



Outbreaks of animal disease, like food-and-mouth disease, avian influenza, classical swine fever, etc., have a great impact on the social and economic situation of a country and region. Animal disease outbreaks are costly and there are also ethical issues related to the mass slaughter of animals when controlling an outbreak. Furthermore, there is growing concern about the potential impact of certain animal diseases on human health. The animal health policy at EU level shall improve the prevention and control of animal disease, amongst others every Member State is obliged to prepare a contingency plan. A contingency plan has to include rapid implementation of the most appropriate control measures as well as taking the local epidemiological situation into account. Member State shall draw up a contingency plan specifying the national measures to be implemented in the event of an outbreak of a notifiable disease. This plan shall allow access to facilities, equipment, personnel and all other appropriate materials necessary for the rapid and efficient eradication of the outbreak. In order to control the implementation process of a contingency plan, the Member States has to perform an animal disease outbreak exercise every second year.

Together with the State Veterinary Office (SVO) the CARDS EU-Twinning Project organized the first animal disease outbreak exercise for Classical Swine Fever. The exercise was performed from the 25th until the 27th of July 2007. The objective of the exercise was once to verify if the legislation in force in BiH is in line with the EU legislation and second if an efficient eradication of the outbreak could be carried out ([Agenda](#)).

Four experts from Germany came to support the exercise:

1. Dr. Sandra Blome, EU Reference Laboratory for Classical Swine Fever at the University for Veterinary Medicine in Hanover
2. Dr. Martina Mahnken, Lower Saxony Federal State Office for Consumer Protection and Food Safety
3. Dr. Matthias Kramer, Friedrich-Löffler-Institute Wusterhausen, Federal Research Institute for Animal Health, Department of Epidemiology
4. Dr. Benno Ewert, Saxony-Anhalt Federal State Office for Consumer Protection
5. Dr. Karoline Schollmeyer, RTA Twinning Advisor
6. DVM Edin Lendo, RTA-assistant

Following colleagues from different Veterinary Services in Bosnia and Herzegovina participated:

1. DVM Nihad Fejzić, State Veterinary Office
2. DVM Darko Čobanov, State Veterinary Office
3. DVM Zorana Mehmedbašić, State Veterinary Office
4. DVM Drago N. Nedić, Ministry of agriculture, forestry and water management RS
5. DVM Edina Nukić, Ministry of agriculture, water management and forestry FBiH
6. DVM Hajrudin Muslić, Inspectorate of FBiH
7. DVM Radmila Čojo, Inspectorate of RS
8. DVM Radovan Babić, Veterinary Institute "Vaso Butozan", Banja Luka
9. DVM Novalina Mitrović, Veterinary Institute Bijeljina
10. DVM Ljiljana Gojić, Inspectorate of RS, Veterinary Inspection Teslić
11. DVM Vujadin Krčmar, Inspectorate of RS, Veterinary Inspection Srbac
12. DVM Nebojša Bjelica, Inspectorate of RS, Veterinary Inspection Nevesinje
13. DVM Hasan Džinić, Inspectorate of FBiH, Vet inspection Sarajevo Canton
14. DVM Nermin Smajlagić, Inspectorate of FBiH, Veterinary Inspection Zenica-Doboj Canton
15. DVM Meksud Ganić, Veterinary Station "Trivet", Tuzla
16. DVM Milan Ignjić, Veterinary Station, Šamac
17. DVM Božo Kostić, Veterinary Station, Doboj
18. Mr. Nikola Ristić, Department for agriculture, forestry and water management of Brčko District
19. DVM Pero Burgić, Department for agriculture, forestry and water management of Brčko District
20. DVM Marija Janković, Department for agriculture, forestry and water management of Brčko District
21. DVM Ljiljana Lučić, Department for public safety of Brčko district, Veterinary Inspector
22. DVM Besima Terzić, Inspectorate of FBiH, Veterinary Inspection Central Bosnia Canton

First day of the exercise

After the arrival and registration of participants Mr. Nihad Fejzić, State Veterinary Office in BiH (SVO), opened the first simultaneous National animal disease outbreak training.



(Dr. Nihad Fejzić)

In order to get a good overview over the present status of Classical Swine Fever (CSF) in BiH, [Mr. Drago Nedić, RS](#), [Ms. Edina Nukić, FBiH](#), [Ms. Ljiljana Lučić, Brčko District](#) and [Mr. Darko Čobanov, SVO](#) outlined the current situation as well as the measures which will be applied due to the legislation in place.

Furthermore the measures which will be applied at location of outbreak based

on by-law on eradication of CSF were presented. The by-laws resumed by RS were published in 1995 and in 1988 in the FBiH. Taking under consideration that the COUNCIL DIRECTIVE 2001/89/EC of 23 October 2001 on Community measures for the control of classical swine fever in the EU received their last amendment at the 5th of December 2006, it is apparent, that the by-laws in BiH are not conform with the community legislation.

Starting with the presentation of the measures to be applied in the EU, Ms. Sandra Blome from the EU Reference Laboratory for CSF, gave an overview on "[Clinical signs, epidemiology, and control of CSF](#)". Ms. Blome gave a clear structured overview over the course of the disease and the severity of clinical symptoms. The clinical



(Dr. Sandra Blome)

signs of acute CSF infection including "typical" and "atypical" signs were presented in the order of occurrence. One of the tasks of the EU Reference Laboratory for CSF is to identify the group to which the CSF virus belongs to (genetic typing). If the group is known, experts can trace back the origin of the virus and find the way, how the CSF virus came into the country or the infected holding.

After a short coffee break the practical part of the exercise was opened by Dr. Matthias Kramer, Friedrich-Löffler-Institute for Animal Health, Department of Epidemiology. The participants were divided into three working groups and every group elected their team leader.

Group 1: Radovan Babić, Hasan Džinić, Ljiljana Gojić, Nermin Smailagić,

Group 2: Zorana Mehmedbasić, Darko Čobanov, Radmila Čojo, Novalina Mitrović, Damir Stanković

Group 3: Ljiljana Lučić, Nikola Ristić, Besima Terzić

During the three exercise days the working groups will receive the outbreak scenario with main emphasis on clinical suspicion, official confirmation and one secondary outbreak. The working groups shall work independently in a given time and present their possible solutions to the audience. After presentation of all results the participants will discuss the different solutions and conclude with recommendations.

First exercise day: **Suspicion on an CSF outbreak in Vitanovići**

Background information:

- 📄 Farmer has reported to the veterinary station an increased number of deaths of his fattening pigs.
- 📄 The farm is situated in Vitanovići 15 km from Brčko and outside of any kind of inhabitation.

- ☞ The capacity of the pig fattening farm is about 1200 pigs in one cycle. In the moment, there are 1045 fattening pigs inside the stables as one epidemiological unit.
- ☞ It is the first production cycle of fattening pigs in this unit.
- ☞ The farmer bought the piglets from different holdings from the surrounded villages (Brčko district and Republika Srpska).
- ☞ The healthy status from the piglets was unknown and the quality was irregular.

Tasks:

1. What kind of measures have to be applied on the holding?
 - clinical examination
 - administration measures (for example blocking the farm, involvement of other authorities and services etc.)
 - sampling
 - tracing back/on
 - decision of culling
2. What kind of measures have to be applied in the surrounding of the suspected farm?
 - restriction zone?
 - administration measures (detection of pig holdings, preparation of the confirmation of the outbreak)
3. What kind of requirements of disease reporting have to be fulfilled?
 - chain of information and communication (ways and means)
4. How and who communicate with the media?

The results of the discussions "Suspicion on CSF" of the working groups were presented by the team leaders (Group 1, [Group 2](#), [Group 3](#)). Amongst others commonly the groups identified following obstacles, which are clearly defined in the legislation in force:

1. **Procedure of sample taking and delivery to the responsible laboratory:**
 - against all biosecurity rules, samples will be transported by the owner of the animals to the laboratory

Reason:
The payments for the delivery of samples by veterinarians is not clearly defined. Some municipalities cover the cost, but no general rules for covering of transportation costs are in place.

 - number of the samples taken are not efficient
 - pathological investigations of dead animals will be done on the farm
2. **Procedures on the suspicious farm:**
 - Veterinary Surgeons will not always inform Veterinary Inspector about a suspicion;
 - Veterinary Surgeons does not wait for the arrival of the Veterinary Inspector on the farm

Reason:
The tasks, duties and payments of Veterinary Surgeons (private practitioners) are not determined. Therefore the willingness of the Veterinarians, to support

the Official Veterinarians without compensation, is very low.
Leaving the farm will support spreading of the disease to other farm.

Remarks from RS:

The Ministry covers generally the cost for the measures ordered by Veterinary Inspectors. Veterinary Surgeons can as well receive funds from the city council to cover their cost.

Remarks from FBiH:

If the reporting etc. was done according to the law, Veterinary Surgeons will receive compensation.

- Disposal of the fallen stock is difficult

Reason:

There are no rendering plants in BiH and no clear strategy for burial places. Municipalities, who are in charge of the allocation of burial places, are generally not preparing an emergency plan with possible burial spots.



Because of the late hour it was decided to prepare the conclusion the following morning and the first day of the exercise was closed at 20:30h.

(Discussions in the working group 1)

At the second day of the exercise Mr. Matthias Kramer presented the most important actions to be taken within the first 24 hours:

1. Blocking of the farm → prevent spreading of the disease!
 - no pigs may come on the farm and no pigs may leave the premise
 - person and vehicle traffic should be restricted, only absolute necessary persons/vehicle will have access, e.g. Veterinary Inspectors
2. Identification/registration → documentation to avoid "loosing" pigs!
 - control of the farm register in order to get further information about contact holdings, e.g. purchase of pigs from other farms
 - every pigs identity needs to be checked (eartag) and the numbers have to be recorded. By means of the number of pigs on the farm, a rough estimation how many Veterinarian will be needed for e.g. culling of the pigs, can be calculated (2min/pig = 2200 min / for 1000 pigs is equivalent to ~ 35h = 3,5 days/vet)
3. Diagnosis → time until the final result will be available should be taken into account!
 - taking of samples on the farm will take one day
 - transport of the samples to the laboratory will take one day
 - virus isolation in the laboratory will take 7-9 days, these is most important to have in mind when it is the primary outbreak
 - in total the final results will be first available 9-11 days after the notification

of the suspicion

4. Media → transparency and open presentation of the situation to the public!
 - a buzz of activity on a bigger farm in case of a suspicion, will in any case be noticed by the neighbors. Therefore a public information, e.g. press conference and press release, will be helpful and prevent exaggerated speculations.

After a longer discussion the participants were interested to know who will pay for the measures ordered and who will pay the Veterinary Surgeons (private practitioners) in Germany.

Mr. Kramer explained that the measures are paid by the State / Federal State and Districts. For certain diseases like CSF, the EU will co-finance up to 50% of the control measures. In general the authority who orders measures within disease control, will have to fund the measures as well. Especially if it would be risk for the public health, e.g. Anthrax, Avian Influenza.



(Mr. Matthias Kramer)

In order to follow the planned schedule, Mr. Kramer presented the ["Epidemiological investigation procedure in case of an outbreak of a notifiable disease"](#). Epidemiological investigation includes recording all possible contact, e.g. pigs were sold to one neighbour holding, or pigs were bought in recently. With the collected information the primary infected holding can be traced back and also holdings which may be infected as well, because they bought pigs from the suspected holding can be found and further spreading be prevented.



(Impression from the exercise)

Rather important to clarify for the participants, that within the EU not just prevention of spreading of the disease after an outbreak of CSF is regulated, but that the prevention of the carry over of CSF is also one main pillar of the prevention strategy in EU member states. Therefore Ms. Martina Mahnken, Lower Saxony Federal State Office for Consumer Protection and Food Safety, presented the ["Biosecurity measures in pig farms according to the German](#)

[sanitary rules for pigs"](#), which implements the valid EU directive. Introduction of the disease in a pig holding shall be prevented by strict hygienic measures, e.g. cloths use in stable should not be used outside of the stable, restrictions who is allowed to enter the stables, etc..

As already mentioned above, the diagnosis of CSF in the laboratory will take between 9-11 days. To secure the



(Mr. Radovan Babić)

results and eliminate false diagnosis, [investigations on CSF](#) are regulated and the methodology of the "[Laboratory diagnostic according to the Diagnostic Manual Chapter V – VIII](#)" was presented by Mr. Radovan Babić, Veterinary Institute "Dr. Vaso Butozan" and Ms. Sandra Blome.

The newest developments in the field of "[Vaccination against CSF](#)" were outlined by Ms. Blome, because even if there is a none vaccination policy in EU, the control of the disease by vaccination is the first step in the direction to a no vaccination policy. Unfortunately, even if in BiH the disease should be under control through vaccination, outbreaks of CSF occur regular.

After the presentations the working groups received the tasks for the second day "**Official confirmation of an CSF outbreak**" of the exercise.

Tasks:

1. What kind of measures have to be applied on the holding?
 - administration measures / directives
 - blocking the farm
 - involvement of other authorities and services
 - valuation of the animals
 - culling and sampling from the remain animals
 - tracing on
 - disposal
 - disinfection (rodents and insects), cleaning and disinfection
2. What kind of measures have to be applied in the surrounding of the suspected farm?
 - establishment of the restriction zones
 - administration measures / directives
 - blocking the farms (trade)
 - borders of the restriction zones
 - clinical examination and sampling
 - tracing on / tracing back
 - involvement of other authorities
3. Chain of command!
4. What kind of requirements of disease reporting have to be fulfilled?
 - chain of information and communication
 - collection, validation and transmission of the data
5. How and who communicate with the media?

Following solutions and conclusions were presented by the leaders of the working groups:

Group 1:

- a crisis group should be established, which contains veterinarians, police, public services in order to coordinate the necessary measures
- blocking of the farm, movement control (police) will be just arranged for the infected holding. Every few hours the police will control if the movement restrictions of pigs were adhered;

- decision will regulate the restricted area, culling of the pigs with electricity stunning, rendering resp. buried C&D NaOH 2%, C&D (cleansing and disinfection). No health certificate may be issued by veterinarians. Closing of the market and meat products may not be traded. The crisis management group will decide about financing of the measures e.g. compensation, culling, etc.;
- vaccination will be carried out within 3km radius, supervised from veterinarians who had no contact with the infected holding (clean veterinarians). Restriction in the vaccination zone are identical as on the infected premise, police check points, etc.. Corridors for movement of the teams should be established and controlled;
- vaccination within the 10km radius will be carried out by another team. Restriction measures only if there are clinical signs obvious;
- Major of the district will form a group for estimation of the financial damage;
- epidemiological teams should do investigations about movement on/off the farms.

Group 2:

- establishing a crisis centre;
- setting up of a 3km and 10km surveillance zone with movement stop, fencing cats and dogs, prohibiting people movement, biosecurity of personnel working on the farm, disinfection before entering the farm;
- organize culling, safe disposal of carcasses, secure the disinfected area, disinfection blockage;
- committee will evaluate the compensation as well as C&D, burial and personal protection;
- crisis management groups leader will be in contact with media;
- vaccination in the 10km zone, no movement for 40 days and final C&D measures.

The second working group already pointed out the expected constraints of the planned measures:

- lack of human and personnel resources;
- movement will be difficult to control;
- no rendering plant in BiH;
- no uniform legislation on State level;
- no compensation fund.

Group 3:

- 3km zone will be established as well as 10km. The number of farms will be recorded. The measures are aligned on stamping out of the disease and therefore the safe disposal of culled animals needs to be planned within 20-24h (vehicles has to be organized);
- ban on products and left over's;
- C&D of the farm and the equipment, increase biosecurity;
- all animal feed on the farm has to be destroyed;
- ban on movement of people has to be arranged. Dogs and cats should be kennelled;
- decision will regulate the vaccination of all pigs within the 3km zone and monitoring within the 10km zone. Clinical examination and taking of blood samples in the 10km zone. Farmers are obliged to report dead animals;

- priority is monitoring in the 10km zone, no health certificate within the 3km and 10km zone;
- animals may go directly to slaughter, but veterinarians need to control the delivery properly;
- Disinfection at day 1,2,3 and 5 and after 42 days;
- ban of markets, fairs, etc. no gathering of animals allowed;
- decision will be issued for the safe disposal of infected animals;
- access to the burial place for public needs should be prohibited for at least 10 years;
- communication with farmers, and reporting to the SVO, RS, FBiH
- collected data on the farm will be passed on, in order to trace on and off movement from the infected holding to the region;
- important is the communication with superiors and regular meetings;
- information of the media also for educational purpose of the farming community.



The output of the second days exercise showed clearly, that the most important measures were applied by the working groups. Constraints in controlling the movement of the animals, as well as lack of human resources, etc. could be clearly identified. Together with German experts the participants discussed further measures which need to be taken into account:

1. Protection zone and surveillance zone have to be created in a polygon shape. The borders of this polygon should be ideally connected with natural barriers, e.g. rivers, highways, etc.. The creation of restriction zones should be done as big as prescribed (3km and 10km), but it needs to be kept in mind, that they have to be "controllable" as well. The neighbor entities/district have to be informed about the zones, especially if they will be in their scope. In each zone the responsibilities are different.
2. Transposition of EU regulation into national legislation e.g. hygienic regulation, for other animals (e.g. cattle, sheep) during an outbreak, rules for building a stable under consideration of animal welfare rules, etc. are basic requirements for the control of animal diseases.
3. Different methods of culling during an outbreak should be introduced, respectively the method used should be related to the number of animals to be culled, e.g. culling by injection by a small number of animals.

The second day of the exercise was closed at 18:30h.



Time to chill out after lively discussions!



(Mr. Benno Ewert)

At the third and last day of the exercise Mr. Benno Ewert, Saxony-Anhalt Federal State Office for Consumer Protection started with the presentation "[Diagnostic Manual of the EU in connection with the German CSF control regulation and experiences of implementation](#)". The diagnostic manual of the EU prescribes the diagnostic procedures, sampling methods and criteria for evaluation of the laboratory tests for the confirmation of CSF. The disease can be seen in an acute and chronic form,

depending on the form the symptoms are different. Also the best time to find antibodies varies, but in general the impact of the acute form will be visible within 2-3 day, whereas pigs infected with the chronic form will look and behave poorly for a couple of month. Taking blood sample within a group of pigs, it is likely to elect pigs which are in the beginning of the infection, incubation period, and no antibodies can be found. Therefore the number of samples, which are necessary to be 95% secure to find infected animals, are statistically proved.

The last presentation of the exercise "[CSF in Europe and Worldwide – Risks for incursion and transmission](#)" was held by Mr. Matthias Kramer. Consistently outbreaks of CSF are recognized worldwide and in Europe especially in east and Balkan region. Reasons for spreading of the disease within and outside of a country are the legal but unfortunately also illegal trade of live pigs and products originating from pigs. Positive for the economics of a country, but negative in regard of the animal disease control is the increasing population densities in domestic pigs in certain regions and growing travel activities (tourism and business travel, hunting tourism). Beside the above mentioned reasons, the infection is still present in wild boars and spreading to the domestic pig population is likely.

Instead of working in the working groups, the third and last day of the exercise was used to define the strengths and weaknesses of the animal disease control in BiH. One important aspect of the workshop was not only to train veterinarians, in fact figuring out the existing constrains in their daily work should be one output of the exercise as well.

The participants wrote down anonymously the strengths of the veterinarian services and also the obstacles they are facing in animal disease control:

Strengths:

1. great experience of veterinarians (remarked by 8 participants)
2. vaccination cost is covered by state, entity, canton (remarked by 5 participants)
3. cooperation between different levels and authorities (remarked by 3 participants)
4. responsibility is clear by law when outbreak occurs (remarked by 2 participants)
5. combination of vaccination with other measures (remarked by 2 participants)
6. cost of vaccination is cheap (single answer)

7. education of farmers helps eradication (single answer)
8. transparency in eradication (single answer)
9. vaccination has made population immune to CSF (single answer)
10. small pig population (single answer)
11. enlarging of farms (single answer)

Weaknesses:

1. legislation is not synchronized (remarked by 11 participants)
2. registration of holding, animals and movement is not done (remarked by 10 participants)
3. inadequate funds for compensation, and other control costs (remarked by 8 participants)
4. illegal animal trade (remarked by 4 participants)
5. backyard keeping animals (remarked by 4 participants)
6. not sufficient communication of authorities (remarked by 2 participants)
7. animal disposal unsolved (rendering plant) (remarked by 2 participants)
8. insufficient lab technology and procedures (remarked by 2 participants)
9. vaccination is badly organized, no clear aim, point or strategy (remarked by 2 participants)
10. no control of wild bores (single answer)
11. not reporting pig deaths (single answer)
12. ban on export (single answer)
13. insufficient animal health protection (single answer)
14. insufficient contacts to hunters (single answer)
15. vaccination (single answer)
16. missing support system for implementation of measures (single answer)

The German experts supported their Bosnian colleagues, that education and knowledge is high in terms of veterinary science and experience in animal disease control in BiH. Also the vaccination policy should be continued, although not in compliance with EU legislation, due to the local situation. This approach was chosen in EU Member States as well as a first step of eradication, mass vaccination. Vaccination was banned in Germany first in the 80ies but after severe outbreaks, EU Commission recommended the use of prophylactic vaccination again. First after eradication through preventive mass vaccination ban of vaccination was possible in the framework of a single market. The vaccination coverage should be 90/95% of all holdings in BiH.

In order to achieve the 90/95% coverage registration of holdings and identification of pigs is of paramount importance. The task will be not easy to fulfill, because the yearly census in January has it weaknesses as some holdings do not have pigs at the time, buying in April, slaughtering in December. Getting reliable figures in the local setting is most difficult, but funding might help to overcome this problems, outbreaks in non-registered farms should lead to restrictions. Legislation is the crucial point and backbone for animal disease control. Legislation provides the possibility to follow a strict line that can be presented, legitimating, to politicians, media, owners, stake holders etc..

Mr. Matthias Kramer acknowledges the hard work done in BiH and the search for solutions in this difficult surrounding. Monitoring and surveillance systems for wild boar are most important and should be implemented. In his role as a project leader within a TWINNING light in Slovenia, the CSF infection occurred mainly in the

southern part and multinational surveillance systems were implemented. This is advisable for BiH as well.

Mr. Kramer pointed out that "infections do not know borders, diseases do"!

The German experts congratulate the participants for the analyses of the system and thanked you for the excellent cooperation during the last three days of the first simultaneous exercise in BiH.

Mr. Nihad Fejzić thanked all participants for their active participation and high working moral. The first simultaneous exercise should not only be educational, even more the working conditions must be improved. He encourages Mr. Radovan Babić and his team to use the connections to the EU Reference Laboratory for CSF at the



University of Veterinary Medicine in Hanover and other institutes, in order to establish a good network. Vaccination has to go on until outbreaks subside, only if no outbreaks occur any more, further steps should be taken. Bylaw (secondary legislation) for whole BiH is recommended and should be implemented (secondary laws). Mr. Fejzić knows that laws look good on paper but their implementation is not easy to achieve. Main issues in the future is the control of CSF and brucellosis. Especially brucellosis because of its endemic occurrence in BiH. The veterinary services in BiH have to find ways to cooperate with hunters, in order to set up surveillance in the wild

boar population. At the regional meeting of the Chief Veterinarian Officers joint conclusions was that CSF is not a national but a regional problem. Long border lines present a problem and the control programme in BiH depends as well on the surrounding countries, e.g. Croatian outbreaks are linked to BiH and Serbia. Mr. Fejzić pointed out, that similar meetings should be organized in the future, this will be one basis for a stable cooperation and communication between all veterinarians in BiH.

Ms. Karoline Schollmeyer, Local Resident Twinning Adviser, thanked the participants for their dedication during the exercise and wishes also that further exercise will follow.

Remarks:

In order to evaluate the impact of the exercise, the participants were asked to fill out a [questionnaire](#). Overall, discussions during the simulation exercise were most valuable even if the task is clear and everybody knows the subject. Anyhow the participants suggested that the groups should contain different institutions and representatives from different entities.

.....to be continued!!!