



Food and Agriculture Organization
of the United Nations



LSD in Republic of Macedonia

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Lumpy skin disease and bluetongue training of trainers in FYR of Macedonia

Skopje, 13-14 September 2017



Food and Agriculture Organization
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- Situation with LSD in 2016 and 2017
- Summary of the situation in 2016
- Follow up
- Vaccination and effects
- Financial implications
- Future activities
- Vector monitoring in 2016
- Lessons learned

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Legal frame 3

- **Legislation in line with EU legislation**
 - Law on Veterinary Health in accordance with the Council Directive 92/119/EC
 - Vaccination programme in accordance with Decision 2015/2055
 - Order in accordance with the Decision 2016/645
 - Annual order
 - BoR on animal health measures on LSD (OJ or RM No. 51/17) amendment/s in process/to be foreseen in accordance with the Decision 2016/2008 (2017/1178 and 2017/1460)
- **Notifiable disease** (Book of Rules for control and eradication of compulsory notifiable diseases in accordance with the Council Directive 82/894/EC)

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Laboratory capacity 4

- Appropriate laboratory capacity
 - PCR
 - in house PCR differentiation of strains
 - ELISA

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Preparatory activities

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- Decision for ban of import and transit from Greece (OJ of RM 163/2015 from 21.09.2015)
- One day work shop on LSD with OV and PVPs (December 2015)
- Information to the Government of RM on the potential risk from LSD on 20.01.2016 and 01.03.2016
- Training of Personnel from Food and Veterinary Agency in Pendik Veterinary Control Institute, Istanbul, supported by TICA
- Coordination meetings with the laboratory for the disease preparedness
- Order for monitoring of holdings in vicinity of borders with Greece and Bulgaria 14.04.2016
- Poster available on the web site of the Food and Veterinary Agency and disseminated to the private veterinary organization
- Informing the farmers during visits to holdings (distribution of leaflets)

Case definition

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- Suspect case - animals that exhibit clinical signs of the disease
- Confirmed case – animals with positive laboratory result and animals on contact holdings that exhibit clear signs of disease

Primary outbreak-Demir Kapija

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- Date of suspicion: 18 April 2016 suspicion of LSD reported
- Location: Demir Kapija, southeastern part of the country
- Clinical signs: 1 animal shows nodules on the body, nasal discharge, salivation, decreased lactation, increased body temperature 40.5°C
- Type of holding: Cattle – 5 animals, semi grazing

Primary outbreak-Demir Kapija

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- Date of confirmation: 21 April 2016 laboratory confirmation of LSD (Bulgaria)
- Date of depopulation: 22 April 2016 (5 animal destroyed)
- Cleaning and disinfection, insect control (dezinsection)
- Zoning:
 - Protection zone - 3 kilometers
 - Surveillance zone - 10 kilometers
 - Additional Restricted zone – 50 kilometers



Primary outbreak-Demir Kapija

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Index case

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Control measures

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- Measures inside the zones 3, 10 km respectively:
 - Ban of movement of:
 - live animals
 - meat and meat products,
 - milk and milk products,
 - semen ova and embryos,
 - feed
 - animal waste
 - equipment and other materials



Control measures

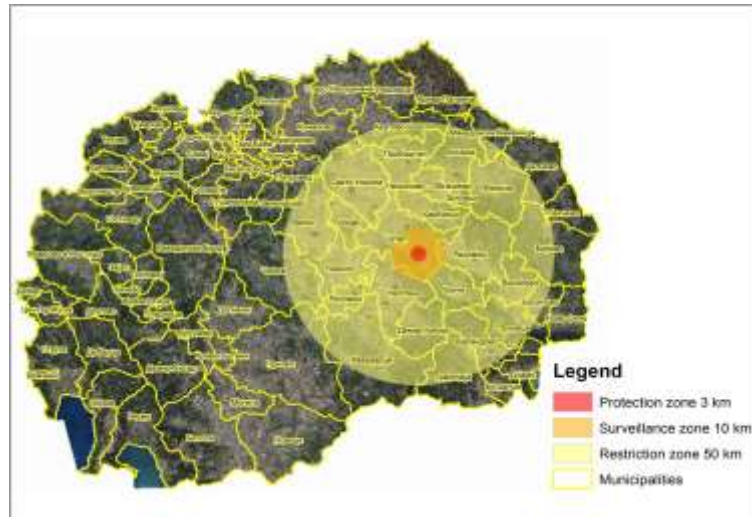
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- Closing of all animal markets and collection centers
- Ban for exhibitions, fairs and gatherings
- Insect control of holdings
- General dezinsection and improvement of biosecurity measures
- Enhanced biosecurity measures on the holdings



Second outbreak - Stip

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Third outbreak-Radovis

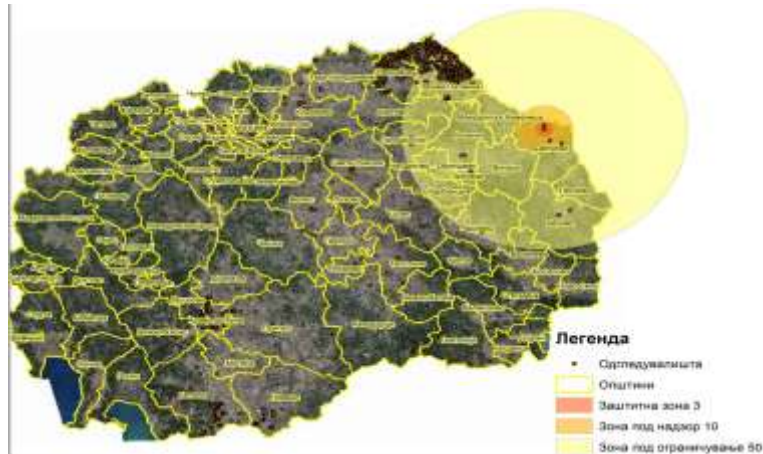
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Fourth outbreak- Delcevo

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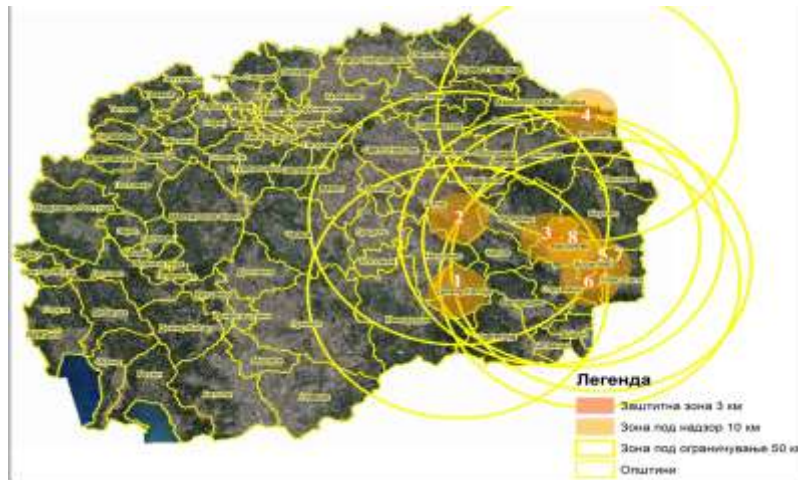


New outbreaks on 03.05.2016

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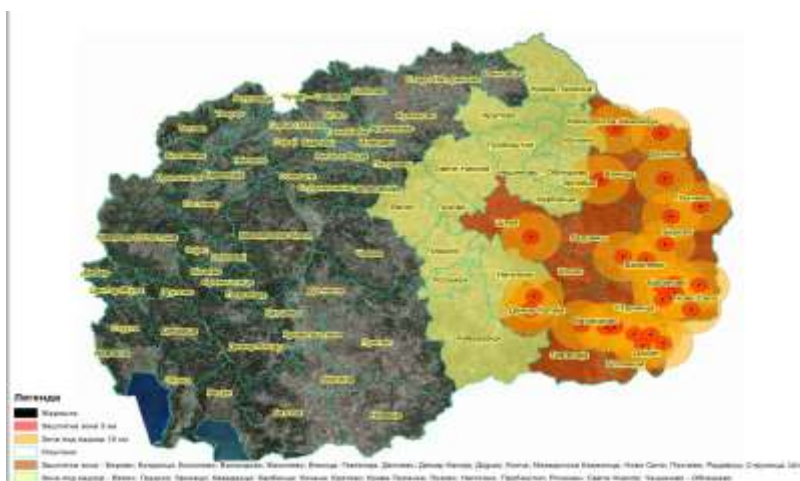
Outbreak situation on 04.05.2016



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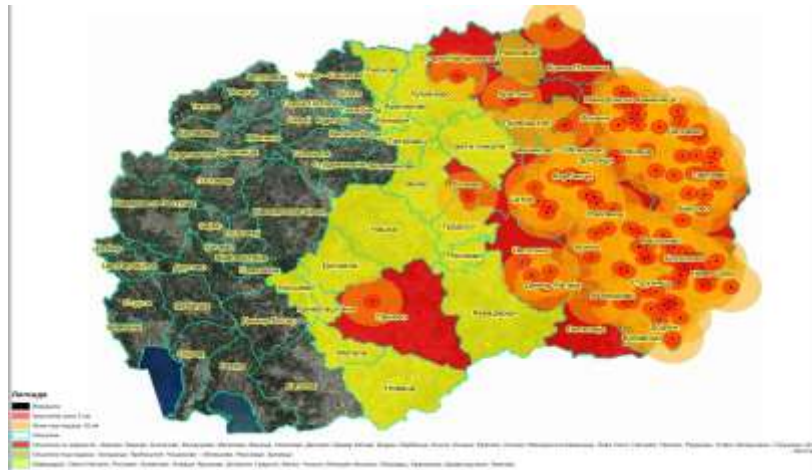
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outbreak situation on 16.05.2016



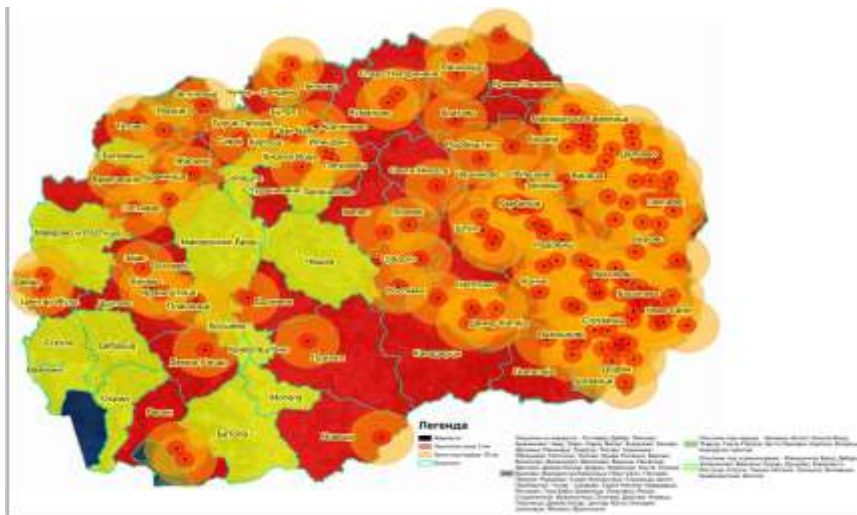
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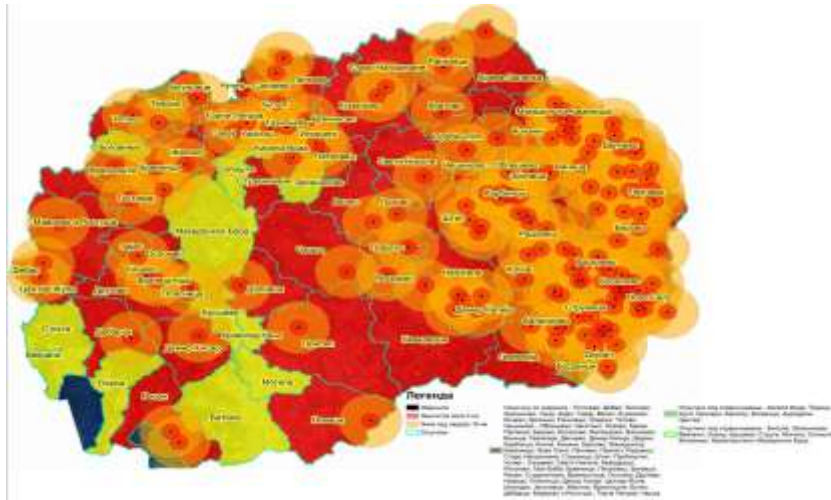
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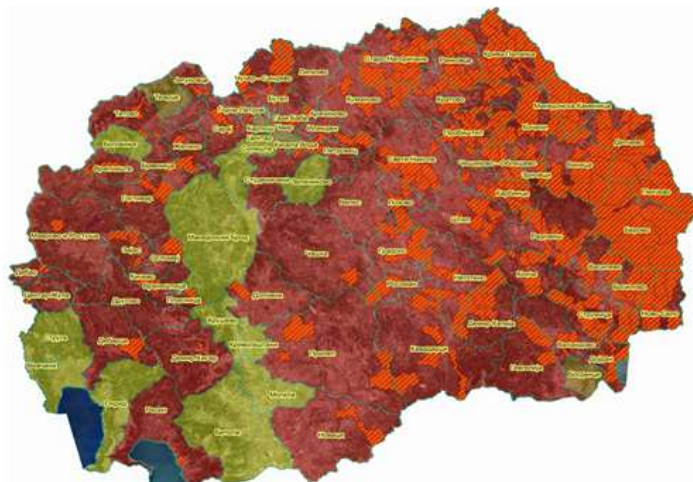
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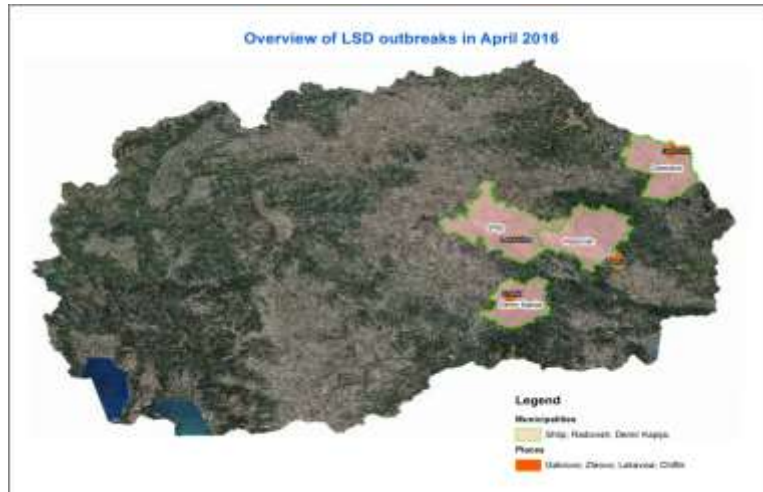
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Situation on 31.12.2016



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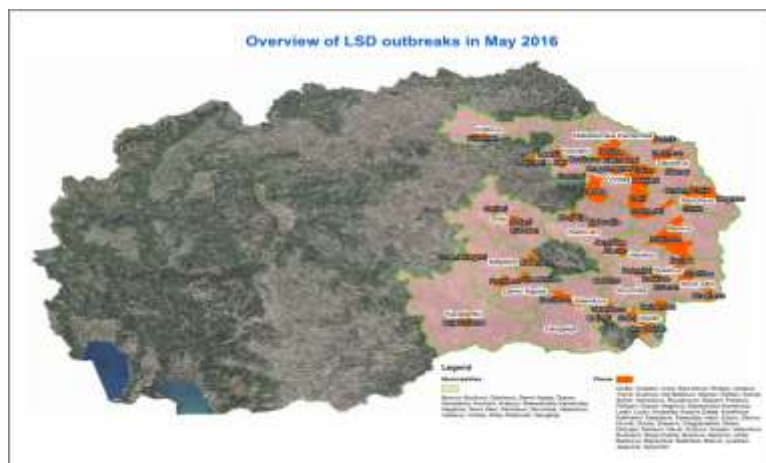
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Incidence May



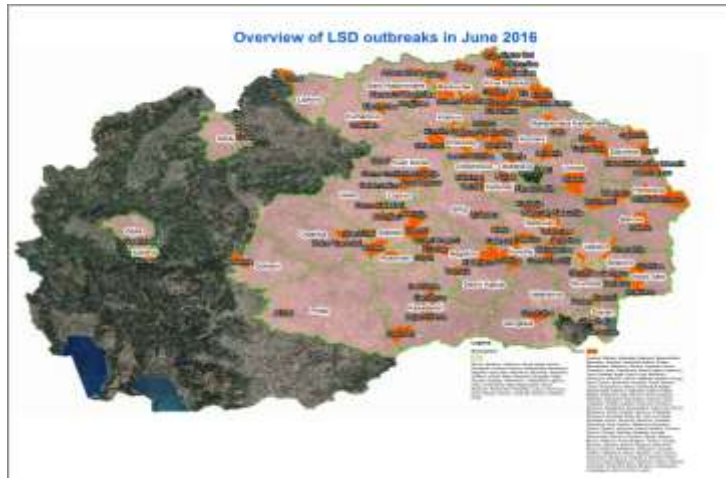
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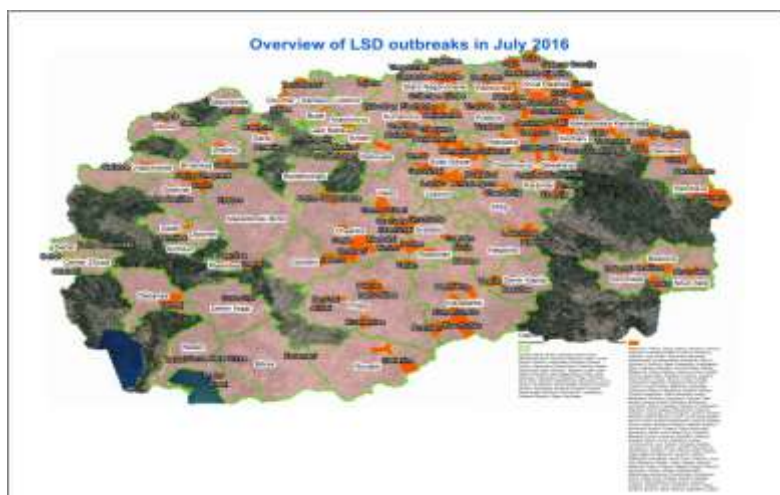
Incidence June

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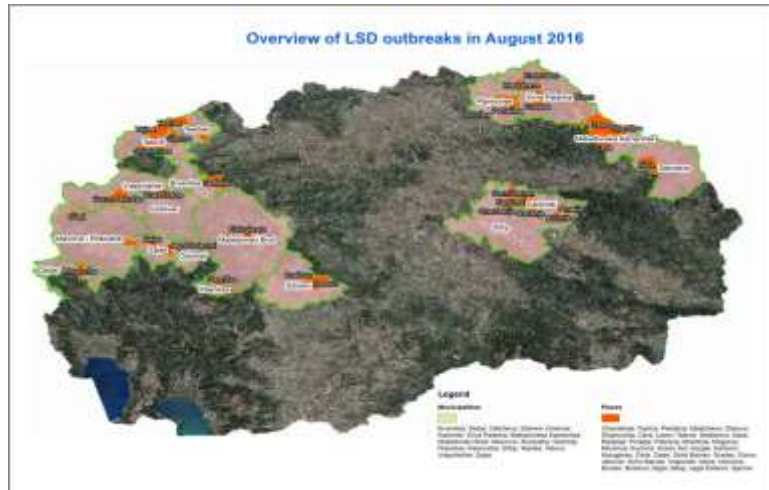


Incidence July

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Incidence August



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Clinical field cases

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- Establish and activation of the National Center for Disease Control
- Engagement of local official veterinarians (establishment of local centers for disease control)
- Engagement of Expert groups
- Information sent to the Government of R. Macedonia on regular basis
- Information of all involved parties
- Instructions and guidelines for the disease
- Meeting with PVP and big holdings owners

- Information to the public
- Leaflet and Poster for raising public awareness published and distributed—how to recognize the disease, the importance of immediate notification and prevention
- Press conference held
- Guidelines for implementing of enhanced biosecurity measures distributed to all animal keepers
- USAID – campaign in 6 regions
- All materials available on line





Ministry of Agriculture, Forestry and Fisheries of the Republic of Macedonia

Public awareness

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Outbreak summary

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- 1535 reported cases (71 not confirmed)

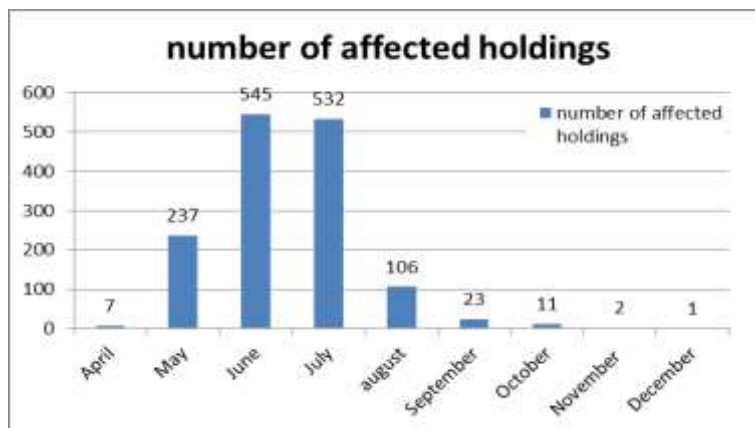
Number of outbreaks	Number of animals on affected holdings	Culled animals	Dead animals
1 464	30 480	3 925	313

- 91 no vaccinations
- 1373 with vaccination
- 942 reported at least one day after vaccination

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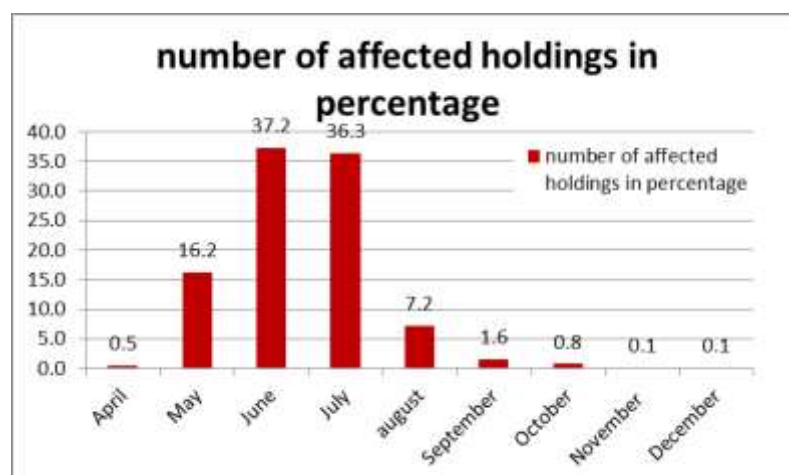
LSD outbreaks in 2016 - holdings

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LSD outbreaks in 2016 holdings %

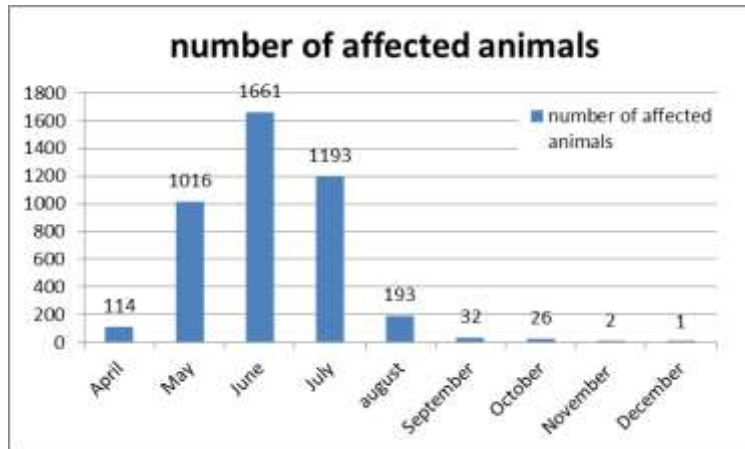
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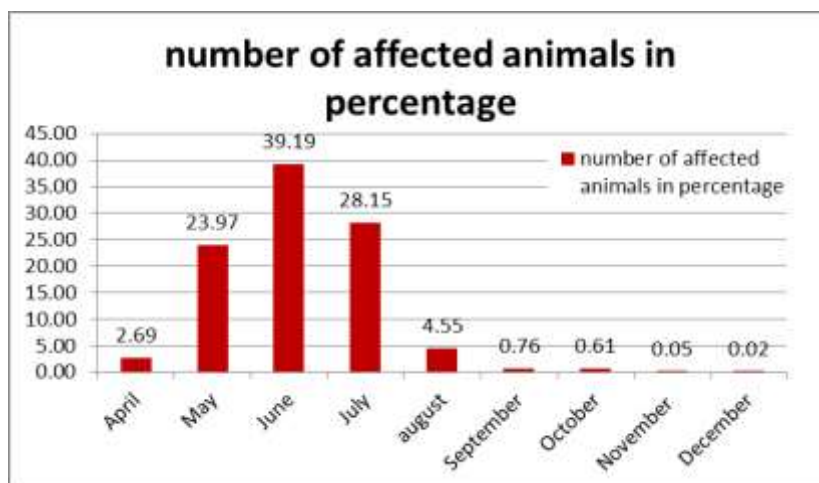
LSD outbreaks in 2016 animals

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LSD outbreaks in 2016 animals %

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First Vaccination phase

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- On 24.05.2016 FVA have started with the vaccination of the animals in the restricted zones with the LSD vaccine
- 50 000 vaccines for EU donation - live attenuated virus vaccine against LSD (Neethling strain), 'Lumpy Skin Disease Vaccine For Cattle', Onderstepoort Biological Products, South Africa
 - 46 370 animals vaccinated in 5113 holdings
 - 46 private practices
- Final dead line 3 weeks from the start
- Vaccination in accordance with the Decision 2015/2055
- Culling and safe disposal of the animals in affected holdings is until 23.05.2016
- Culling and safe disposal of the animals with clinical signs and vaccination of healthy animals and their isolation from 24.05.2016
- Restrictive measures remained in force in line with Directive 92/119 and Decision 2016/645

Second vaccination phase

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- On 24.06.2016 FVA have started with the vaccination of the animals in the restricted zones with the LSD vaccine
- 250 000 vaccines purchased live attenuated virus vaccine against LSD (SIS type), 'Lumpyvax', MSD Animal Health, Intervet, South Africa
- Vaccination completed on 31.07.2016
- 212 153 animals vaccinated in 24 053 holdings
- 129 private practices
- Vaccination in accordance with the Decision 2015/2055



Revaccination

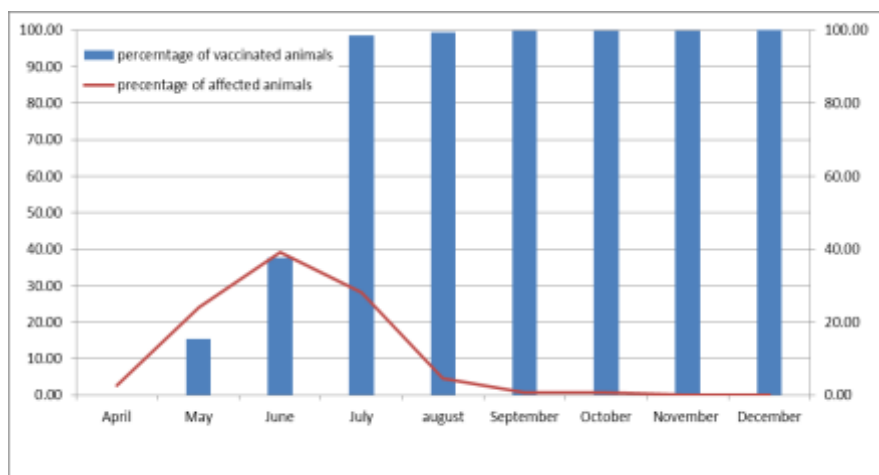
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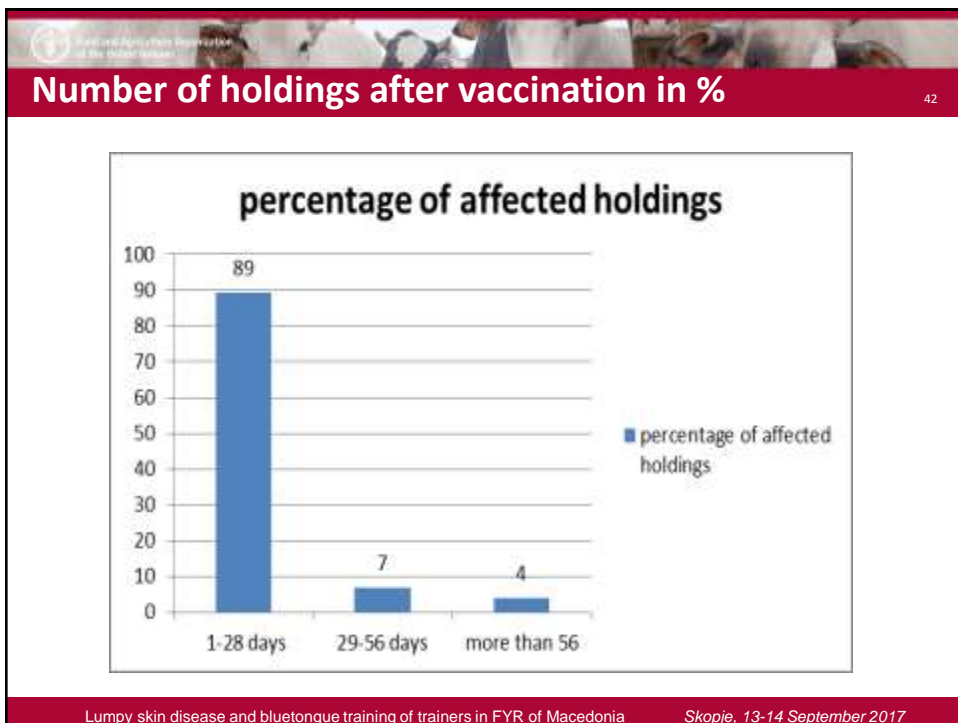
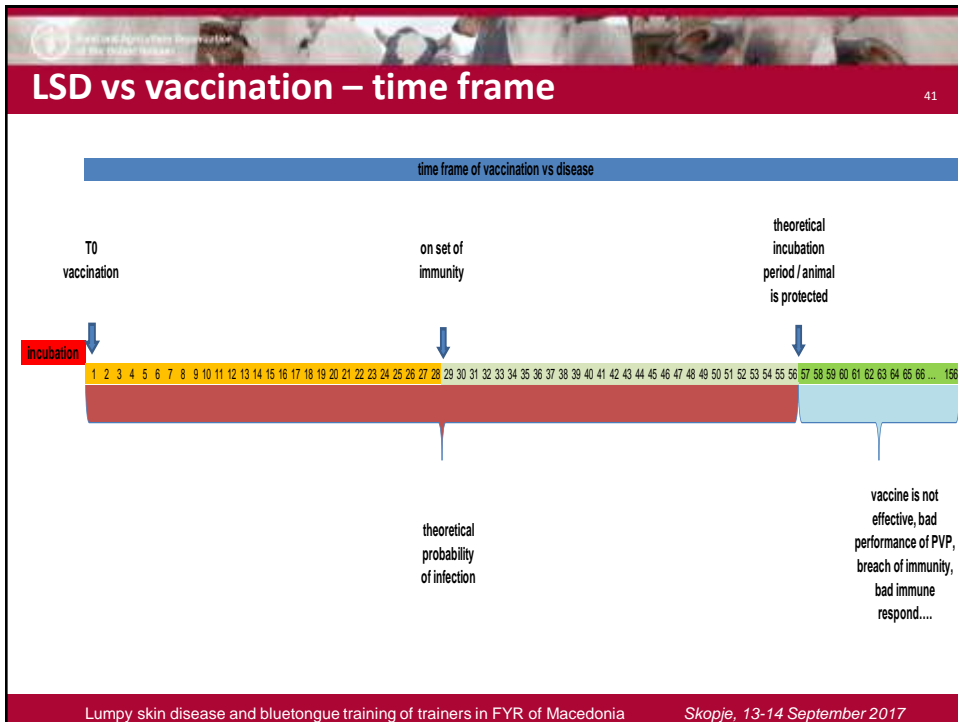
- On 10.03.2017 FVA have started with the vaccination of the animals in the restricted zones with the LSD vaccine
- 67 500 doses of vaccines purchased live attenuated virus vaccine against LSD (SIS type), 'Lumpyvax', MSD Animal Health, Intervet, South Africa
- 19 municipalities
- 47 000 animals to be vaccinated in 5150 holdings
- 46 private practices
- Public procurement for 175 000 doses , foreseen to sing a contract in middle of May and to start with vaccination in June and to finish in July
- For 2018 ?



Effect of vaccination in 2016

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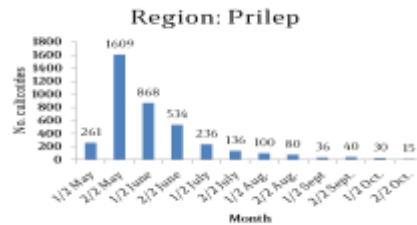
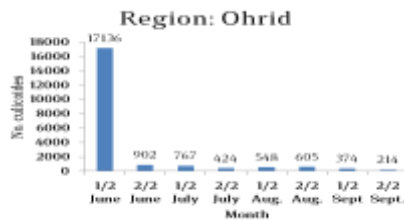
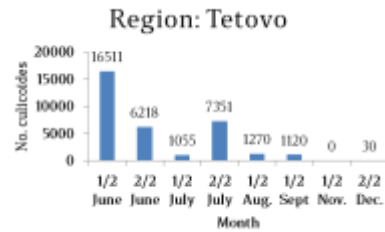
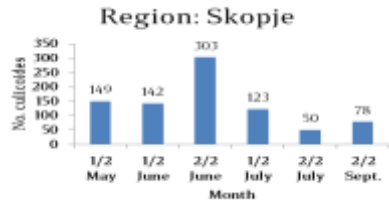






Vector monitoring

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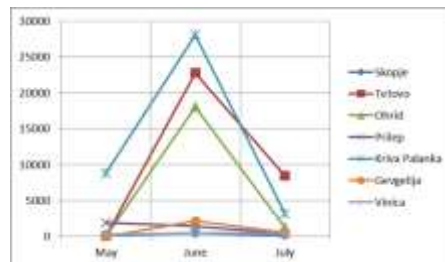
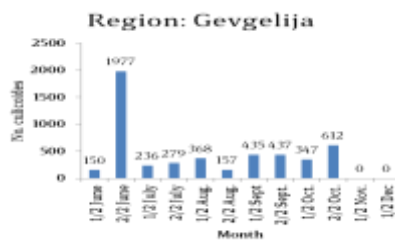
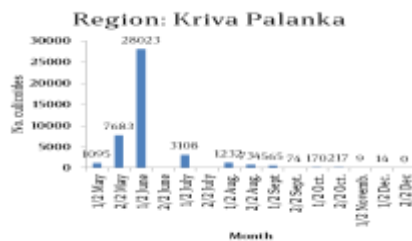
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Vector monitoring

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Financial implication		
	Intervention	Cost (€)
1	Materials for sampling and protective equipment	17 690
2	Vaccine used in 2016	340 376
3	Application of the vaccine	383 922
4	Disinfestation and disinfection	436 932
5	Farmers' direct losses	2 759 356
6	Laboratory testing	134 500
	Total	4 072 776

LSD in 2017	
-	In total four outbreaks
-	not related
-	one on twice vaccinated animal



Lesson learned for both LSD and BT

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- **vaccination** of animals is the most effective measure in combating LSD;
- **both** vaccines used for LSD in Macedonia were shown to be effective;
- considering the lack of data on the epidemiology of LSD and resources constrains VS of Macedonian chose an **appropriate** policy for combating LSD and BT;
- the **regional** approach is crucial for effective control of LSD and BT;
- the BT and LSD situation in Macedonia has helped to identify the **gaps and weakness** of the veterinary services by putting to the test the procedures in place and the capacity of the available resources;
- the threat of intrusion of vector-borne transboundary animal diseases such as LSD and BT cannot be prevented by any means other than vaccination, whereas **“wait and vaccinate”** policies can lead to the repetition of the LSD situation in 2016;
- control and eradication of LSD and BT solely by regular control measures such as stamping out are **not feasible**; and
- with respect to vector-borne transboundary animal diseases, we have to consider **new approaches** in the light of new scientific findings with a view to greater preparedness to prevent and combat the threats.



Animal health and welfare department - in service of animal health and welfare



Questions
Thanks for your attention