

SANCO/11068/2013

**REPORT OF THE
"FOODBORNE ZONOSSES–SALMONELLOSIS"
SUB-GROUP TASK FORCE
Meeting held in
Sofia, Republic of Bulgaria
21-22 March 2013**

**Report of the meeting of "Foodborne Zoonoses Salmonellosis" subgroup of the Task Force,
held in Sofia, Republic of Bulgaria 21-22 March 2013**

List of participants: see Annex I

Agenda of the meeting: see Annex II

Introduction

This report is a short summary of the various informative presentations given during the 8th meeting of the "**Foodborne Zoonoses Salmonellosis**" Task force subgroup.

The main aim of the meeting was to exchange views and discuss the *Salmonella* control programmes in breeding flocks, laying hens and broilers (*Gallus gallus*) and in breeding and fattening turkeys (*Meleagris gallopavo*) as implemented in Bulgaria.

The meeting encompassed the following discussions:

- The overall structure and organization of the *Salmonella* control programmes in Bulgaria
- Experiences and challenges of the implementation of the *Salmonella* control programme in breeding flocks of *Gallus gallus*
- Implementation of the *Salmonella* control programmes in laying flocks, broiler flocks of *Gallus gallus* and in turkey flocks
- The role of biosecurity in the implementation of the *Salmonella* control programmes in flocks of breeding and laying hens
- National Reference Laboratory for Salmonellosis

The meeting included the following subject presentations:

- Structure and organization of the Veterinary Services in Bulgaria.
Information flow of bodies involved in the implementation of the programme
- Implementation of Salmonella Control Programmes in breeding flocks of chicken in Republic of Bulgaria.
- Implementation of Salmonella control Programmes in breeding flocks in region Yambol
- Implementation of Salmonella Control Programmes in laying hens in Republic of Bulgaria
- Implementation of Salmonella Control Programmes in laying hens in Sofia
- Implementation of Salmonella Control Programmes in broilers in Republic of Bulgaria
- Implementation of Salmonella Control Programmes turkey in Republic of Bulgaria
Private diagnostic laboratory - Laboratory for testing food, feed and biological materials"
"Regional Veterinary Station - Ruse" SP Ltd
- National Reference Laboratory "Salmonella, Campylobacter and Antimicrobial Resistance"
activities

Discussion sessions took place after each presentation, and resulted in a final discussion with common conclusions and recommendations.

Presentations

Structure and organization of the Competent Authority, and information flow of bodies involved in the implementation of the SNCPs in Republic of Bulgaria

By Dr Ilian Boykovski

Dr Boykovski presented a detailed overview of the structure and organization of the Bulgarian Food Safety Agency at the central, regional and district levels and a description of the distribution of responsibilities of national authorities and local regions and districts, including the communication network and the flow of programme information.

The Bulgarian Food Safety Authority (BFSA) is the national food and veterinary health authority responsible for coordinating and implementing the Programme.

Within the agency are a number of directorates; of which the Food Control Directorate, the Laboratory Activities Directorate, the Feedstuffs Control Directorate and the Directorate of Animal Health and Welfare are directly involved in animal health and production, and in disease and zoonosis control.

The Department of Infectious Diseases within the Directorate of Animal Health and Welfare is the Competent Authority at central level directly responsible for the Salmonella control programmes. Twenty-eight Regional Food Safety Directorates are responsible for monitoring and implementing the different actions at the regional level, while 265 Municipalities with 340 Municipal Official Veterinarians are responsible for the interaction with the individual poultry holdings, including farm registration, supervision and the collection of official samples.

Implementation of Salmonella Control Programme in breeding flocks of chicken in Republic of Bulgaria

By Dr Aleksandra Miteva

Dr Miteva provided a description of the Salmonella Control Programme in breeding flocks including historical data, objectives and results, as well as legislation and measures under the programme.

The Salmonella Control Programme in breeding flocks has been in operation in Bulgaria since 2008. The Salmonella prevalence in breeding flocks has varied between 0 – 5.2% during the period, in 2011 the prevalence was 0.8%. Of the serovars targeted in the legislation, *S. Typhimurium* (1), *S. Infantis* (4) and *S. Hadar* (2) have been detected in breeding flocks. The flock infected with *S. Typhimurium* was removed; compensation for the value of the birds is paid according to a publicly available scale of compensation by the National Statistics Institute.

Sampling is carried out according to EU regulations. There are 6 regional (State) laboratories and 1 private laboratory approved for the testing of samples under the National Salmonella Control Programme; official samples must be sent to one of the State laboratories while own-check samples taken by the Food Business Operator may be tested by private or state laboratories. Isolates from positive samples are sent for serotyping at the NRL Salmonella, which notifies the Animal Health and Welfare Directorate at HQ.

Vaccination is a voluntary control measure; in 2011 111/127 (87%) of breeding flocks were vaccinated one or more times, almost all with an inactivated vaccine.

Biosecurity measures at holdings with breeding stock are based on a manual of biosecurity measures issued by USAID Bulgaria in line with EU requirements. The manual with instructions

and check lists is available at the BFSA web site. Verification of compliance with biosecurity measures is performed during farm visits by the Competent Authority

Implementation of the Salmonella Control Programme in breeding flocks in region Yambol

By Dr Tsonka Stoyanova

Dr Stoyanova presented the tasks and activities at the regional level with the region Yambol as an example. The Yambol region is situated in southeastern Bulgaria, divided in five municipalities and bordering Turkey. It is a poultry-intensive region with a poultry population of about 3.4 million birds in 2012. It contains one breeding farm with 60 parent flocks, 2 hatcheries and 2 broiler farms with 150 flocks producing about 2.5 million broilers on an annual basis. There is a significant export of day-old chicks (21 million.) to Greece and Romania. In the region are also 5 duck farms and a slaughterhouse for ducks, plus 8 flocks of layers.

The role of the regional authority includes planning and overseeing the execution of the Salmonella Control Programs through cascade training of official district veterinarians, preparing schedules for official controls, verifying and validating own-check schedules submitted by poultry farmers and auditing biosecurity during inspection of poultry farms. The responsibility for sample collection and submission of samples for laboratory testing rests with the district veterinarians, as well as the collection and reporting of the results of official and own-check sampling to the regional authority. Data from testing 2008-2012 were presented; during this period 2 breeding flocks tested positive for *S. Hadar* (2010), but not for any of the other regulated serovars. *S. Enteritidis* and *S. Typhimurium* were not detected from broiler flocks during the period.

Implementation of Salmonella Control Programme in laying hens in Republic of Bulgaria

By Dr Aleksandra Miteva

Dr Miteva provided a description of the Salmonella Control Programme in laying hens including historical data, objectives and results, as well as legislation and measures under the programme.

The Salmonella Control Programme in laying hens has been in operation in Bulgaria since 2008. The Salmonella prevalence in laying flocks has varied between 0.8 – 1.75% during the period, in 2011 the prevalence was 1.75%. Of the serovars targeted in the legislation, only *S. Enteritidis* (10) has been detected during this period, while other serovars have been detected in an additional 23 laying flocks. Flocks infected with regulated serovars are removed or barred from fresh egg sales; compensation for the value of the birds is paid according to a publicly available scale of compensation by the National Statistics Institute.

Sampling is carried out according to EU regulations; laboratory testing and serotyping of isolates are carried out as described under breeding flocks.

Vaccination is a voluntary control measure; in 2011 all flocks were vaccinated as pullets, but judging from the number of vaccinated animals the coverage was not more than 50% of animals at risk.

Implementation of Salmonella Control Programme in laying hens in Sofia district

By Dr Dimitar Berovski

Dr Berovski presented the tasks and activities at the district level with the Sofia district as an example. In Sofia district there are 5 farms with laying hens (3 cage system, and 2 alternative systems) with a total of 27,000 hens.

The official district veterinarian is responsible for maintaining regular direct contact with the farms, including training of the operator in correct sampling procedures. The responsibilities include registration of farms, three official inspections/year (including assessing biosecurity measures according to a check list), approval and control of operators' sampling plans, and sanctions if plans are not being strictly implemented taking and submitting official samples according to the plan prepared by the regional office and producing progress and annual reports.

Data were presented for planned and submitted samples for the period 2008-2012. While more official samples than planned were taken for all years, the submission of FBO samples was below the planned number of samples, e.g. for 2012, 20 FBO samples were planned, but only 12 submitted.

Implementation of Salmonella Control Programme in broilers in Republic of Bulgaria

By Dr Aleksandra Miteva

Dr Miteva provided a description of the Salmonella Control Programme in broilers including historical data, objectives and results, as well as legislation and measures under the programme.

The Salmonella Control Programme in broilers has been in operation in Bulgaria since 2009. The Salmonella prevalence in broiler flocks has varied between 0 – 0.4% during the period, in 2011 the prevalence was 0%. Of the serovars targeted in the legislation, *S. Enteritidis* (3) and *S. Typhimurium* (1) have been detected during this period, while other serovars have been detected in an additional 30 broiler flocks.

Sampling is carried out according to EU regulations; laboratory testing and serotyping of positive isolates are carried out as described under breeding flocks. Stratified data on laboratory tests for the period were presented, but were not completely clear as to the coverage of flocks, e.g. in 2009 it appeared that 3.2 tests (CA and FBO tests combined) were carried out per flock under the programme, and 3.1 tests per flock in 2010.

Implementation of Salmonella Control Programme for turkey flocks in Republic of Bulgaria

By Dr Aleksandra Miteva

Dr Miteva provided a description of the Salmonella Control Programme in turkeys including historical data, objectives and results, as well as legislation and measures under the programme.

The Salmonella Control Programme for turkeys has been in operation in Bulgaria since 2010. Data for the Salmonella prevalence in turkey flocks for the period 2007-2011 were presented; Salmonella was not detected during this period. Sampling is carried out according to EU regulations; laboratory testing and serotyping of positive isolates are carried out as described under breeding flocks.

The turkey production in Bulgaria is small; there are 2 breeding flocks (belonging to a research institution) and 1 fattening flock producing turkeys for slaughter.

Private Laboratory RVS-RUSE

This presentation provided insight into the role and work of a private diagnostic laboratory authorized to carry out analyses under the national SCPs. RVS-RUSE was a former regional veterinary laboratory that had been privatized, and authorized as the only private laboratory in Bulgaria so far to carry out analyses on FBO samples under the national SCPs. It was explained the process of getting approved by the CA, and the quality assurance carried out at the laboratory. RVS-RUSE was accredited to carry out analyses for Salmonella according to ISO/EN 17025.

National Reference Laboratory “Salmonella, Campylobacter and Antimicrobial Resistance” activities

By Prof Dr Hristo Daskalov

Prof Daskalov (Head of the NRL Salmonella in Republic of Bulgaria) introduced the laboratory, and described the functions of the reference laboratory in relation to the Competent Authority, to the regional laboratories, and to the EU Community Reference Laboratory. The NRL has been accredited (ISO 17025) since 2007, and is a WHO Collaborating Centre for Salmonella.

The NRL participates in ring trials on detection and serotyping organized by the EURL Salmonella, and in WHO interlaboratory comparisons on Salmonella serotyping and antimicrobial susceptibility testing, and has demonstrated satisfactory performance in these trials. Nationally, NRL organizes interlaboratory proficiency tests on Salmonella detection for the laboratories approved for the NSCPs (6 regional State laboratories and one private) but this has been based of sterilized matrix and relatively high numbers of Salmonella to date and a more challenging programme is planned. the laboratory also provides training activities and is very proactive in terms of future developments. There is however little contact with equivalent public health authorities and data trends in humans and food animals are not compared to help assess progress or emerging risks.

The NRL receives all Salmonella isolates from positive samples obtained by the authorized laboratories, and carries out identification of isolates, serotyping and antimicrobial susceptibility testing, and report these results back to the competent authority.

Discussions on main elements of the programmes

Breeding flocks

The present Salmonella control program in breeding flocks, implementing EU regulations, has been in operation since 2008.

Holdings must be authorized by the competent authority, and farmers are compensated for the removal of infected flocks. Vaccination is not compulsory but vaccination is implemented in all breeding farms at the initiative of the operator. Vaccines are approved by the competent authority, however no recommendations or best practices are enforced. This measure is under the competency of the veterinary professionals of the breeding companies.

Data were presented that demonstrated a favourable situation with respect to the *Salmonella* prevalence in breeder flocks as the prevalence is below the EU target of 1% or less positive breeder flocks as regards the five relevant *Salmonella* serotypes (*S. Enteritidis*, *S. Typhimurium* (including monophasic variants), *S. Infantis*, *S. Hadar* and *S. Virchow*). Data to differentiate layer and broiler breeding flocks or parent and grandparent flocks was not available and a system of unique identification of flocks was not in place, therefore placing heavy reliance on local knowledge by regional staff who visit holdings at least 3 times a year and also take samples in hatcheries. Official

sampling is also carried out in feedmills, but there have been no positive results which is surprising in view of the common occurrence of contamination of vegetable protein ingredients.

Laying hens

The present Salmonella control program in layers, implementing EU regulations, has been in operation since 2008.

Holdings have to be registered by the Regional Food Safety Authority. Vaccination is voluntary and under the competency of private veterinary professionals; as judged from the presentations vaccination programmes could be improved in order to get better value for money as incomplete vaccination courses are not likely to be effective. All flocks on all holding have been officially sampled, which exceeds the EU requirement. No FBO samples have been found positive, indicating a lack of sensitivity in detection.

Data were presented that demonstrated a favourable situation with respect to the *Salmonella* prevalence in layer flocks with 1.75% positive flocks in 2011. The Republic of Bulgaria has thus achieved the Community target for the relevant *Salmonella* serotypes (*S. Enteritidis* and *S. Typhimurium* (including monophasic variants), although it did appear that not all flocks had been included in the programme, according to data presented. There is now no confirmation of positive flocks, which removes the possibility of false negative confirmatory tests.

Broilers

The present Salmonella control program in broilers, implementing EU regulations, has been in operation since 2009.

Data were presented that demonstrated a favourable situation with respect to the *Salmonella* prevalence in broiler flocks (0 positive flocks in 2011). It was mentioned that FBOs did not always submit samples taken at 3 weeks of age (i.e. not on time for the slaughter planning), and that this should be enforced by prescriptions or sanctions. Compliance with biosecurity requirements was also mentioned as an issue, but the use of deadlines for improvements and close contact between FBOs and local enforcement staff ensures that there is continual improvement in this aspect.

Turkeys

The present Salmonella control program in turkeys, implementing EU regulations, has been in operation since 2010.

The turkey production in the Republic of Bulgaria is small; no samples have been positive for Salmonella.

Biosecurity

There is a good focus on biosecurity under the programmes. Farm hygiene and farm management is an important part of any *Salmonella* control programme. Preventive measures outlining structural and management requirements for poultry farms were presented including biosecurity check lists, and training and inspection of biosecurity measures is carried out during the regular visits of the official district veterinarian. It appears that training in biosecurity measures is an important part of the work carried out at district/municipal level and progress by operators is regularly assessed.

Involvement of private sector

It was confirmed that a good cooperation existed between the industry and the CA. This is good as experience from other countries shows that industry involvement and acceptance of responsibility is important for the successful development of NCPs.

Conclusions and recommendations

During the meeting potential obstacles to successful implementation of *Salmonella* control programs in poultry were discussed. The following are the conclusions and recommendations of the Salmonella Subgroup Task Force:

Conclusions

Organisation:

- The Salmonella Control Programmes of the Republic of Bulgaria are clearly organized at central, regional and municipal levels, with a greater frequency of official sampling than the minimum requirement being carried out in many cases.

Biosecurity:

- Good check lists are available for biosecurity key points at farm level and responses to biosecurity recommendations are checked according to agreed deadlines
- It appears that training in biosecurity measures is an important part of the work carried out at municipal level
- Prolonged down-time and verified effective cleaning and disinfection are used to minimize the risk of carry-over of statutory Salmonella serovars between flocks.

Data reporting:

- Communication between central, regional and municipal levels seems efficient, with provision of monthly reports to the central level for monitoring purposes, as documented by the provision of copies of monthly reports
- However, the data presentation provided during our visit was not entirely clear, e.g. data for grandparent and parent flocks were combined, and also for layer and broiler breeders

Sampling and testing:

- Sample submission is efficient, and samples are refrigerated until dispatch in case of delay of transport of more than 24 hours for samples to reach the laboratory, which is normally arranged by courier.
- Additional epidemiological sampling is carried out as needed
- The detection sensitivity relating to operator samples and feed samples in particular is open to question and may lead to limitations on further progress.

National Reference Laboratory (NRL) Salmonella:

- Ring trials for regional and private laboratories are organized by NRL Salmonella which is good
- Previous ring trials have been carried out with pure Salmonella cultures in sterile skimmed milk without competitive flora, but for the next ring trial natural sample material will be used which should be commended

Industry cooperation:

- Experience from other countries shows that industry involvement is crucial for the successful development of NCPs. It was confirmed that a good cooperation existed between the industry and the CA

Vaccination:

- It is acknowledged that vaccination is voluntary. However, from the data presented on vaccinated flocks it appears that vaccination programmes are not strictly adhered to (e.g. some flocks are not fully vaccinated) which means that the full value of a vaccination programme is not achieved
- From the historical data presented it appears that the percentage of vaccinated flocks is decreasing. This could be a risk factor if more and more flocks are left fully susceptible to Salmonella colonization

Recommendations

Data reporting and analysis:

- For the ongoing data analysis, data for grandparent and parent flocks should be separated, and also for layer and broiler breeders
- It could be considered to introduce an electronic system/data base for the data reporting and data analysis

Sampling:

- The focus on timely sampling of broiler flocks should be continued, to allow for efficient slaughter planning in order to minimize cross-contamination at the slaughter plant
- A simple and unique flock identification is proposed, e.g. composed of farm ID + house no. + stocking date which works well in other countries
- An ongoing comparison between samples taken at the same time by both CA and FBO ensures the quality of samples taken by the FBO and discrepancies in findings should be further investigated
- The importance of testing breeder birds is emphasized as missing samples at this level could jeopardise the favourable national situation with respect to low Salmonella prevalence

NRL Salmonella:

- The national quality control of regional and private laboratories could be strengthened by using the samples from the annual EU CRL Salmonella ring test for proficiency tests distributed by the National Reference Laboratory
- A lower number of Salmonella organisms and realistic sample matrix should be used for future NRL proficiency tests for regional and private laboratories in order to test their detection capability. Further use of pre-enrichment broth from EURL ring trials was also proposed as a possible additional EQA measure.
- The quality of diagnostic procedures at regional and private laboratories should be investigated as 25% of isolates submitted to NRL for serotyping turn out to be organisms other than Salmonella, suggesting a possible problem of overgrowth of Salmonella by competing organisms.

Residue testing:

- It is recommended that random checks for antibiotic residues during confirmatory and official sampling be carried out

Feed:

- It is unusual that no positive samples for Salmonella in feed have been registered. This should be further investigated with respect to sampling procedure and laboratory examination methods

Public health:

- Further cooperation with public health authorities should be sought, e.g. through the establishment of common stakeholder meetings with participation from industry, BFSA and public health authorities

Finally, the subgroup wishes to thank our colleagues for informative presentations and discussions on sharing experiences relevant to the implementation of Salmonella control programs in poultry.

ANNEX I

List of participants

Subgroup members of the Task Force

Mr Mogens Madsen, DK chair

Mr Robert H. Davies, UK

Mr Miguel Martin Esteban, ES

Mr Petr Satran, CZ

European Commission, DG SANCO,

Unit G5-Veterinary Programmes

Ms Sarolta Idei,

Bulgaria hosts:

Dr. Ventseslava Taseva-Sokolova –Executive Director of the BFSA

Dr- Pencho Kamenov – Director of Animal Health and Welfare Directorate at HQ at BFSA

Dr Ilian Boykovski – Head of unit “Infectious Diseases “Department, Animal Health and Welfare Directorate at HQ at BFSA

Dr. Aleksandra Miteva – Chief expert at Animal Health and Welfare Directorate at HQ at BFSA

Dr. Petya Petkova - Head of unit “Animal Welfare “Department, Animal Health and Welfare Directorate at HQ at BFSA

Dr.Tsonka Stoyanova - Chief expert at Animal Health Department at RFSD Yambol

Dr. Dimitar Berovski - Chief expert at Animal Health Department at RFSD Sofia city

Dr. Hristo Daskalov - National Reference Laboratory “Salmonella, Campylobacter and Antimicrobial Resistance”

ANNEX II

Agenda

21-22 MARCH 2013

Sofia

Bulgaria

Day 1-21 March 2013

09:00	Welcome and introduction Presentation of the subgroup on Salmonella Task-Force and introduction
09:15	Structure and organization of the Veterinary Services in Bulgaria Information flow of bodies involved in the implementation of the programme
09:45	Discussions
10:00	Break
10:15	Implementation of Salmonella Control Programmes per poultry sector :breeding flocks of chicken Vaccination
11:00	Implementation of Salmonella Control Programmes per poultry sector :laying flocks of chicken
11:45	Discussions
11:00	Break
11:15	Implementation of Salmonella Control Programmes per poultry sector :broiler flocks of chicken
12:00	Discussions
12.15.	Lunch break
14:00	Implementation of Salmonella Control Programmes per poultry sector : turkeys

14.45	Discussions
15:00	National Reference Laboratory NRL role in co-ordination of proficiency testing
16:00	Discussions
16.15.	Break
16:30	Private diagnostic laboratories under the programmes
17:00	Discussions
17:30	Subgroup discussion
18:00	Close of day 1

Day 2-22 March 2013

9:00	Discussions on goals linked to the performance of laboratories under the programme
10:00	Break
10:30	Subgroup discussions
11:00	Sharing final conclusions and recommendations
12:00	Closure of the meeting