## GENERAL CONSIDERATIONS OF ANIMAL DISEASE PREVENTION FOR THE BALKAN PENINSULA

THE BULGARIAN POINT OF VIEW



Ministry of Agriculture and Food / Risk Assessment Center on the Food Chain

Dr. Dr. h.c. H. Meyer-Gerbaulet & Prof. Dr. G. Georgiev



#### Incursion of exotic vector borne viruses

The animal population of the Balkan Peninsula has been suffering seriously from the incursion of exotic viruses over the last years. Assessing the risks related to those agents it has to be noted that some of the viruses have also the potential of being a zoonotic agent and transmitted by vectors spreading very fast in time and geography not respecting any administrative or territorial border.









#### The Balkan Peninsula

According to the Encyclopedia Britannica, the Balkans are usually said to comprise Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Kosovo, Former Yugoslav Republic of Macedonia, Montenegro, Romania, Serbia, Slovenia, while Greece and Turkey are often included (depending on the definition), and its total area is usually given as 666,700 square km (257, 400 square miles) and the population as 59,297,000 (est. 2002)

According to an earlier version of the Britannica, the Balkans comprise the territories of the states of Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Kosovo, Former Yugoslav Republic of Macedonia, Montenegro, Romania, Serbia, Slovenia and the European part of Turkey; it notes Turkey as a non-Balkan state and the inclusion of Slovenia and the Transylvanian part of Romania in the region as dubious.



#### Examples of exotic disease incursions

Recent		On the doorstep	
• FMD		• West Nile Fever	
• Sheep pox	m m	Rift Valley Fever	
• Bluetongue	The letter	• ASF	
• LSD		• AHS	
Crimean Congo		<ul> <li>Members of the         Bunyaviridae &amp;         Flaviviridae family     </li> </ul>	Different animal species &
Avian Influenza	1		

# Failure of classical "stamping out" policy

Taking into account the observations made during the latest epidemics it seems evident that those virus related incursions cannot be contained by just applying a stamping out policy on the hosts/susceptible animal species and accompanying eradication measures such movement control, movement restriction of animals and desinsection of vectors.



## Vaccination only

Moreover, it appears that only a vaccination strategy properly carried out is a successful tool to finally contain the spread of the vector born diseases.

The pre-emptive vaccination policy should be the best practice in regions at threat.



# Pre-Conditions for an efficient and effective vaccination policy

Nine preconditions for an efficient and effective vaccination strategy on the Balkan Peninsula will be discussed taking into account the Bulgarian experience.



## (1) Monitoring

Permanent common scientific monitoring tool for early identification of disease risks







### (2) Sampling

Targeted sampling scheme for early identification of agents according to a Risk Assessment and adapting the National Prophylactic Plans if required





## (3) Diagnostic Capacity

Appropriate laboratory capacity for agent isolation and characterization with a view to develop or choose appropriate vaccine





## (4) Vaccine production

#### Vaccine production facility Modern vaccine production technologies

- Live attenuated vaccines?
- Viral vectors?
- Recombinant proteins!
- DNA vaccines !!





#### (5) Vaccine testing & approval

Fast track procedure for testing the safety, efficiency and effectiveness of the vaccine

EMA Procedure versus National Approval?

Accelerated assessment & conditional marketing authorisation

Tender Procedures in emergency situations.

Vaccine vigilance.







#### (6) Distribution of vaccines

Speedy system for storage and distribution of the vaccine





### (7) Trade restrictions

Legislation (OiE and EU)

- Not discriminating vaccinated animals
- Not affecting the trade negatively following successful vaccination campaign.



## (8) Vector epidemiology

Common epidemiological research tool specially focussing on the role of vectors

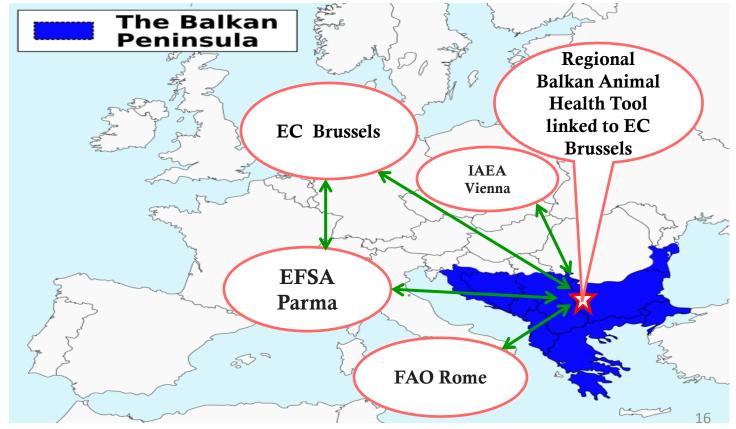
Entomology plus Virology

Intensive entomology Investigations combined with appropriate virology methods for more efficiency incriminate the acting competent vectors.



#### (9) Regional Enforcement Structure

Efficient regional structure enforcing the prerequisites on the Balkan Peninsula







#### LITERATURE

- 1. European Commission-DG SANCO (2010): Expert opinion on vaccine and/or diagnostic banks for major animal diseases-Strategic planning options for emergency situations or major crises (SANCO/7070/2010)
- 2. Domenech, J. et al. (2006): Regional and international approaches on prevention and control of animal trans boundary and emerging diseases (Ann.N.Y. Acad. Sci., 1081, 90-107)
- 3. Roth, J. A. (2011): Veterinary vaccines and their importance to animal health and public health (Procedia in Vaccinology, 5, 127-136)
- 4. Pastoret, P. P. & P. Jones (2004): Veterinary vaccines for animal and public health (Dev. Biol., 119, 15-29)
- 5. European Commission-European Centre for Disease Prevention and Control (2016): Crimean–Congo haemorrhagic fever in Spain 8<sup>th</sup> September 2016. Stockholm
- 6. Heinz, F. X. et al. (2013): Vaccination and tick-borne encephalitis, Central Europe (Emerging Infectious Diseases, 19, 69-76)

#### Thank you for Your Attention



Dr. Dr. h.c. H. Meyer-Gerbaulet & Prof. Dr. G. Georgiev