ (Live attenuated LSDV)	Cattle	TCID ₅₀ not known 2 ml SC	50/100/150
Pendik Veterinary Control Institute/Ministry of Agriculture, Turkey	Penpox-M™ Live SPPV (Bakirköy SPPV strain)	Cattle	10 ^{2.5} TCID ₅₀ /dose 3 ml SC	



vaccines



Adults - annual vaccination



Calves from unvaccinated dams - can be vaccinated at any age



Calves from vaccinated or naturally infected mothers - at the age of 3 to 4 months



Cattle to be moved - Vaccinate 28 days before the transport



Domestic buffaloes - same dosage and protocol as for bovines



Newly purchased animals - Vaccinate 28 days before introduction to the herd

Review

Review: Vaccines and Vaccination against Lumpy Skin Disease

Eeva Tuppurainen ^{1,*}, Klaas Dietze ¹, Janika Wolff ², Hannes Bergmann ³, Daniel Beltran-Alcrudo ^{4,†}, Anna Fahrion ¹, Charles Euloge Lamien ⁵, Frank Busch ¹, Carola Sauter-Louis ³, Franz J. Conraths ³, Kris De Clercq ⁶, Bernd Hoffmann ² and Sascha Knauf ¹



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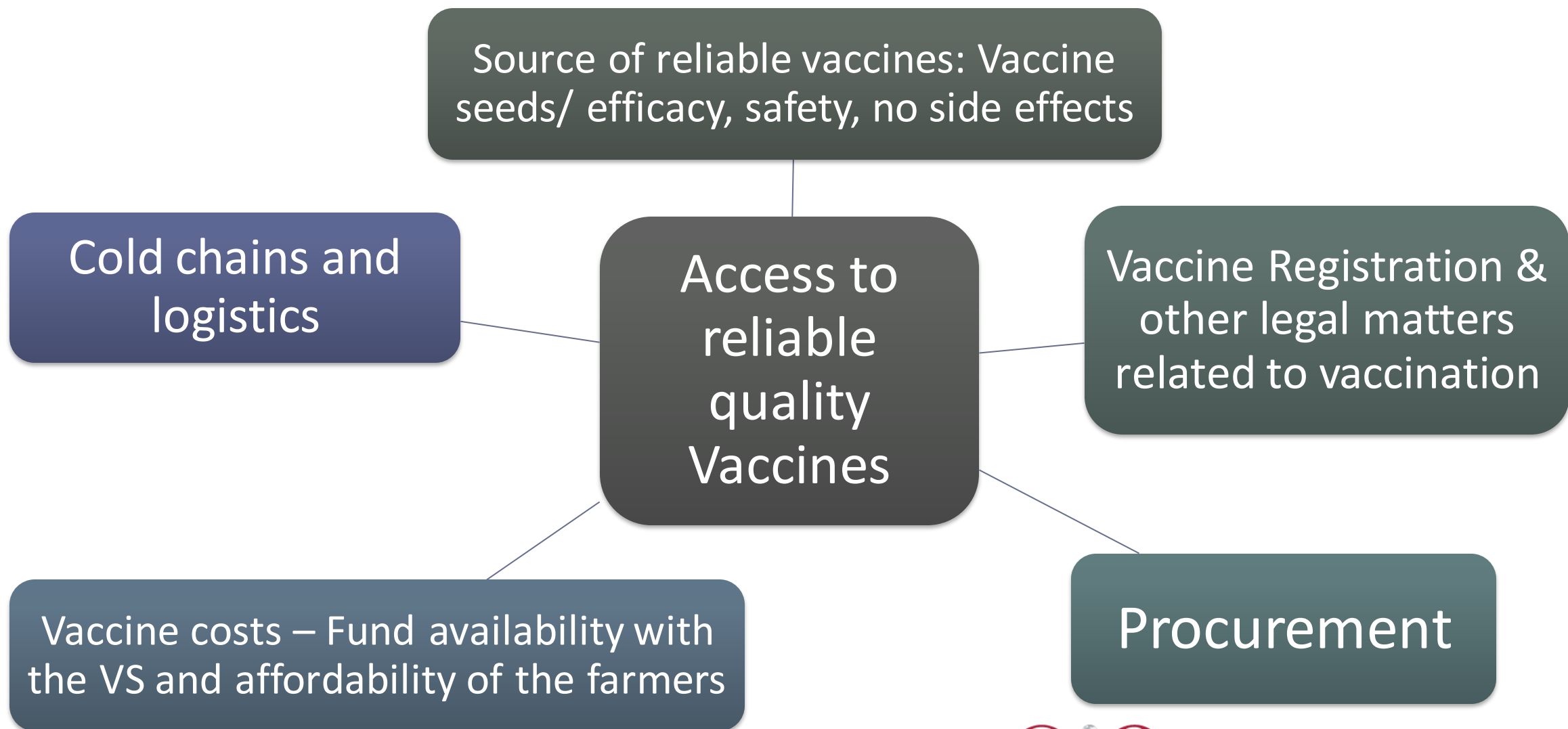
Most commonly used vaccines registered for use in cattle against lumpy skin disease.
(Source: Tuppurainen *et al.*, Vaccines 2021, 9, 1136. <https://doi.org/10s9101136>)

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Jordan Bio-Industries Center (JOVAC) Jordan Email: sales@jovaccenr.com http://www.jovaccenr.com (accessed on 29 September 2021)	<div> Heterologous vaccines: LumpyShield-G Freeze dried live attenuated Goat pox vaccine - Gorgan strain JOVIVAC® Freeze dried live attenuated sheep pox vaccine - RM65 strain </div>			
Middle East for Vaccines (MEVAC) Egypt Email: marketing@me_vac.com https://www.me-vac.com/about (accessed on 29 September 2021)				

Key Challenges

- Source of reliable vaccines – vaccine seeds, quality, efficacy, safety, purity, side effects
- Vaccine registration and Legislation related to LSD vaccination – LSD vaccines not registered or authorized in countries that face the disease for the first time.
- Procurement: delays during the high international demand for quality vaccines
- Cold chain – Requirement to use the vaccine within six hours after reconstitution.
- Financial – Fund availability with the VS and affordability by the farmers

Discussion on the Key Challenges



OIE Reference Laboratories for LSD

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Other relevant information

- OIE Lumpy disease card:

<https://www.oie.int/app/uploads/2021/03/lumpy-skin-disease.pdf>

- OIE Asia-Pacific regional webpage on LSD:

<https://rr-asia.oie.int/en/projects/lumpy-skin-disease-lsd/>

- LSD webpage of OIE Europe:

<https://rr-europe.oie.int/en/Projects/gf-tads-europe/>

- Check the latest information on the evolution of LSD in the region:

Consult the WAHIS platform: <https://wahis.oie.int/#/home>

Subscribe to WAHIS alert:

<https://www.oie.int/en/what-we-do/animal-health-and-welfare/disease-data-collection/info-list/>



Thank you for your attention

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