



Standing Group of Experts on LSD in South-East Europe under the GF-TADs umbrella

Eleventh meeting (SGE LSD11) **10 February January 2022** **Teleconference**

REPORT

Summary

Due to the sanitary situation regarding COVID-19, the eleventh meeting of the standing group of experts on lumpy skin disease (SGE LSD11) took place as a teleconference on 10 February 2022. This was the second meeting for which the functions of the Secretariat of the SGE LSD were transferred to the OIE Sub-Regional Representation in Nur-Sultan.

Chaired by the President of the regional GF-TADs for Europe, Dr Bernard Van Goethem, the meeting started with informing the participating countries about the LSD epidemiological situation in Europe, Asia, and Africa in 2021, and more detailed information on the LSD epidemiological situation in Europe and neighbouring areas, occurrence and vaccination, active and passive surveillance, and the detection of possibly recombinant strains were presented by the EURL. Participating countries presented their national epidemiological situation regarding LSD, an update on the last outbreak occurrence, the type of vaccination in place, the post-vaccination surveillance, and the disease preparedness, as well as plans for 2021 regarding vaccination and surveillance. Members were presented with a set of recommendations and invited to provide comments.

Participants	
Countries	Name and surname of person attending
SGE member countries	
Albania	Keti Margeriti Ali Lilo
Armenia	Tigran Markosyan Satenik Kharatyan
Azerbaijan	Galib Abdulaliyev Jeyhun Aliyyev
Bosnia and Herzegovina	Zorana Mehmedbasic Aleksandar Nemet
Croatia	Zaklin Acinger Rogic
Georgia	Tengiz Chaligava
Greece	Chrysoula Dile
Israel	Michel Bellaiche
Kosovo*	Bafti Murati
Montenegro	Vladimir Djakovic Mevlida Hrapovic Vesna Dakovic Marko Nikolic
North Macedonia	Nikolche Babovski Vanja Kondratenko
Russia	Alekander Sprygin
Serbia	Boban Djuric
Turkey	Visal Kayacik Sendar Uzar Fahriye Saraç
Austria	Simon Stockreiter
Cyprus	Savvas Savva
Hungary	Zsuzsanna Irhazi
Kazakhstan	Azim Tegzhanov
Romania	Florentina Dudu
Slovenia	B. Hrovatin
Mongolia	Batsukh B.
Tajikistan	Khurshed Boboshoev
Turkmenistan	Arslan Soltanmyradov
Uzbekistan	Abrar Akbarov
Other participants	
Presidency of the GF-TADs for Europe	Bernard Van Goethem
OIE - Secretariat of the GF-TADs for Europe	Mereke Taitubayev Aigerim Zhorgabayeva Dmitry Morozov Tomasz Grudnik Estelle Hamelin Jean Perchet
FAO Europe	Daniel Beltran Alcrudo Mark Hovari
European Commission	Moritz Klemm Rafael Olvera Porcel Dimitrios Dilaveris
EURL	Kris De Clercq Nick De Regge
EFSA	Alessandro Broglia
OIE – GF-TADs	Alexandre Fediaevsky

20 of 24 current member countries of the SGE LSD, 4 observer countries, as well as the representatives of FAO, European Commission (DG SANTE), EFSA, and the EU Reference Laboratory for Capripox Viruses (EURL) attended the meeting for a total of 50 participants.

Opening, adoption of the agenda and presentation of the objectives of the meeting

The main objectives of the SGE LSD11 were to provide updates on the epidemiological situation and LSD measures in each member country, the LSD vaccination and surveillance strategies for 2022 as well as the continuation of the LSD exit strategy in the region of South East Europe.

Dr Bernard Van Goethem, President of the GF-TADs Europe welcomed the participants and recalled that the main objective of this meeting was to achieve progress on the vaccination exit strategy initiated during the last years. He underlined that the disease had initially spread very fast from the southeast of Europe, and that this was stopped thanks to mass vaccination. He rejoiced that no outbreak had been notified since 2017 in the southeast of Europe and welcomed observer countries currently experiencing different epidemiological situations. Presenting the agenda, he also welcomed the work undertaken by experts.

He underlined that the favorable epidemiological situation and discussions in previous years allowed to organize the progressive cessation of vaccination in an orderly manner.

He presented lists of countries invited to give presentations and invited experts to provide their presentations.

Global LSD epidemiological situation

Dr Dmitry Morozov gave an outline of the current situation of LSD in the world:

- Lumpy skin disease is an OIE listed disease, and is thus an officially notifiable disease. It is mentioned in the Terrestrial Code with a disease-specific chapter, along with a specific chapter in the OIE Terrestrial Manual, which are updated on a regular basis.
- After being first described in sub-Saharan Africa, LSD remained in Africa until it spread from the continent in the early 2010's into Middle East and further North, as far as Turkey
- Reaching Greece in 2015, the virus spread quickly, affecting countries in South-East Europe that requested assistance after outbreaks flared up in 2016.
- Presenting a timeline, he noted there was a significant increase in outbreaks worldwide from 2005-2019. Country results are not consolidated yet for the moment for 2020-2021.
- Over the last two years, most of the newly affected countries are in Southeast Asia.
- Several initiatives have been taken to support the struggle against LSD, including the GF-TADs SGE on LSD, action by the IAAE, FAO, EFSA, and action by the EC, by a BTSF project and specific workshops and expert missions.
- Overall, it can be ascertained that LSD control in SE Europe has been successful over the last seven years, thanks to the transparency and cooperation of the countries involved.
- He concluded that this cooperation and transparency can be an inspiration to other countries aiming to control LSD.

Dr Van Goethem thanked for the presentation and agreed that there had been much activity for coordination in Southeast Europe during the last years, and that had paid dividends.

LSD epidemiological situation in Europe and in neighboring areas – occurrence and vaccination. Current state of play (evolution since GF TADS SGE 10)

Dr Rafael Olvera Porcel gave participants an overview of the current situation in Europe and the neighboring areas, outlining the main evolutions since GF-TADs SGE LSD10 in 2021:

- First, he gave a state of play in Europe, indicating that Turkey (Anatolia) and Russia had reported cases in 2021. The last confirmed outbreak in South-East Europe was confirmed in Turkey in March 2021.
- Countries have progressively ceased vaccination over the last 5 years. Serbia is currently the latest to have ceased vaccination in 2021.
- Albania and Serbia have ceased vaccination in 2021.
- Vaccination is ongoing in Bulgaria, Greece with homologous vaccines and Turkey, with homologous vaccines in Turkish Thrace and heterologous vaccines in Anatolia.
- There are currently new outbreaks in the Asian region.
- ADIS (EU system) did not record any outbreaks in South-East Europe since 2017. In Turkey, there is a steady decrease in outbreaks as well. Only one outbreak was confirmed in Anatolia in early 2021.
- Dr Olvera Porcel gave an overview of what vaccines were used and when. The EU vaccine bank has provided more than 3 million doses of homologous vaccines to countries in South-East Europe.
- Surveillance activities are ongoing and are essential for proactive detection, with serological tests every five weeks during the vector activity period (April to October).
- The EU has been offering financial and technical support for LSD vaccination and surveillance in EU and non-EU countries, including Turkey.
- He presented the EU ‘new animal health Law’; including restrictions defined in different restricted zones.
- Mass vaccination of cattle against LSD using live homologous vaccines is clearly the most successful policy.
- The EC is still ready to support countries in South-East Europe through the vaccine bank should outbreaks spike again.

Country presentations (SGE LSD invited countries) Update on occurrence, vaccination, surveillance after vaccination and general preparedness for LSD in 2021, stocks of vaccine and vaccination plan.

Dr Van Goethem invited SGE member countries to present their activities in vaccination and surveillance for Lumpy Skin Disease. He asked participants to keep their questions for the dedicated questions section. He first invited participants from the first group of countries to give presentations.

Albania

Dr Maragruti gave the following points on the situation in Albania:

- The first LSD outbreak was reported in 2016, a year where more than 3500 outbreaks were counted in the country. In 2017, 50 outbreaks were reported.
- From 2018 to today there was no reported outbreak.
- Vaccination started in 2016.
- In 2021, 300.000 bovines were vaccinated, amounting to 79% coverage.
- Albania switched to vaccinating only young and imported animals, sourcing doses from the EU vaccine bank.
- There is passive surveillance with samples taken in case of suspicions. 3.400 farms and 37.000 animals were monitored during the period. Post vaccination surveillance is not implemented.
- Albania is stopping vaccination and putting up a monitoring plan.

Armenia

Dr Markosyan gave the following points on the situation in Armenia:

- The only case was reported in 2015, in the southern part of the country at the border with Iran.
- Vaccination campaigns took place in 2016-2021.
- Surveillance will begin in 2022.
- Armenia has vaccinated about 36% of adult cattle, essentially in the southern border zones in the south, using sheep pox vaccine from Russia with 10x the doses.
- All the regions have some vaccination, but it is more concentrated in border areas; some regions reach up to 72% of coverage.

Azerbaijan

Dr Galib Abdulaliyev gave the following points on the situation in Azerbaijan:

- The first occurrence of the disease was in 2014.
- Vaccination took place in 2019-2021, and it is ongoing, with 88% coverage. In 2022, about 2.6 million doses of vaccines will be used.
- Active surveillance was not applicable in 2021 but will take place in 2022 in south regions.
- Awareness campaigns help with passive surveillance, with training of veterinarians playing an important role.

Bosnia and Herzegovina

Dr Mehmedbasic gave the following points on the situation in Bosnia and Herzegovina:

- No cases were ever reported.
- They nonetheless had preventive vaccination in 2017/2018, using South African homologous vaccines.
- They carried out clinical surveillance and plan to continue in 2022, and they have included it in their general activities for surveillance.

Bulgaria

Dr Taitubayev gave the following points on the situation in Bulgaria, in the absence of Bulgarian representatives:

- There were no cases of LSD reported in Bulgaria since 2016.
- Vaccination is ongoing using homologous vaccine.
- Surveillance is ongoing for the entire territory of the country.

Croatia

Dr Acinger Rogic gave the following points on the situation in Croatia:

- There were no cases of LSD ever reported in Croatia.
- Two vaccination campaigns were organized in 2016-2017.
- Active surveillance was organized in 2018-2021, and it is ongoing. In 2021, active surveillance in 359 herds and 482 animals, 4 animals had positive serology, but no confirmation by PCR or clinical examination. One of the positives had been vaccinated, two animals were VNT negative, and one animal was born in another country, with the case still under investigation.
- Only passive surveillance is planned in 2022.

Georgia

Dr Chaligava gave the following points on the situation in Georgia:

- There was an outbreak in 2018. Control measures included banning all movements of animals in the district, spraying insecticides, etc., but not the culling of animals since there is no compensation mechanism for LSD in Georgia yet.
- Vaccination is ongoing, focusing on the western part of the country. All the population was vaccinated during the period.
- Passive surveillance was carried out during the period. Georgia organized an active awareness raising campaign because most farmers were not aware the disease existed.
- 2021 saw vaccination of a new generation of animals, using Turkish sheep pox vaccine and homologous vaccines donated by the EU, but this will be discontinued. Clinical surveillance will however be continued.

Greece

Dr Dile gave the following points on the situation in Greece:

- The 1st outbreak was in 2015, last outbreak was in 2017.
- Greece uses homologous vaccine with 76% coverage achieved in 2021.
- Clinical surveillance is practiced, including postmortem examination of animals.
- The plans for 2022 are to continue vaccination, covering 100% animals.
- In 2022, only clinical surveillance is planned.

Israel

Dr Bellaiche gave the following points on the situation in Israel:

- LSD first occurred in 1989, and sporadically in the years 2006-2019.
- Vaccination was first localized only around the outbreaks, but currently, Israel is vaccinating all over the country after the 2019 outbreaks in the northern part of the country. 75% of cattle have been vaccinated.
- Vaccination is mandatory once a year.
- There is currently no active surveillance, and samples are sent for laboratory analysis if there is a clinical suspicion. Vaccination will continue in 2022.
- An online application has been developed to help with vaccination reporting, as well as drones that can find affected herds and animals in the field.

Kosovo*

Dr Bafti Murati gave the following points on the situation in Kosovo*:

- The last outbreak was in 2016. There are currently no outbreaks or suspicions.
- All animals were vaccinated from 2016 to 2019. Post-vaccination surveillance was implemented in 2018-2019 to determine immunity. In 2021, active serological surveillance was implemented. 340 herds were tested for a total of 720 animals, with no positive results reported. There were no suspected cases in clinical surveillance.
- For 2022, no vaccination is planned, active LSD serological surveillance will be continued.

Montenegro

Dr Djakovic expressed satisfaction that control measures are ongoing, and gave the floor to Dr Nikolic on the situation in Montenegro:

- The last case was in 2016. Vaccination campaigns were performed in 2016-2019 and were then ceased.
- Active surveillance is carried out in all the territory of Montenegro with two zones defined and a sentinel animals' program. Clinical examination is also practiced.
- 3 ELISA tests were positive, but PCR negative in the high-risk zone, and surveillance was equally carried out in the lower risk zone.

North Macedonia

Dr Kondratenko gave the following points on the situation in North Macedonia:

- The last case was reported in 2017.
- Vaccination was carried out until 2019.
- The current surveillance program was designed with EFSA, and a high-risk area was designated next to Albania.
- Active serological surveillance was performed in both vaccinated and non-vaccinated areas. 1.087 herds were clinically examined, with four visits per year. Some farms could not be visited due to Covid. Samples were taken for serology and PCR. Positive results led to resampling all the animals on the farms and invalidation of the suspicions. Sampling is now carried out by official veterinarians or central authorities to avoid sampling mistakes.
- For 2022, no vaccination is planned. All the country will be sampled as a single zone, keeping the same sample size, and keeping a target prevalence of 0.1%. North Macedonia aims to attain free status.
- Dr Kondratenko wondered if other countries had similar difficulties with test sensitivity and specificity.

Russia

Dr Sprygin gave the following points on the situation in the Russian Federation:

- In 2016, more than 400 outbreaks were recorded. The trend is currently decreasing. In 2021, there were only about 40 outbreaks.
- Vaccination campaign started in 2015, the outbreaks travelled east along the southern border and Russian veterinary services adapted vaccination accordingly.
- In 2021, vaccination had been reduced to around 8.000 animals. The number of animals that will be vaccinated in 2022 will be reviewed based on the epidemiological situation. When an outbreak is detected, all the animals in the area are vaccinated.
- Active surveillance is ongoing in the entire country, with a specific focus on the regions in the southeast. This year, outbreaks occurred in Buryatia, Transbaikalia, Bashkortostan, and Chelyabinsk region. These zones were added to the zones with vaccination. They were previously not vaccinated since there had not been any outbreaks. Vaccines used in Russia are based on sheep pox virus exclusively.
- For several years, outbreaks of recombinant virus have been detected. This recombinant lineage is clearly establishing itself in the east.
- Surveillance and vaccination mainly regional competences; in 2021, 432.000 animals had been tested by ELISA and PCR, with 64 positives. As part of the surveillance, 8.000 tests were carried out the federal veterinary services.
- Other LSD control measures include regionalization and movement restrictions.

Serbia

Dr Duric gave the following points on the situation in Serbia:

- Recalling the uncertainty as to the evolution of the epidemiological situation during the initial SGE LSD meetings, he rejoiced that today, it was possible to say that there were neither cases nor vaccination.
- In Serbia, the first outbreak was in 2016. LSD vaccination was carried out from 2016-2018 (all bovines) and 2019-2021 (cows only and ceased vaccination in 2021; with the final cohort vaccinated being 6-month-old animals).
- Surveillance in 2020 and 2021, both active and passive with serological and virological testing in addition to clinical surveillance.
- Surveillance will go on in the same way in 2022.

Turkey

Dr Uzar gave the following points on the situation in Turkey:

- In Turkey, the disease was first notified in 2013.
- 2021 saw only one outbreak in Anatolia and overall, the situation is improving. Dr Uzar detailed control measures. The continental climate in the area of the outbreak should contribute to controlling the spread.
- LSD vaccination was carried out from 2013 and is ongoing, 98% of animals were vaccinated in 2021. For 2022, both homologous and heterologous vaccines will be used. All cattle older than 3 months old will be vaccinated. Both vaccines are produced in the country.
- Surveillance was carried out in 2014-2016.

After no Members from the second group of countries replied to the call for presentations, Dr Van Goethem invited observer countries from the third group.

Mongolia:

Invited as an observer, the Mongolian representative Dr Batsukh gave the following points on the situation in Mongolia:

- He gave a general overview of the action of veterinary services in Mongolia, including the new animal health law in 2018.
- Mongolia had its first LSD outbreak in August 2021. It first appeared in the northeast part of the country and control measures were applied at once, including movement control, quarantine, culling. Vaccination, not practiced before this outbreak, was carried out using sheep pox vaccine.
- Surveillance was not previously implemented. Official control programs for 2022 now include it.
- Passive surveillance is now implemented by regional services; active surveillance is planned in the eastern part of the country.
- Mongolia aims at creating buffer zones between provinces through localized vaccination.
- Strategies to prevent the migration of the vector flies are being developed.

Dr Van Goethem thanked Dr Batsukh for the presentation and offered the technical expertise of the European region, as well as the support of the EURL.

There was no request for presentation from other countries.

Dr Fediaevsky underlined that the exchange of experience between OIE regions is very important, and that the GF-TADs management committee will organize an interregional coordination on LSD surveillance and vaccination, and that this event could be of importance to Mongolia, and regions such as Central Asia.

EURL activities of importance to the LSD diagnostics and LSD vaccine control

Dr Nick de Regge, from the European Reference Laboratory, presented the following points:

- The epidemic in South-East Europe seems to be under control, but it is ongoing in Asia.
- An important EURL activity is proficiency testing, with 24 participants from European member states all getting satisfactory results this year. Training is also provided for national laboratories.
- Another field of activity is validation of laboratory tests. We provided support to validate 2 different DIVA tests in 2021.
- Safety and efficacy of live attenuated vaccines was also a subject of continued research this year.
- Animals expressing the disease at subclinical level were demonstrated to contain infectious virus in the skin. Research is therefore ongoing to verify whether LSDV transmission can occur from subclinical infected cattle to naïve animals.
- Testing commercial vaccines led to the discovery of recombinant virus sequences. Dr De Regge stressed the importance of using only vaccines that were subjected to a thorough quality control.
- Elaborating on recombinant strains of LSDV, Dr De Regge explained that they have a vaccine strain “backbone”, and wild type phenotype. It appears that these recombinant strains are behind the current outbreaks in Asia.
- Countries should be encouraged to provide strains and help gather knowledge of strains present worldwide.
- The presence of these recombinant viruses has an impact on the reliability of DIVA PCRs, and the EURL is working on a new DIVA PCR that classifies both ‘classical wild type strains’ and ‘recombinant strains’ as wild type strains, and real vaccine strains as vaccines: combined with already existing DIVA PCRs that recognize ‘recombinant strains’ as vaccine strains, this would help understand where recombinant strains are present without having to resort to whole genome sequencing.
- Based on data from Russian colleagues, the recombinant strains seem to be capable of spreading without the action of flies, which has an impact on disease management and surveillance.

Dr Alessandro Broglia gave a brief presentation of the EFSA activities:

- In the past, EFSA had helped by providing risk assessment before the first cases appeared allowing for better preparedness in countries when affected.
- EFSA took an active part in the successful struggle in the South-East Europe region.

Questions and answers for all presentations

Dr Van Goethem invited participants to raise any questions they might have on the presentations made earlier in the meeting.

Dr Van Goethem asked the EURL about the practical consequences of their discovery of recombinant strains.

Dr De Regge explained that for now, it is essential that all veterinary services remember to be careful. The indication by Russian colleagues on the possibility of direct transmission would have a direct impact on control measures. For the moment, he noted, it seems that vaccination is working against the recombinant virus. He warned that recombinant strains could be closer to the European region than has been reported, since failing DIVA testing could make these strains invisible in vaccinated areas.

Responding to a question by Dr Kayacik, Dr Olvera indicated that there were no implications of the presence of recombinant strains in Turkey, and that the presentation from the EU Commission would be modified to make this clear.

Dr Sprygin confirmed that there was little concern for recombinant strains in Turkey for the moment, since these strains are present in the Russian far east, and in Asia. Nonetheless, he deemed important to characterize recombinant strains. These strains are currently spreading westward along the southern Russian border. Dr De Regge added that the characterization of strains is very important.

Dr Kondratenko asked about the sensitivity and specificity of ELISA tests in a surveillance setting. Dr De Regge confirmed that kits do not have 100% specificity, and that positive ELISA tests can be retested by IPMA. As with all tests, it is always an issue to identify false positives, and that associated control PCR tests are very often negative since viremia is very brief. Resampling of the same herd followed by a second serology can provide additional insights. Dr Acinger explained that it was also interesting to look at the age of the animals tested, to understand whether antibodies could be of maternal origin.

Questions from participants on the use of drones in Israeli surveillance for LSD will be submitted to the Israeli representatives by email and circulated, since they were not present during the questions session.

Discussion on the LSD strategy for 2022 in the region of southeast Europe

Dr Van Goethem noted that, according to the presentations and the priori discussion, some countries in the South-East Europe region intend to continue vaccination: Bulgaria, Greece, Turkey. Greece will continue vaccination for 2022.

- Bulgaria was not present to comment but has provided indications that it will continue vaccination in 2022, in the presentation it has shared.
- Turkey will continue vaccinating in 2022, but intends to phase out homologous vaccination because it is costly, and vaccinate on a risk-based approach. Funding for homologous vaccine will finish in 2022.

Dr De Regge explained that homologous vaccination was preferable when it could be practiced. Dr Klemm (EC) added that the EU had provided homologous vaccine for SEE, including Turkey, and stressed that it may be a bit early to decide on the discontinuation of vaccination in some areas of the country, as this deserves a separate discussion in the future based on the further epidemiological evolution.

Dr Duric asked for the same support from the DG SANTE for the evaluation of the 2022 surveillance plan than for the precedent plan. Dr Klemm confirmed the reception of Serbia's application, and that it was under evaluation.

Dr Abdulbayev asked if there was information on the duration of immunity for heterologous vaccines. Dr De Regge was unable to give a definite answer. Since studies performed by the EURL with heterologous vaccines did not provide a good protection against infection, the duration of immunity had not been studied for this type of vaccines. On the other hand, he explained that this was evaluated for a specific homologous vaccine and that this vaccine provided protection for over a year against infection under experimental conditions.

Dr Fediaevsky asked Dr De Regge if despite the science-based recommendation to use homologous vaccine, heterologous vaccines might still be included in the study on protection afforded against recombinant strains. Dr De Regge regretted that this might be difficult, since the EURL is still looking for funding to test homologous vaccine efficacy against recombinant strains. It would be interesting to also test heterologous vaccine, but there are budgetary constraints to the number of vaccines that can be evaluated in the relatively costly BSL3 experiments. Although priority will logically be given to the currently recommended homologous vaccines, the question of heterologous vaccine efficacy against recombinant strains will be considered.

Recommendations - presentation, discussion, and adoption

Based on the information collected, participants were submitted with a set of recommendations presented by the President.

This year, due to concerns raised by the EURL during quality control of a commercial LSDV vaccine, a specific subset of recommendations was added pertaining to vaccine control. This was recommended after the presentation of the EURL.

It was equally underlined that a coordinated approach is key to success against LSD, and this was pointed out to the colleagues in Mongolia who are starting to face the virus.

In addition, Dr Van Goethem suggested that a new standing group of experts could be created for Central Asia. In contrast, he did not wish that the two geographical areas be mixed. The SGE for South-East Europe should however continue to meet for the time being, despite the dynamic of the epidemic is clearly positive. He suggested that the next meeting of the SGE on LSD for South-East Europe be held in early 2023, if possible as a physical meeting.

Since there were no comments during the session, Dr Bernard Van Goethem invited participants to submit their remarks and requests for modifications on the Recommendations by email by Friday 18th of February.

The recommendations are available as an annex to this report and are available online.

Conclusions and next meeting

Dr Van Goethem, President of the Steering Committee of the GF-TADs for Europe, stressed the importance of following science in creating our strategies for the eradication of LSD. Member countries will reflect on their possibilities to host the next meeting of the SGE on LSD for South-East Europe.

We would like to thank the European Union and the OIE for kindly supporting the organization of the SGE LSD 11 teleconference.

All presentations are available on the GF-TADs page of the OIE for Europe website, along with the recommendations.

