



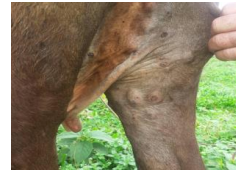
An update on the Lumpy skin disease (LSD) Outbreak situation

Country name: Viet Nam

Name of Presenter: Pham Thanh Long

Position: Epidemiologist

Epidemiology division



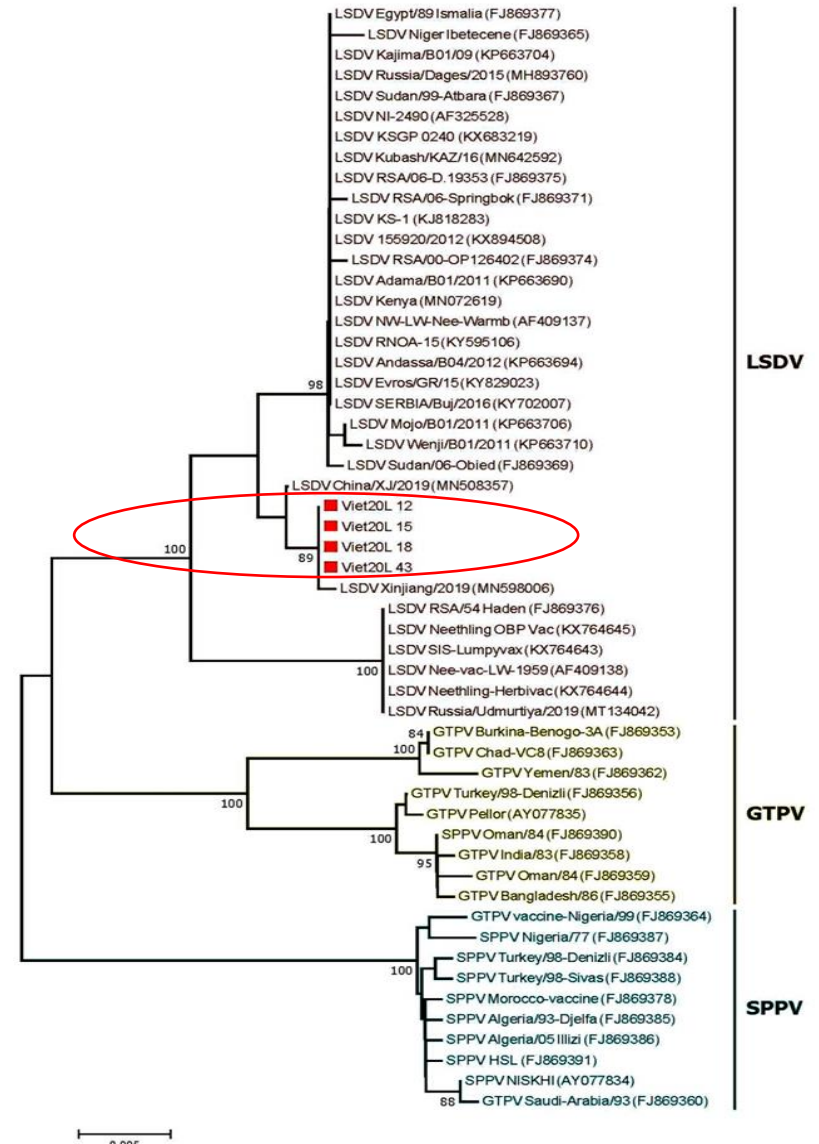
Outbreak Updates

- In the early of Oct 2020, two cow raising households in Lang Son province (border to China) reported 02 sick cow with many lumps appear under the skin, many sores scab at different locations on the body.
- DAH staff visited immediately and took samples.
The results confirmed as LSD positive.



Genetic characterization of LSD viruses circulating in Vietnam

- The analyses of GPCR, RPO30 genes of the 4 Vietnamese LSD samples show a similarity with Neethling virus strains.
- Vietnamese LSD strains shared 100% at both nucleotide & amino acid identity when compared with Chinese LSD strains.
- The analysis of EEV glycoprotein LSDV126 gene of the Vietnamese LSD samples show a similarity with Neethling virus strains and an identity with Chinese & Russian LSD strains.
- The results of a partial B22R gene analysis show a similarity with Neethling virus strains and Russian LSD strains.





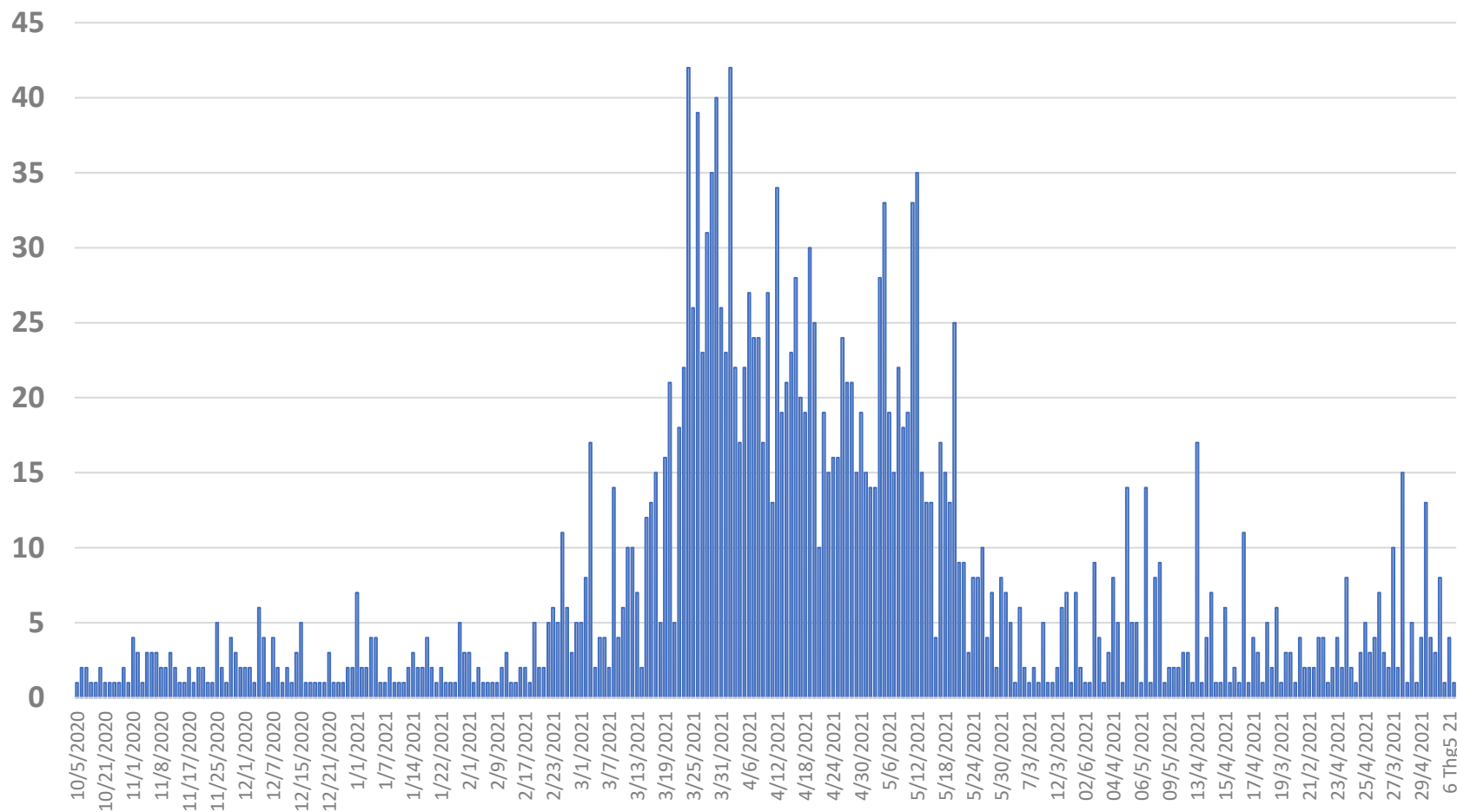
Outbreak Updates

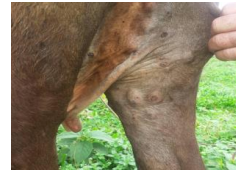
- Since Oct. 2020 to present, a total of **2,389** outbreaks of LSD reported from 2,318 communes in **32** provinces causing 67,154 ruminants infected (mostly cattle) and 9,929 animals culled.
- In 2021 (until 3 June): 2,274 infected communes in 32 provinces, with 65,713 infected animals & 9,721 culled animals
- Ongoing outbreaks: **1,401** outbreaks in 190 districts of **27** provinces (51,929 infected & 6,900 culled animals)



Outbreak Updates

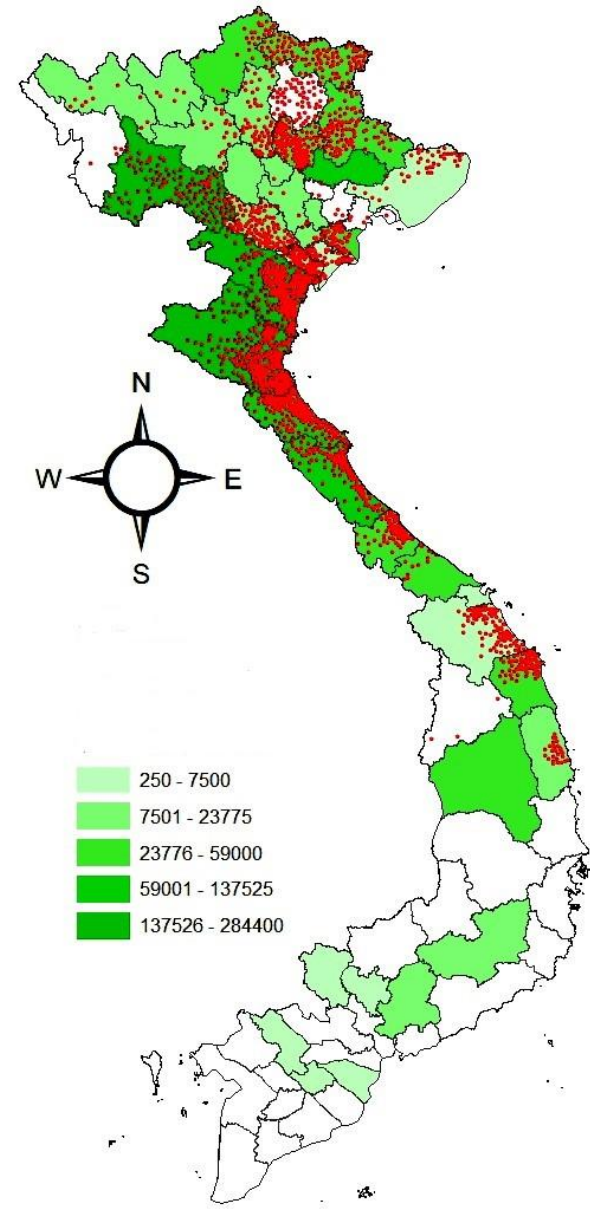
LSD outbreaks

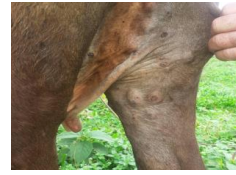




Outbreak Updates

- Outbreaks (**red**) vs vaccine use (**green**)





Control measures implemented (1)

- Segregate infected animals from healthy ones.
- Dispose lab confirmed infected animals or those in the same infected locality showing LSD clinical signs.
- Compensate to livestock owners
- Cleaning, disinfection, insecticide spray to eliminate flies, mosquitoes, ticks, mites for 3 consecutive weeks in infected households & high-risk areas



Control measures implemented (2)

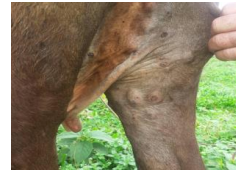
- Livestock movement control (check-point) surrounding the outbreak (infected commune)
- Record cattle & buffaloes population
- Communication
- Vaccination to healthy animals





Vaccination: imported 2.5 million doses of vaccines

Vaccine type	Composition	Advantages	Disadvantages	JOVAC trade names
Homologues	Neethling strain	<ul style="list-style-type: none"> • High efficacy • Good neutralizing antibody response • Good DHI in 2-3 weeks post vaccination & protect for live 	<ul style="list-style-type: none"> • Produce clinical skin reaction • Reduce milk yield for 2-4 weeks period 	Lumpyshield-N®
Heterologous	Gorgan strain	<ul style="list-style-type: none"> • High efficacy • Good neutralizing Ab response • DHI higher than Neethling and within 2 weeks • Protect for live 	<ul style="list-style-type: none"> • No clinical reaction • No effect on milk yield 	Lumpyshield-G®
Heterologous	RM65 strain	<ul style="list-style-type: none"> • High efficacy • Good neutralizing antibody response • Good DHI in 2-3 weeks post vaccination • Protect for live 	<ul style="list-style-type: none"> • Produce clinical skin reaction • Reduce milk yield for 1 month period 	Jovivac Strong®

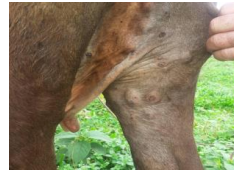


Vaccination



Domestic vaccine

The vaccines are recommended to be applied in epidemic & high-risk areas (provincial level)



Challenges

- Cross-border control for livestock
- Domestic movement control
- LSD vaccines are imported
- Small-scale farms
- Free grazing
- Disease reporting



Way Forward and priority actions

- Add LSD in the list of notifiable diseases in Viet Nam
- Strengthen disease detection
- Vaccine R&D in Viet Nam
- Vaccinate in infected & high-risk areas (>80% vaccine coverage)
- Control illegal movement
- Collaborate & coordinate with OIE, FAO and other countries