Supplementary Table 1.
Primers used for detection and sequence determination of *bla* genes

bla gene	Purpose	Primer name	Nucleotide sequence 5'–3'	Reference
bla_{CMY}	Detection and sequencing	cmy-F	GACAGCCTCTTTCTCCACA	1
		cmy-R	TGGAACGAAGGCTACGTA	1
	Sequencing	CMY2-outF	GTTACAATGTGTGAGAAGCAGTC	2
		CMY2-outR	ATGGGATTTTCCTTGCTGTA	2
		CMY2-R0	CAGTATTTCGTGACCGGA	2
		CMY2-F3	CTGGATTACGGTTCCGCA	2
bla_{CTX-M}	Detection and sequencing	CTX-MU1	ATGTGCAGYACCAGTAARGT	3
		CTX-MU2	TGGGTRAARTARGTSACCAGA	3
	Sequencing	CTXM14 upstream F1	AGCAGTCTAAATTCTTCGTG	This study
		CTXM14 upstream R3	GCTGGGCAATCAATTTGTTC	This study
		CTX-outF2	GCCAAGGGATAATACTAATAGAGG	2
		CTX-outR	GCGGAATGATAGAAAGAGATGAG	2
		CTX-M-14 F653	ACGTGGCTCAAAGGCAATAC	4
		CTX-M-14 R1070	CGTGAAGAAGGTGTTGCTGA	4
bla_{TEM}	Detection	MAb/F	GGGGAGCTCATAAAATTCTTGAAGAC	5
		MAb/R	GGGGGATCCTTACCAATGCTTAATCA	5
	Sequencing	TEM-1R ant	TGATTTGCTGGTTACGGTGA	This study
		TEM-1R upstream	GGTTAGCTCCTTCGGTCCTC	This study
		TEM1F downstream	GGATGGAGGCGGATAAAGTT	This study
		TEM-1F Tn3 rec	ACGAAAGGGCCTCGTGATA	This study
		TEM-1 seq OutF	ATGGTTTCTTAGACGTCAGG	This study
		TEM-1 seq OutR	CATAAACAAAGCGTCTTGAAC	This study
bla_{SHV}	Detection	SHV-F	AGGATTGACTGCCTTTTTG	6
		SHV-R	ATTTGCTGATTTCGCTCG	6

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Supplementary Table 2.
Epidemiological information about the *bla* gene-carrying *Salmonella* isolates from this study

Serotype	*bla* gene	Location of samples collected	Facility type	Facility name[a]	Egg production company's name	Sample origin	Isolation date	Strain name
Ohio[b]	*bla* $_{CMY-2}$	Prefecture A	Layer farm	a5	Company A	Eggshell	January 2012	**SEOhiM1960**[c]
			Pullet-rearing farm	Uncetain A[d]	Company A	Environment	July 2009	SEOhiM1505
			Pullet-rearing farm	a7	Company A	Environment	November 2009	SEOhiM1579
			Pullet-rearing farm	a1	Company A	Environment	January 2010	**SEOhiM1593**[c]
							May 2010	SEOhiM1615
							October 2010	SEOhiM1668-2
							November 2010	SEOhiM1782
							April 2011	SEOhiM1798
							May 2011	SEOhiM1802
							July 2011	SEOhiM1822
							March 2012	SEOhiM1984
							June 2012	**SEOhiM2008**[c]
Untypeable with O7:b:-	*bla* $_{CMY-2}$	Prefecture A	Pullet-rearing farm	a1	Company A	Environment	February 2012	SEOhiM1977
Braenderup	*bla* $_{CMY-2}$	Prefecture B	Layer farm	Uncertain B[e]	Company B	Environment	October 2011	SEBraM1898
Cerro	*bla* $_{CTX-M-14}$	Prefecture C	Layer farm	q1	Company Q	Eggshell	August 2012	**SECerM2017**[c]

[a] Each facility belonged to egg production companies A, B, or Q.

[b] *Salmonella enterica* subsp. *enterica* serovar Ohio.

[c] Detailed information about the four strains appearing in bold type is shown in Table 3.

[d] Uncertain A must either be facility a1, a6, or a7 in egg production company A.

[e] Uncetrain B must be one of the 12 facilities belonging to egg production company B.

Supplementary Table 3.

Comparison of the *bla* $_{CMY-2}$-harboring-IncA/C_2 plasmids isolated from *Salmonella enterica* in this study with IncA/C_2 plasmids from Enterobacteriaceae[a]

Plasmid name	Plasmid replicon type	Antimicrobial resistance genes			Number of IS*26* elements	Number of IS*Ecp1* elements within the region flanking the *bla* gene[b]	Size (bp)	Isolation year	Country	Source	Accession number	Bacteria	Reference
		bla $_{CMY-2}$	Common antimicrobial resistance genes	Other antimicrobial resistance genes									
pSEOhiM1593a	IncA/C_2	*bla* $_{CMY-2}$	*aph(3'')-Ib*, *aph(6)-Id*, *floR*, *sul2*, *tet(A)*	ND[c]	3	1	92,251	2010	Japan	Pullet-rearing farm environment	AP024348	*Salmonella enterica* serovar Ohio	This study
pSEOhiM1960a	IncA/C_2	*bla* $_{CMY-2}$	*aph(3'')-Ib*, *aph(6)-Id*, *floR*, *sul2*, *tet(A)*	ND	3	1	92,095	2012	Japan	Egg shells	AP024350	*Salmonella enterica* serovar Ohio	This study
pCVM21550	IncA/C_2	*bla* $_{CMY-2}$	*aph(3'')-Ib*, *aph(6)-Id*, *floR*, *sul2*, *tet(A)*	ND	3	1	120,340	Uncertain	USA	Swine	CP009564	*Salmonella enterica* serovar Newport	[1]
p2016K-0796	IncA/C_2	*bla* $_{CMY-2}$	*aph(3'')-Ib*, *aph(6)-Id*, *floR*, *sul2*, *tet(A)*	*aph(3')-Ia*, *sul1*, *tet(B)*, *tet(O)*	5	1	179,850	Uncertain (2015–2017)	USA	Human	MH760469	*Salmonella enterica* serovar Heidelberg	[6]
pAR060302	IncA/C_2	*bla* $_{CMY-2}$	*aph(3'')-Ib*, *aph(6)-Id*, *floR*, *sul2*, *tet(A)*	*aac(3)-VIa*, *ant(3'')-Ia*, *sul1*	3	1	166,530	2002	USA	Cow	HQ023864	*Escherichia coli*	[3]
pYDC637	IncA/C_2	*bla* $_{CMY-2}$	*aph(3'')-Ib*, *aph(6)-Id*, *floR*, *sul2*, *tet(A)*	*aadA5*, *ant(3'')-Ia*, *aph(3')-Ia*, *dfrA17*, *rmtE*, *sul1*	3	1	199,469	2013	USA	Human	KP056256	*Escherichia coli*	[4]
pKP-Gr642	IncA/C_2	Not detected but *bla* $_{CMY-4}$	*aph(3'')-Ib*, *aph(6)-Id*, *floR*, *sul2*, *tet(A)*	*aac(6')-Il*, *aadA1*, *bla* $_{VIM-19}$, *dfrA1*	2	1	162,787	2011	Greece	Human	KR559888	*Klebsiella pneumoniae*	[5]
p205880-Ct1/2	IncA/C_2	*bla* $_{CMY-2}$	*aph(3'')-Ib*, *aph(6)-Id*, *floR*, *sul2*, *tet(A)*	*aac(6')-Il*, *sul1*	3	1	153,373	2012	China	Human	MF344573	*Klebsiella pneumoniae*	[2]
pSN254b	IncA/C_2	*bla* $_{CMY-2}$	*aph(3'')-Ib*, *aph(6)-Id*, *floR*, *sul2*, *tet(A)*	*aadA7*, *sul1*	2	1	152,216	Uncertain	Canada	Uncertain	KJ909290	*Aeromonas salmonicida*	[7]

[a] Plasmids with >99% query coverage against pSEOhiM1593a nucleotide sequences were identified by BLASTN searches in this list.

[b] Number of IS*Ecp1* elements within 5,000 bp of the *bla* gene.

[c] ND: no antimicrobial resistance gene was detected.

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Supplementary Table 4.
Salmonella serotypes from eggshells and egg production environments

O-group	Serotypes	Number of isolates
O:4 (B)	Agona[a]	9
	Typhimurium	3
O:7 (C_1)	Braenderup[b]	36
	Infantis	22
	Ohio[b]	22
	Mbandaka	10
	Thompson	8
	Montevideo	6
	Livingston	4
	Singapore	4
	Othmarschen	3
	Bareilly	2
	Tennessee	2
	Untypeable with O7: b: -[b]	1
O:8 (C_2-C_3)	Corvallis	15
	Newport	5
	Kentucky	4
	Manhattan	2
O:9 (D_1)	Enteritidis	5
O:3,10 (E_1)	Orion	3
O:13 (G)	Untypeable with O13: y: -	2
O:18 (K)	Cerro[c]	20
O:35 (O)	Alachua	21
O:40 (R)	Johannesburg	3
	Others (including 12 serotypes)[d]	12
	Total	224

[a] *Salmonella enterica* subsp. *enterica* serovar Agona.

[b] Including AmpC β-lactamase producers.

[c] Including an extended-spectrum β-lactamase producer.

[d] Including Chincol, Gaminara, Havana, Idikan, Oranienburg, Potsdam, Putten, Rissen, Schwarzengrund, Senftenberg, Virchow, and O16: l, v: -.

Supplementary Table 5.

Antimicrobial resistance rates of *Salmonella* isolates[a] originating from Japanese layer breeding chains and egg processing facilities.

Antimicrobial	Number of resistant isolates	Resistance rate[b] (%)
Streptomycin	30	13.4
Tetracycline	26	11.6
Ampicillin	20	8.9
Chloramphenicol	16	7.1
Cefpodoxime	15	6.7
Nalidixic acid	6	2.7
Ciprofloxacin	4	1.8
Kanamycin	1	0.4
Azithromycin	0	0
Meropenem	0	0

[a] Of the 224 *Salmonella* isolates tested, 40 showed resistance to at least one antimicrobial agent.

[b] The resistance rate for each antimicrobial agent was calculated as the percentage of resistant isolates among 224 isolates in this study.

Supplementary Table 6.

Determination of minimum inhibitory concentration (MIC) for *Salmonella enterica* using Etest[a]

Strains	Serovars	Location of *bla* genes	*bla* genes	MIC (μg/ml) of each antimicrobial[b]					
				CTRX	CAZ	CTX	CPDX	ABPC / SBT	ABPC
SEOhiM1593	*S*. Ohio[c]	Plasmid	bla_{CMY-2}	96	48	>32	> 256	24	> 256
SEOhiM1960	*S*. Ohio	Chromosome and plasmid	bla_{CMY-2}	96	48	>32	> 256	48	> 256
SEOhiM2008	*S*. Ohio	Chromosome	bla_{CMY-2}	16	12	12	> 256	16	> 256
SECerM2017	*S*. Cerro	Chromosome	$bla_{CTX-M-14}$	16	1	12	64	6	> 256

[a] Etest (bioMérieux, Marcy-l'Étoile, France) was used for MIC determination using agar plates.

[b] ABPC: ampicillin, ABPC / SBT: ampicillin-sulbactam, CAZ: ceftazidime, CPDX: cefpodoxime, CTRX: ceftriaxone, CTX: cefotaxime.

[c] *S. enterica* subsp. *enterica* serovar Ohio.