



## History of EURL-*Salmonella* Proficiency Tests on the detection of *Salmonella*

Table 1 History of EURL-*Salmonella* PTs on detection of *Salmonella* in **samples from the Primary Production Stage (PPS)**.

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix amount   type		Selective enrichment medium	Plating-out medium
I 1995  Voogt et al., 1996. RIVM Report 284500003	26 4	STM5 Blank	6 0	No No		RV and SC	BGA and own
II 1996  Voogt et al., 1997. RIVM Report 284500007	15 15 2 1 1	STM100 STM1000 SPan5 STM100 Blank	116 930 5 116 0	1 gram 1 gram No No No	Chicken faeces mixed with Glycerol <sup>3</sup>	RV, SC and own	BGA and own
III 1998  Raes et al, 1998. RIVM Report 284500011	14 14 7 14 4 2 5	STM10 STM100 STM100S E100 STM10 SPan5 Blank	11 94 94 95 11 5 0	1 gram 1 gram 1 gram* 1 gram No No No	Chicken faeces mixed with Glycerol <sup>3</sup>	RV and own	BGA and own
IV 1999  Raes et al, 2000. RIVM Report 284500014	5 5 5 5 5 3 3 2 2	STM10 STM100 SE100 SE500 Blank STM10 SE100 SPan5 Blank	4 210 60 220 0 5 60 5 0	10 gram 10 gram 10 gram 10 gram 10 gram No No No No	Chicken faeces mixed with Glycerol <sup>3</sup>	RV or RVS, MSRV and own	BGA and own
V 2000  Raes et al, 2001. RIVM Report 284500018	5 5 5 5 5 3 3 2 2 20	STM10 STM100 SE100 SE500 Blank STM10 SE100 SPan5 Blank None	4 47 63 450 0 4 63 5 0 -	10 gram 10 gram 10 gram 10 gram 10 gram No No No No 25 gram**	Chicken faeces mixed with Glycerol <sup>3</sup>	RV or RVS, MSRV and own	BGA and XLD



Table 1 (continued)

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix		Selective enrichment medium	Plating-out medium
				amount	type		
VI 2002  Korver et al., 2003. RIVM Report 330300001	5	STM10	11	10 gram	Chicken faeces mixed with Glycerol <sup>3</sup>	RVS, MSRV, MKTTn and own	BGA, XLD and own
	5	STM100	139	10 gram			
	5	SE100	92	10 gram			
	5	SE500	389	10 gram			
	5	Blank	0	10 gram			
	3	STM10	11	No			
	3	SE100	92	No			
	2	SPan5	5	No			
	2	Blank	0	No			
	20	None	-	25 gram**			
VII 2003  Korver et al., 2005. RIVM Report 330300004	5	STM10	12	10 gram	Chicken faeces mixed with Glycerol <sup>3</sup>	RVS, MSRV, MKTTn and own	BGA, XLD and own
	5	STM100	96	10 gram			
	5	SE100	127	10 gram			
	5	SE500	595	10 gram			
	5	Blank	0	10 gram			
	3	STM10	12	No			
	3	SE100	127	No			
	2	SPan5	9	No			
	2	Blank	0	No			
	20	None	-	10 gram**			
VIII 2004  Korver et al., 2005. RIVM Report 330300008	7	STM10	13	10 gram	Chicken faeces mixed with Glycerol <sup>3</sup>	MSRV and own	XLD and own
	4	STM100	81	10 gram			
	7	SE100	74	10 gram			
	4	SE500	434	10 gram			
	3	Blank	0	10 gram			
	3	STM10	13	No			
	2	SE100	74	No			
	1	SE500	434	No			
	2	SPan5	7	No			
	20	None	-	10 gram**			
IX 2005  Berk et al., 2006. RIVM Report 330300011	5	STM10	9	10 gram	Chicken faeces	MSRV and own	XLD and own
	5	STM100	86	10 gram			
	5	SE100	122	10 gram			
	5	SE500	441	10 gram			
	5	Blank	0	10 gram			
	3	STM10	9	No			
	2	SE100	86	No			
	1	SE500	441	No			
	2	SPan5	7	No			
	10	None	-	10 gram***			



Table 1 (continued)

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix		Selective enrichment medium	Plating-out medium
				amount	type		
X 2006  Kuijpers et al., 2007. RIVM Report 330604004	5	STM10	9	10 gram	Pig faeces	MSRV and own	XLD and own
	5	STM100	98	10 gram			
	5	SE100	74	10 gram			
	5	SE500	519	10 gram			
	5	Blank	0	10 gram			
	3	STM10	9	No			
	2	SE100	98	No			
	1	SE500	519	No			
	2	SPan5	5	No			
2	Blank	0	No				
XI 2008  Kuijpers et al., 2008. RIVM Report 330604011	5	STM5	6	10 gram	Chicken faeces	MSRV and own	XLD and own
	5	STM50	47	10 gram			
	5	SE10	9	10 gram			
	5	SE100	90	10 gram			
	5	Blank	0	10 gram			
	3	STM5	6	No			
	2	SE10	9	No			
	1	SE100	90	No			
	2	SPan5	5	No			
2	Blank	0	No				
XII 2009  Kuijpers et al., 2009. RIVM Report 330604014	5	STM5	6	10 gram	Chicken faeces	MSRV and own	XLD and own
	5	STM50	53	10 gram			
	5	SE20	18	10 gram			
	5	SE100	84	10 gram			
	5	Blank	0	10 gram			
	3	STM5	6	No			
	2	SE20	18	No			
	1	SE100	84	No			
	2	SPan5	7	No			
2	Blank	0	No				
XIII 2010  Kuijpers et al., 2010. RIVM Report 330604018	5	STM5	5	10 gram	Chicken faeces	MSRV and own	XLD and own
	5	STM50	56	10 gram			
	5	SE20	13	10 gram			
	5	SE100	78	10 gram			
	5	Blank	0	10 gram			
	4	SE20	22	10 gram*			
	2	STM5	8	No			
	2	SE20	13	No			
	1	SE100	78	No			
1	Blank	0	No				
XIV 2011  Kuijpers and Mooijman, 2011. RIVM Report 330604023	5	STM6	6	25 gram	Chicken faeces	MSRV and own	XLD and own
	5	STM61	61	25 gram			
	5	SE6	6	25 gram			
	5	SE57	57	25 gram			
	5	Blank	0	25 gram			
	2	STM6	6	No			
	2	SE6	6	No			
	1	SE57	57	No			
2	Blank	0	No				



Table 1 (continued)

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix		Selective enrichment medium	Plating-out medium
				amount	type		
XV 2012  Kuijpers and Mooijman, 2013. RIVM Report 330604028	5	STM10	6	25 gram	Pig faeces	MSRV and own	XLD and own
	5	STM58	58	25 gram			
	5	SD6	6	25 gram			
	5	SD37	37	25 gram			
	5	Blank	0	25 gram			
	2	STM10	10	No			
	2	SD6	6	No			
1	SD37	37	No				
2	Blank	0	No				
XVI 2013  Kuijpers and Mooijman, 2014. RIVM Report 330604031	8	STM low	9	10 gram	Boot socks with environmental material (laying hen)	MSRV	XLD and own
	8	STM high	81	10 gram			
	8	Blank	0	10 gram			
	2	STM low	9	No			
	2	STM high	81	No			
	2	Blank	0	No			
XVII 2014  Kuijpers and Mooijman, 2015. RIVM Report 2014-0011	6	STM low	14	25 gram	Chicken faeces	MSRV	XLD and own
	6	STM high	67	25 gram			
	6	Blank	0	25 gram			
XVIII 2015  Pol-Hofstad and Mooijman, 2016. RIVM Report 2015-0082	6	STM low	84	25 gram	Pig faeces	MSRV	XLD and own
	6	STM high	530	25 gram			
	6	Blank	0	25 gram			
XIX 2016  Pol-Hofstad and Mooijman, 2017. RIVM Report 2016-0044	6	STM low	11	10 gram	Boot socks with chicken faeces	MSRV	XLD and own
	6	STM high	95	10 gram			
	6	Blank	0	10 gram			

Table 1 (continued)

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix		Selective enrichment medium	Plating-out medium
				amount	type		
XX 2017  Pol-Hofstad and Mooijman, 2018. RIVM report 2017-0083	6 6 6	SI low SI high Blank	17 55 0	25 gram 25 gram 25 gram	Chicken faeces	MSRV	XLD and own
Combined Food-PPS-2017  Pol-Hofstad and Mooijman, 2018. RIVM report 2018-0021	6 6 6	STM low STM high Blank	5 107 0	n.a.	Hygiene swabs	MSRV	XLD and own
PPS-2018  Pol-Hofstad and Mooijman, 2019. RIVM report 2019-0028	6 6 6	SI low SI high Blank	10 53 0	10 gram 10 gram 10 gram	Boot socks with chicken faeces	MSRV	XLD and own
PPS-2019  Pol-Hofstad and Mooijman, 2020. RIVM report 2019-0137	6 4 4	STM low STM high Negative	19 30 0	25 gram 25 gram 25 gram	Chicken faeces	MSRV	XLD and own
Combined PPS-Food-2020  Pol-Hofstad and Mooijman, 2021. RIVM report 2020-0204	6 4 4	STM low STM high Negative	7 47 0	n.a.	Hygiene swabs	MSRV or MKTTn and RVS/MSRV	XLD and own
PPS-2021  Pol-Hofstad and Mooijman, 2022. RIVM report 2021-0129	6 4 4	SI low SI high Negative	12 31 0	10 gram 10 gram 10 gram	Boot socks with chicken faeces	MSRV	XLD and own



Table 1 (continued)

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix		Selective enrichment medium	Plating-out medium
				amount	type		
PPS-Food 2022	6	SI low	8	n.a.	Hygiene swabs	MSRV or MKTTn and RVS/MSRV	XLD and own
	4	SI + SE	8 + 30				
Pol-Hofstad and Mooijman, 2023. RIVM report 2022-0108	4	high Negative	0				

<sup>1</sup> Reports can be found at the EURL-*Salmonella* website: <http://www.eurlsalmonella.eu/Publications>

<sup>2</sup> In the studies organised from 1995 to 2010, the RMs existed of gelatine capsules containing artificially contaminated milk powder. In the studies organised from 2011 to 2013, the RMs existed of lenticule discs (HPA, UK). In the studies organised since 2013, no RM were used but samples were artificially contaminated at the EURL-*Salmonella* with a diluted culture.

<sup>3</sup> Faeces mixed (1:1) with a solution of peptone/glycerol. Final concentration glycerol in the faeces mixture was 15%(v/v).

\* =With antibiotics

\*\* =Naturally contaminated chicken faeces with *Salmonella*

\*\*\* =Naturally contaminated dust with *Salmonella*

Table 2 EURL-*Salmonella* PTs on the detection of *Salmonella* in **food samples**.

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix		Selective enrichment Medium	Plating-out medium
				amount	type		
I 2006  Kuijpers et al., 2007. RIVM Report 330604003	5	STM10	9	10 gram	Minced beef	RVS, MKTTn, MSR/V and own	XLD and own
	5	STM100	98	10 gram			
	5	SE100	74	10 gram			
	5	SE500	519	10 gram			
	5	Blank	0	10 gram			
	3	STM10	9	No			
	2	SE100	98	No			
	1	SE500	519	No			
	2	SPan5	5	No			
	2	Blank	0	No			
II 2007  Kuijpers et al., 2008. RIVM Report 330604010	5	STM5	4	10 gram	Minced beef	RVS, MKTTn, MSR/V and own	XLD and own
	5	STM50	40	10 gram			
	5	SE10	7	10 gram			
	5	SE100	71	10 gram			
	5	Blank	0	10 gram			
	3	STM5	4	No			
	2	SE10	7	No			
	1	SE100	71	No			
	2	SPan5	7	No			
	2	Blank	0	No			
III 2009  Kuijpers et al., 2010. RIVM Report 330604017	5	STM5	6	10 gram	Minced chicken meat	RVS, MKTTn, MSR/V and own	XLD and own
	5	STM50	54	10 gram			
	5	SE20	12	10 gram			
	5	SE100	50	10 gram			
	5	Blank	0	10 gram			
	3	STM5	6	No			
	2	SE20	12	No			
	1	SE100	50	No			
	2	SPan5	6	No			
	2	Blank	0	No			
IV 2010  Kuijpers et al., 2011. RIVM Report 330604020	8	STM5	6	25 gram	Minced pork/beef meat	RVS, MKTTn, MSR/V and own	XLD and own
	8	STM50	55	25 gram			
	8	Blank	0	25 gram			
	3	STM5	6	No			
	1	STM50	55	No			
	1	Blank	0	No			
V 2011  Kuijpers et al., 2012. RIVM Report 330604025	5	STM6	6	25 gram	Minced pork/beef meat	RVS, MKTTn, MSR/V and own	XLD and own
	5	STM61	61	25 gram			
	5	SE8	8	25 gram			
	5	SE51	51	25 gram			
	5	Blank	0	25 gram			
	2	STM6	6	No			
	2	SE8	8	No			
	1	SE51	51	No			
	2	Blank	0	No			



Table 2 (continued)

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix		Selective enrichment Medium	Plating-out medium
				amount	type		
VI 2013  Kuijpers et al., 2014. RIVM Report 2014-0010	6 6 6	SI low SI high Blank	11 104 0	25 gram 25 gram 25 gram	Minced chicken meat	RVS, MKTTn, MSRV	XLD and own
VII 2015  Kuijpers et al., 2016. RIVM Report 2016-0042	6 6 6	SE low SE high Blank	21 101 0	25 gram 25 gram 25 gram	Whole liquid egg	MKTTn and RVS or/and MSRV	XLD and own
VIII 2016  Kuijpers et al., 2017. RIVM Report 2017-0081	6 6 6	SSt low SSt high Blank	16 73 0	25 gram 25 gram 25 gram	Minced chicken meat	MKTTn and RVS or/and MSRV	XLD and own
Combined Food-PPS-2017  Pol-Hofstad and Mooijman, 2018. RIVM report 2018-0021	6 6 6	STM low STM high Blank	5 107 0	n.a.	Hygiene swabs	MSRV	XLD and own
Combined Food-Feed 2019  Diddens and Mooijman, 2019. RIVM report 2019-0134	6 6 6	STm low STm high Negative	10 105 0	25 gram 25 gram 25 gram	Flaxseed	MKTTn and RVS or/and MSRV	XLD and own
Combined PPS- Food-2020  Pol-Hofstad and Mooijman, 2021. RIVM report 2020-0204	6 4 4	STM low STM high Negative	7 47 0	n.a.	Hygiene swabs	MSRV or MKTTn and RVS/MSRV	XLD and own





Table 2 (continued)

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix		Selective enrichment Medium	Plating-out medium
				amount	type		
Food 2021  Diddens and Mooijman, 2021. RIVM report 2021-0128	6 4 4	SE low SE high Negative	10 69 0	25 gram 25 gram 25 gram	Liquid whole egg	MKTTn and RVS or/and MSR/V	XLD and own
PPS-Food 2022  Pol-Hofstad and Mooijman, 2023. RIVM report 2022-0108	6 4 4	SI low SI + SE high Negative	8 8 + 30 0	n.a.	Hygiene swabs	MSRV or MKTTn and RVS/MSRV	XLD and own
Combined Food-Feed 2023  Diddens and Mooijman, 2023. RIVM report 2023-0340	6 4 4	STm low STm high Negative	9 52 0	25 gram 25 gram 25 gram	Flaxseed	MKTTn and RVS or/and MSR/V	XLD and own

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<sup>2</sup> In the studies organised from 1995 to 2010, the RMs existed of gelatine capsules containing artificially contaminated milk powder. In the studies organised from 2011 to 2013, the RMs existed of lenticule discs (HPA, UK). In the studies organised since 2013, no RM were used but samples were artificially contaminated at the EURL with a diluted culture.

Table 3 EURL-*Salmonella* PTs on the detection of *Salmonella* in **animal feed samples**.

Study Year	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix amount   type	Selective enrichment medium	Plating-out medium
I 2008  Kuijpers et al., 2009. RIVM Report 330604012	5 5 5 5 3 2 1 2 2	STM5 STM50 SE20 SE100 Blank STM5 SE20 SE100 SPan5 Blank	5 43 15 48 0 5 15 48 5 0	25 gram Chicken feed 25 gram (mixed grains) 25 gram 25 gram No No No No No	RVS, MKTTn, MSRV and own	XLD and own
II 2012  Kuijpers et al., 2013. RIVM Report 330604029	6 6 6 2 1 2	SE8 SE50 Blank SE8 SE50 Blank	8 50 0 8 50 0	25 gram Chicken feed 25 gram (Poultry feed, mixed meal for laying hens) 25 gram No No No	RVS, MKTTn, MSRV and own	XLD and own
III 2014  Kuijpers et al., 2015. RIVM Report 2015-0080	6 6 6	SSE low SSE high Blank	20 61 0	25 gram Chicken feed 25 gram 25 gram	RVS, MKTTn, MSRV	XLD and own
Feed-2018  Kuijpers and Mooijman, 2019. RIVM Report 2018-0023	6 6 6	SMb low SMb high Blank	(0 - 0,7) (0,4 - 3) 0	25 gram Chicken feed 25 gram 25 gram	RVS, MKTTn, MSRV	XLD and own
Combined Food-Feed 2019  Diddens and Mooijman, 2019. RIVM report 2019-0134	6 6 6	STm low STm high Negative	10 105 0	25 gram Flaxseed 25 gram 25 gram	MKTTn and RVS or/and MSRV	XLD and own



Table 3 (continued)

Study Year	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix amount   type	Selective enrichment medium	Plating-out medium
Reference <sup>1</sup>						
Combined	6	STm low	9	25 gram	Flaxseed	MKTTn
Food-Feed	4	STm high	52	25 gram		and RVS
2023	4	Negative	0	25 gram		or/and MSRV
Diddens and Mooijman, 2023. RIVM report 2023-0340						

<sup>1</sup> Reports can be found at the EURL-*Salmonella* website: <http://www.eurlsalmonella.eu/Publications>

<sup>2</sup> In the studies organised from 1995 to 2010, the RMs existed of gelatine capsules containing artificially contaminated milk powder. In the studies organised from 2011 to 2013, the RMs existed of lenticule discs (HPA, UK). In the studies organised since 2013, no RM were used but samples were artificially contaminated at the EURL with a diluted culture.



Table 4 EURL-*Salmonella* PTs on the detection of *Salmonella* in **live bivalve molluscs samples**.

Study Year Reference <sup>1</sup>	Number of samples	RM <sup>2</sup>	Number of cfu/sample	Matrix		Selective enrichment Medium	Plating-out medium
				amount	type		
LBM 2020	3	STm positive	13	25 gram	Mussels	MKTTn and RVS or/and MSRVS	XLD and own
Diddens and Mooijman, 2020. RIVM report 2020-0203	1	Negative	0	25 gram			