

Eradication: Final report for Salmonella 2018

For each approved annual or multi-annual programme Member States shall submit to the Commission by the 30 April each year an annual detailed technical and financial report covering the previous year. That report shall include the results achieved and a detailed account of eligible costs incurred (Art 14 of Regulation (EU) No 652/2014).

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ID: 20190417-ONLVN7L1

Country code: MT

Reporting period

From: 2018

To: 2020

Year of implementation: 2018

1. Technical implementation of the programme

1.1 Description and evaluation of the evolution of the epidemiological situation, the technical implementation of the activities foreseen under the programme and the cost-effectiveness of the programme.

1. Geographical Background

Malta is an archipelago. There are two main islands which are Malta and the smaller island of Gozo. Malta is approximately 360 Km² being the largest of the two Islands. Gozo lies north of Malta and is much smaller, at less than half Malta's surface area. Most of the poultry holdings are on the main island of Malta. There are four slaughterhouses which are situated on the main island of Malta.

1. AIM

The aim of the programme is to monitor and control programme for Zoonotic Salmonella in Broiler flocks of Gallus gallus in accordance to Council Regulation (EC) 2160/2003 and Commission Regulation (EC) no 200/2012; to achieve a reduction of the prevalence of Salmonella Enteritidis and Salmonella Typhimurium, including Monophasic Salmonella Typhimurium serotypes with the antigenic formula 1,4,[5]{, 12:i, as indicated in article 1 of CR 200/2012;- "a reduction of maximum annual percentage of flocks of broilers remaining positive for Salmonella Enteritidis and Salmonella Typhimurium equal to 1% or less".

Flocks covered by the Salmonella National Control Programme (SNCP):

The Maltese legislation, Animal Welfare Act. 439 LN 119 of 2005, states that any person or establishment rearing or keeping more that 20 broilers should be licenced by the CA. The SNCP covers all registered and

functioning broiler flock of *Gallus gallus* reared for meat production on both the Islands of Malta and Gozo, irrespective of their capacity.

In 2018, there were 65 operational broiler farms (holdings) with a total of 342 flocks reared. There was a decrease in the number of flocks reared from 416 to 342 flocks. The local poultry holdings are relatively small and may have shared water and feeding system between the different houses on the same holding.

1.2 Criteria for Laying hen flocks:

To carry out a monitoring and control programme for Zoonotic *Salmonella* in laying flocks of *Gallus gallus*, in accordance to Council Regulation 2160/ 2003 and Commission Regulation (EU) 517/2011; to achieve a reduction of the prevalence of *Salmonella* Enteritidis and *Salmonella* Typhimurium, including Monophasic *Salmonella* Typhimurium serotypes with the antigenic formula 1,4,[5], 12:i.

A reduction of the maximum percentage equal to 2% or less of positive flocks of adult laying hens. The Union target shall be achieved every year based on the monitoring of the previous year.

Layer Flocks covered by the *Salmonella* National Control Programme (SNCP):

Layer farms are registered in terms of the Egg Marketing Standard Regulation LN 345 of 2003 under Chapter 427- The Product Safety Act. In accordance with this legal notice, each individual egg-laying farm is given a unique identity number which has to appear on all the eggs produced intended for commercial purpose. The *Salmonella* National Control Programme covers all commercial registered flocks of laying hens of *Gallus gallus* in Malta and Gozo and all the rearing flocks of future laying hens.

The total number of operational layer holding in 2018 under the SNCP was 29 with a total of 109 laying flocks (including rearing and adult flocks). There is one holding which holds only rearing flock before selling them to other holdings.

1.3 There are no local breeding flocks of broilers or layers in Malta at present. There are also no commercial registered turkey farms.

2. Sampling requirements:

The minimum requirements for sampling are those currently dictated in Commission Regulations: (EC) 200/2012 for broilers flocks and (EC) 517/2011 for layers flocks.

The CA carries out official sampling in accordance to the above-mentioned Regulation, moreover the CA, may also carry out sampling and analysis on behalf of the FBO's.

Those Food Business Operators (FBO's) that carry out their own checks fill in all details of non-official sampling on a sampling form issued by the National Veterinary Laboratory (NVL). This is submitted to the NVL together with a dead bird collected from one of the houses on the holding. This bird is tested for antimicrobial residues analysis by the NVL. One bird per holding is tested during both official and non-official sampling. An official veterinarian is responsible for the Poultry section within Animal Health Unit of the CA. Amongst other responsibilities, the Unit is responsible for the registration and the management of data related to poultry holdings uploaded on the National Livestock database (Intertrace). The Unit is responsible for poultry on-farm sampling, including that of the SNCP. The support staff have the tools to keep track of sampling frequency. The unit keeps track of the frequency of sampling by using a calendar with the full list of the registered layer farms. The CA held a SNCP sampling SNCP sampling training course in 2018 to update the list of FBO's authorised to carry out own-sampling.

3. Biosecurity measures

In 2016, Biosecurity guidelines were placed on the website of the Department. These guidelines deal with hygiene and biosecurity measures (e.g disinfection facilities at the entrance of the farm, clean area around the holdings, usage of separate clothes, separate area for the storage of tools, proper feed storage, disinfection of the holdings before the introduction of new animals).

In Malta, a national legislation is in force providing general rules for the eradication of *Salmonella* in broiler and laying hen flocks (Veterinary Services Act SL 104). This legal notice refers to the control measures stated in the EU legislation and provides rules for the producer eligibility for compensation, including biosecurity measures. The mentioned national legislation states that "the producer shall follow all advices and recommendations regarding biosecurity measures to prevent *Salmonella* infection". The compensation of infected flock is connected to the presence of proper biosecurity measures.

4. Testing

Laboratories involved in analysis of official and non-official samples collected under the SNCP are accredited to ISO 17025 and the analytic methods for *Salmonella* detection are in accordance to EN/ISO 6579:2017, as laid down in provision of the Annex point 3.2 of Regulation (EU) 200/2012 and point 3.1 of Regulation (EU) No 517/2011. The analytic method is within the accreditation scope of the approved laboratories.

There are two state laboratory involved in the analysis of official samples collected under the SNCP and both are ISO accredited according to ISO 17025. The National Veterinary Laboratory (NVL) which falls under the Ministry of Environment, Sustainable Development and Climate Change and the Public Health

Laboratory (PHL) which falls under the Ministry of Health. The PHL is also the NRL for Zoonotic Salmonellosis. The NVL is responsible for all analysis of official samples and also for a certain percent of analysis of unofficial samples, which are carried out on behalf of the FBO. Samples are generally submitted within a few hours with the exception of samples collected in Gozo, which are submitted within 24-30 hours. The extremely short distances in Malta ensure that the timely submission of samples. Muscle samples are also analysed for antimicrobial residues from all holdings during every control, using a screening method known as the six-plate test. The method is validated and is included in the accreditation scope.

The National Veterinary Laboratory (NVL) carries out analysis until biochemical identification of the isolates. Serotyping is carried out following the Kaufmann-White-Le Minor scheme by the Public Health Laboratory (PHL). The PHL has included serotyping analysis in the accreditation scope since 2014. Results are then sent by e-mail for immediate action.

There are currently two laboratories involved in carrying out analysis of unofficial samples. One local and one is in Sicily, Italy. The laboratories are both ISO 17025 accredited and Salmonella analysis in according to legislative requirements and are included in the accreditation scope.

5. Control Measures and Specific Requirements carried out on Positive Flocks and their products.

A positive flock is one found to be infected with Salmonella Enteritidis (SE) and Salmonella Typhimurium (ST), including monophasic ST 1,4,[5], 12:1:-.

There are different control measures implemented depending if it is a broiler flock or a layer flock.

5.1 Control Measures implemented by the FBO.

The owner has to respect the restrictive measures issued by the CA. The entry of vehicles and personnel on the infected holding is to be restricted and strict biosecurity measures (protective clothing, boots, the use of foot baths and disinfection pits for vehicles) have to be respected to avoid spreading of infection out of the holding and between different houses.

The operator is to inform the CA on the date or dates of slaughter. Information of Salmonella status has to appear on the food chain information form which the operator submits to the slaughterhouse.

Once the infected flock arrives at the slaughterhouse, the crates have to be washed and disinfected properly.

The slaughterhouse has to include in its HACCP plan the procedure and precautions to take when slaughtering Salmonella infected flock or flocks of unknown Salmonella status.

The slaughter batch of infected flock have to be slaughter or at the end of a slaughter day or on their own, without other birds from other flocks being slaughtered afterwards.

Cleaning and disinfection after slaughter has to be carried out with utmost care.

The slaughterhouse will take samples in accordance to the Annex of Commission Regulation (EU) No. 1086/2011. A copy of the result of the analysis has to be submitted immediately to the CA once received.

The animal-by-products produced are collected in bins. These bins are supplied by the Thermal Facility. The feathers and green offals are collected in separate bins.

If the poultry carcasses are to be processed, than the processing plant is to ensure and verify that the batch number of the processed product can be traced back to the origin. The processing plant has to comply with CR (EU) No. 1086/2011 and carry out analysis in accordance to this Regulation.

If Salmonella spp. is isolated from the neck skin, the serovar has to be typed. If serotyping results in identification of the targeted serovars, Salmonella Enteritidis or Salmonella Typhimurium, the slaughterhouse has to implement the measures requested by the CA.

5.1.2 Control Measures implemented by the CA on broiler flocks.

The CA issues a Test Report with restrictive measures. A ban of movement of infected animals between houses and out of holding, is issued for the purpose of culling or until slaughter. The movement document prior to slaughter is issued by the Animal Health Unit of the CA.

The Official Veterinarian I/c of the white meat slaughterhouses has to make sure that the Food chain information (FCI) is duly filled. The CA has an SOP to outline slaughter procedures and management of such carcasses and of results from analysis of slaughtered infected flocks, to guarantee reduction of spread of the zoonoses. The OV has to observe that a number of precautions and conditions are in accordance to the SOP. An example of the precautions is that the infected flocks is to be slaughtered at the end of slaughter or the flock is the only slaughtered during the slaughter day.

The OV has to ensure that the slaughterhouse operator sample neck skins in accordance to the Regulation on microbiological criteria, (EU) No. 1086/2011.

If serotyping of neck skin results identifies presence of SE or ST, the CA carries out a traceability exercise and appropriate action is taken.

After the removal of infected animals, cleaning of the house where the flock originated from has to be verified by the CA to have been effective, through sampling of official environmental samples and microbiological analysis to be carried out by the NVL. The Animal Health Unit of the CA will only issues the permit for re-stocking after satisfactory results from official samples taken after disinfection of the infected house/houses.

5.2 Control Measures on Positive layer flocks.

There are specific requirements on the consumption of eggs from layer flocks due to the presence of or suspected of the presence of SE or ST (including Monophasic ST 1,4,[5], 12:i:-) as laid down in Annex II.D of Regulation (EC) No 2160/2003. Eggs from suck flock cannot be used for human consumption unless heat treated. Eggs from these flocks shall be marked and considered as class B eggs. There were 7 layers flocks identified as infected with the target serovar in 2018. In Malta, there is no market for slaughtered spent hens, therefore the birds were culled and incinerated at the National Thermal Unit and the eggs destroyed.

5.2.1 Control Measures implemented by the CA.

Flocks suspected of being infected with the targeted serovars after initial serotyping or found to be positively infected with the targeted serovars are placed under official restrictions and no eggs, poultry or poultry meat will be permitted to be moved from the infected house without authorization from the CA. A test report is issued with a declaration of official restriction. A official census is carried out within a few days from official restriction on the holding by officials from the CA, to verify the size of the infected flocks.

In August 2018, the Minister for Health ordered VRD to carry out an increased surveillance programme. The exercise was conducted during the second half of the year. A total of four holdings were found positive to target serovar of Salmonella. All the positive flocks were depopulated and compensation provided. National Legislation LN 225 of 2012 (SL 437.104) " measures for the eradication of Salmonella Regulation"; states that on second repeated isolation of the targeted serovars of Salmonella or lack of biosecurity a deduction rate is to be applied. The 30% compensation was calculated for two of the positive holdings

5.2.3 Destination of products:

Heat-treating has to be carried out abroad, since there is no local facility equipped to pasturise eggs and therefore it is not cost-effective. 120522 eggs originating from four positive layer flock in 2018 were destroyed.

6. Official Confirmatory Sampling in accordance to Annex II D4(b) of Regulation (EC) No 2160/2003.

The measure may be implemented only for layer flocks under the following circumstances:

- (i) the FBO proves with documentation a vaccination programme according to requirements as requested by the CA in point 10 of the SNCP and that the premises are up to relevant standards of hygiene and biosecurity.
- (ii) reasonable suspicion of improper sampling, not according to Regulation (EU) 517/2011.

Confirmatory Sampling is not implemented when:

- (a) a FBO is found repeatedly non-compliant in relation to biosecurity measures.
- (b) if there are investigations of Salmonella outbreaks in humans which would be reported to the CA and which would implicate the particular farm or restricted area.

Confirmatory sampling was performed four times in 2018 following the isolation of target Salmonella.

7. Use of Specific Methods to Control Salmonella in Poultry

7.1 Official controls to verify that antimicrobials are not used in the SNCP.

The use of antimicrobials as a specific method to control Salmonella in poultry is not permitted in accordance to provisions laid down in Article 2 of Regulation (EC) No 1177/2006. The CA verifies the correct implementation of this measure by analysing a muscle sample for antimicrobial testing every sampling session, even when the FBO carries out own-checks. In the latter case, a broiler chicken or a hen is taken from one of the flock sampled on the premises, chosen at random. The sample is submitted to the NVL and tested for the presence of antimicrobial agents. A screening test is run using the six-plate antimicrobial residues test. In 2014 the method was validated also for poultry muscle and the analysis is included in the accreditation scope.

When a positivity arises, the FBO is asked to produce a prescription. If the FBO has a valid prescription and the use of antimicrobial is according to Regulation requirements, an appropriate withdrawal time is allowed and re-sampling and analysis carried out.

If no prescription is produced and the FBO denies use of antimicrobials, the sample would be sent for confirmatory analysis abroad to accredited laboratories since such analysis is not carried out locally. In the meantime, for broiler flocks, if there is no time for re-analysis, the flock may then be slaughter under "unknown Salmonella status" following the provisions detailed in point 9.1.1. If the presence of antimicrobial residues is confirmed, then in accordance to the internal enforcement procedure, a warning letter is sent to the FBO and an investigation is carried out. A repeated offense would then given rise to a fine, according to the Veterinary Service Act. If the situation continues to repeat itself, the Veterinary Service Act allows the CVO to withdrawal or suspend the licence.

7.2 Vaccination in Layer flocks.

Salmonella vaccination as a specific measure in the control of Salmonella is voluntary. The operators tend to import pullets, rather than rear day-olds. The pullets are imported vaccinated from EU Member States.

The CA has approved the use of two vaccines (Avi pro of Lohmann and Merial), that have to be used in accordance to the recommendations of the producer. The FBO has to present records, invoices and documentation certified by a veterinarian to apply for compensation. In 2018, no FBO presented any proper claims for co-financing of vaccination.

Evolution of the epidemiological situation.

The prevalence of the targeted serovars among both broiler and layer poultry flocks has been reduced dramatically from the beginning of the implementation of the programme as from 2009. The SNCP programme has been very successful in reducing the prevalence, but now that Malta has reached a low prevalence and the number of flocks are limited and are still decreasing fluctuation of the prevalence is easily reflected any slight change.

Layer flocks:

The prevalence of the targeted serovars:

2010 -13.22%

2011-9%

2012-6.1%

2013-1.2%

2014-2.3% (2 positive flocks with a total of 1110 infected birds altogether)

2015- 1.2% (1 flock out of 83 flocks)

2016-1.1% (however this is being calculated on all flocks, rearing and adult flocks. 1 flock of 23,187 birds)

2017-2.4% (2 flocks positive. Calculated on all flocks, rearing and adult flocks, with a total of 3000 birds infected in 2017.

2018-7.37% (7 flocks positive)

Salmonella prevalence in Broiler flocks

2011-0.71%

2012-0.35%

2013-0.58% (3 flocks out of 519)

2014-1.04% (5 flocks out of 480)

2015-0.4% (2 flocks out of 456)

2016-1.2% (5 flocks out of 437)

2017-0% (0 flocks out of 416)

2018- 0.68% (3 flocks out of 441)

1.2 Details on the level of achievement of the targets set in the approved programme and technical difficulties.

Achievement of the targets:

The target was achieved in broiler flock where the percentage of positive was 0.68% in 2018.

The target was not achieved in the laying hen flocks. . The prevalence of Salmonella Enteritidis and Salmonella Typhimurium has experienced an increasing over the last year. The prevalence increased from 2.3% to 6.32% (considering all flocks, rearing and adult)

Technical difficulties presented:

The FBOs often mix different age groups in the same house. The majority of FBO's use a first-in, first-out system. This render the reporting of the number of flock more problematic and also the classification of rearing or adult flock.

In the case of three positive flocks which were found infected with Salmonella Typhimurium, swine herds were kept in close proximity.

On two occasion the CA decided to retest three holdings since in one case lime and other cases disinfectant were found to have been present in the samples submitted by the FBO, during own-checks analysis.

1.3 Epidemiological maps for infection and other relevant data on the disease/activities (information on serotypes involved,...) (Please attach files of data using the PDF attachment feature) Use the textbox below to provide clarifications for the maps you attach, if needed.

1.3.1 A map has been included as an attachment, to identify the location of the positive flocks. Malta and Gozo are considered as one region. Most farms are located on the larger island of Malta and tend to be aggregated in central-south areas of Malta, since they are more rural. The northern and eastern part of Malta are urban touristic areas.

1.3.2a Laying hen flocks

There were 36 other flocks out of a total of 95 flocks infected with other serovars (37.8%). 28 of these were adult flocks while 15 were rearing flocks. The serovars are listed below. Compared to 2017 there was an increase in the prevalence of flocks infected with other Salmonella serovars, going from 37.6% to 37.8%

Serovar No of isolates

S. Kentucky 10

S . Infantis 12
 S. Kedougou 4
 S. Livingstone 5
 S. Haifa 3
 S.Give 1
 S. Croft 1

1.3.2b Broiler flocks
 60 flocks were infected with other serovars (13.6%)

Serovar No. of isolates

S. Infantis 14
 S. Kentucky 22
 S. Give 7
 S. Haifa 14
 S. Kedogou 3

2. Tables for Salmonella monitoring outcome of the year

VERY IMPORTANT: Please fill out the following tables with figures corresponding to measures performed during the implementing period (1/1 to 31/12).

	Number of adults flocks checked	Number of these flocks infected by a target serovar	Incidence
Breeding flocks of Gallus gallus	0	0	%
Laying hen flocks	95	7	7.37 %
Broiler flocks	441	3	0.68 %
Breeding flocks of turkeys	0	0	%
Fattening flocks of turkeys	0	0	%

Table A - BREEDING FLOCKS OF GALLUS GALLUS

No of flocks with more than 250 adult breeders of Gallus gallus	0
No of flocks covered by the programme - Rearing flocks	0
No of flocks covered by the programme - Adults	0
No of flocks checked by the Competent Authorities - Rearing flocks	0
No of flocks checked by the Competent Authorities - Adults	0
No of flocks checked by the FBO - Rearing flocks	0
No of flocks checked by the FBO - Adults	0
No of official visits to take samples - Routine (holding)	0
No of official visits to take samples - Routine (hatchery)	0
No of official visits to take samples - Confirmatory sampling	0
No of official visits to take samples - Efficacy of disinfection	0
Positive flocks (SE,ST,SH,SI,SV) - No of positive flocks - Rearing flocks	0
Positive flocks (SE,ST,SH,SI,SV) - No of positive flocks - Adults	0
Positive flocks (SE,ST,SH,SI,SV) - No of positive flocks depopulated - Rearing flocks	0
Positive flocks (SE,ST,SH,SI,SV) - No of positive flocks depopulated - Adults	0
Positive flocks (SE,ST,SH,SI,SV) - No of birds concerned - Rearing flocks	0
Positive flocks (SE,ST,SH,SI,SV) - No of birds concerned - Adults	0
Positive flocks (SE,ST,SH,SI,SV) - No of eggs - Heat treated	0
Positive flocks (SE,ST,SH,SI,SV) - No of eggs - Destroyed	0

Table B - FLOCKS OF LAYING HENS

No of holdings with more than 1,000 adult laying hens	22
No of flocks in these holdings - Rearing flocks	14
No of flocks in these holdings - Adults	79
No of holdings covered by the programme	29

No of holdings covered by the programme - Rearing flocks	14
No of holdings covered by the programme - Adults	95
Official checks - No of holdings with adult flocks checked	28
Official checks - No of adult flocks checked in these holdings	29
Official checks - No of pullet flocks checked in these holdings	3
FBO checks - No of holdings checked	29
FBO checks - No of adult flocks checked in these holdings	68
FBO checks - No of pullet flocks checked in these holdings	7
No of official visits to take samples - Routine	21
No of official visits to take samples - Confirmatory sampling	8
No of official visits to take samples - Specific samples	9
No of official visits to take samples - Competent authority samples	4
No of official visits to take samples - Efficacy of disinfection	11
Positive flocks (SE,ST) - No of positive flocks - Rearing flocks	0
Positive flocks (SE,ST) - No of positive flocks - Adults	7
Positive flocks (SE,ST) - No of positive flocks depopulated - Rearing flocks	0
Positive flocks (SE,ST) - No of positive flocks depopulated - Adults	7
Positive flocks (SE,ST) - No of birds concerned - Rearing flocks	0
Positive flocks (SE,ST) - No of birds concerned - Adults	59,499
Positive flocks (SE,ST) - No of eggs - Destroyed	1,205,220

Table C - BROILER FLOCKS

No of holdings with more than 5,000 broilers	43
No of flocks produced in these holdings	249
No of holdings covered by the programme	65
No of flocks produced in these holdings	342
No of flocks checked (official checks)	5
No of flocks checked (FBO checks)	337
No of official visits to take samples - Routine	5
No of official visits to take samples - Efficacy of disinfection	6
No of positive flocks (SE,ST)	3

Table D - BREEDING FLOCKS OF TURKEY

No of flocks with more than 250 adult breeding turkeys	0
No of flocks with elite, great grand parent, grand parents	0
No of flocks covered by the programme - Rearing flocks	0
No of flocks covered by the programme - Adults	0
No of flocks checked by the Competent Authorities - Rearing flocks	0
No of flocks checked by the Competent Authorities - Adults	0
No of flocks checked by the FBO - Rearing flocks	0
No of flocks checked by the FBO - Adults	0
No of official visits to take samples - Routine (holding)	0
No of official visits to take samples - Routine (hatchery)	0
No of official visits to take samples - Confirmatory sampling	0
No of official visits to take samples - Efficacy of disinfection	0
Positive flocks (SE,ST) - No of positive flocks - Rearing flocks	0
Positive flocks (SE,ST) - No of positive flocks - Adults	0
Positive flocks (SE,ST) - No of positive flocks depopulated - Rearing flocks	0
Positive flocks (SE,ST) - No of positive flocks depopulated - Adults	0
Positive flocks (SE,ST) - No of birds concerned - Rearing flocks	0

Positive flocks (SE,ST) - No of birds concerned - Adults	0
Positive flocks (SE,ST) - No of eggs - Heat treated	0
Positive flocks (SE,ST) - No of eggs - Destroyed	0

Table E - FLOCKS OF FATTENING TURKEYS

No of holdings with more than 500 fattening turkeys	0
No of flocks produced in these holdings	0
No of holdings covered by the programme	0
No of flocks produced in these holdings	0
No of flocks checked (official checks)	0
No of flocks checked (FBO checks)	0
No of official visits to take samples - Routine	0
No of official visits to take samples - Efficacy of disinfection	0
No of positive flocks (SE,ST)	0

Table F - LABORATORY TESTS

Laboratory tests on official samples	Nb of tests					
	Breeding flocks	Laying flocks	Broiler flocks	Breeding turkey flocks	Fattening turkey flocks	TOTAL
Microbiological tests	0	124	10	0	0	134
Serotyping tests	0	46	13	0	0	59
Disinfection efficacy tests	0	88	42	0	0	130
Antimicrobial detection tests	0	40	5	0	0	45

Table G - VACCINATION

	No of flocks in the vaccination programme	No of flocks vaccinated	No of birds vaccinated	No of doses administered
Breeders	0	0	0	0
Layers	0	0	0	0
Breeding turkeys	0	0	0	0
	0	0	0	0

COMMENT / ADDITIONAL CLARIFICATION

Flock of laying hens

As indicated in technical difficulties, FBO's often use different age groups in the same house. In table A flocks with rearing and adults animals were considered in the category of adult.