

WGS Quality Control Report

Batch Name: 2024-07-28

Experiment Name: 24ARS_SALM2_LG735

Isolate No.	Sample ID	Description	ARSRL	WGS
1	24ARS_BGH0073	SAL83	Salmonella species	Salmonella enterica
2	24ARS_BGH0098	SAL84	Salmonella species	Salmonella enterica subsp. enterica serovar Infantis
3	24ARS_BGH0099	SAL85	Salmonella species	Salmonella enterica subsp. enterica serovar Typhimurium
4	24ARS_BGH0100	SAL86	Salmonella species	Salmonella enterica subsp. enterica serovar Infantis
5	24ARS_BRH0012	SAL87	Salmonella species	Salmonella enterica subsp. enterica serovar Enteritidis
6	24ARS_BRH0013	SAL88	Salmonella species	Salmonella enterica subsp. enterica serovar Enteritidis
7	24ARS_BRH0054	SAL89	Salmonella species	Salmonella enterica subsp. enterica serovar Typhimurium
8	24ARS_BRH0068	SAL90	Salmonella species	Salmonella enterica subsp. enterica serovar Typhi
9	24ARS_BRT0028	SAL91	Salmonella Typhi	Salmonella enterica subsp. enterica serovar Typhi
10	24ARS_BRT0041	SAL92	Salmonella species	Salmonella enterica
11	24ARS_CMC0007	SAL93	Salmonella Typhi	Salmonella enterica subsp. enterica serovar Typhi
12	24ARS_CRH0031	SAL94	Salmonella species	Salmonella enterica
13	24ARS_CRH0049	SAL95	Salmonella species	Salmonella enterica subsp. enterica serovar Typhimurium
14	24ARS_CVM0082	SAL96	Salmonella Typhi	Salmonella enterica subsp. enterica serovar Typhi
15	24ARS_DMC0100	SAL97	Salmonella species	Salmonella enterica subsp. enterica serovar Weltevreden
16	24ARS_DMC0101	SAL98	Salmonella species	Salmonella enterica subsp. enterica serovar Weltevreden
17	24ARS_DMC0162	SAL99	Salmonella species	Salmonella enterica
18	24ARS_DMC0218	SAL100	Salmonella Typhi	Salmonella enterica subsp. enterica serovar Typhi
19	24ARS_DMC0291	SAL101	Salmonella species	Salmonella enterica
20	24ARS_DMC0292	SAL102	Salmonella Typhi	Salmonella enterica subsp. enterica serovar Typhi
21	24ARS_GMH0033	SAL103	Salmonella species	Salmonella enterica
22	24ARS_JLM0046	SAL104	Salmonella species	Salmonella enterica subsp. enterica serovar Infantis

Legend: PASS | WARNING | FAILURE | EXCEEDS THRESHOLD METRIC/S | NON-CONCORDANT |

Isolate No.	Sample ID	Contamination	Contigs	GC Percent	N50	Total Length
1	24ARS_BGH0073	0	47	52.09	291623	5020885
2	24ARS_BGH0098	0	55	52.14	245434	4977405
3	24ARS_BGH0099	0	38	52.17	376619	4913046
4	24ARS_BGH0100	0	58	52.14	194191	4975128
5	* 24ARS_BRH0012	0	27	52.03	489959	4771132
6	24ARS_BRH0013	0	25	52.13	490385	4702229
7	24ARS_BRH0054	0	61	52.12	263338	4950993
8	24ARS_BRH0068	0	58	52.07	204318	4736095
9	24ARS_BRT0028	0	54	52.08	204323	4707276
10	* 24ARS_BRT0041	0	22	52.10	490374	4721282
11	24ARS_CMC0007	0	58	52.09	153660	4701851
12	* 24ARS_CRH0031	0	16	52.14	697691	4525268
13	* 24ARS_CRH0049	0	38	52.12	418650	4707180
14	24ARS_CVM0082	0	55	52.10	204322	4699960
15	24ARS_DMC0100	0	89	52.04	219196	5135005
16	24ARS_DMC0101	0	91	52.07	221808	5031480
17	24ARS_DMC0162	0	52	51.32	403711	5081038

18	24ARS_DMC0218	0	57	52.08	172569	4701935
19	24ARS_DMC0291	0	57	52.15	319335	4906095
20	24ARS_DMC0292	0	58	52.08	161697	4733558
21	* 24ARS_GMH0033	0	25	52.07	490238	4752483
22	24ARS_JLM0046	0	61	52.13	204159	4985784

Note: *Isolates were tagged with warning due to uncertain results of species identification using bactinspector.

Legend: PASS | WARNING | FAILURE | EXCEEDS THRESHOLD METRIC/S |

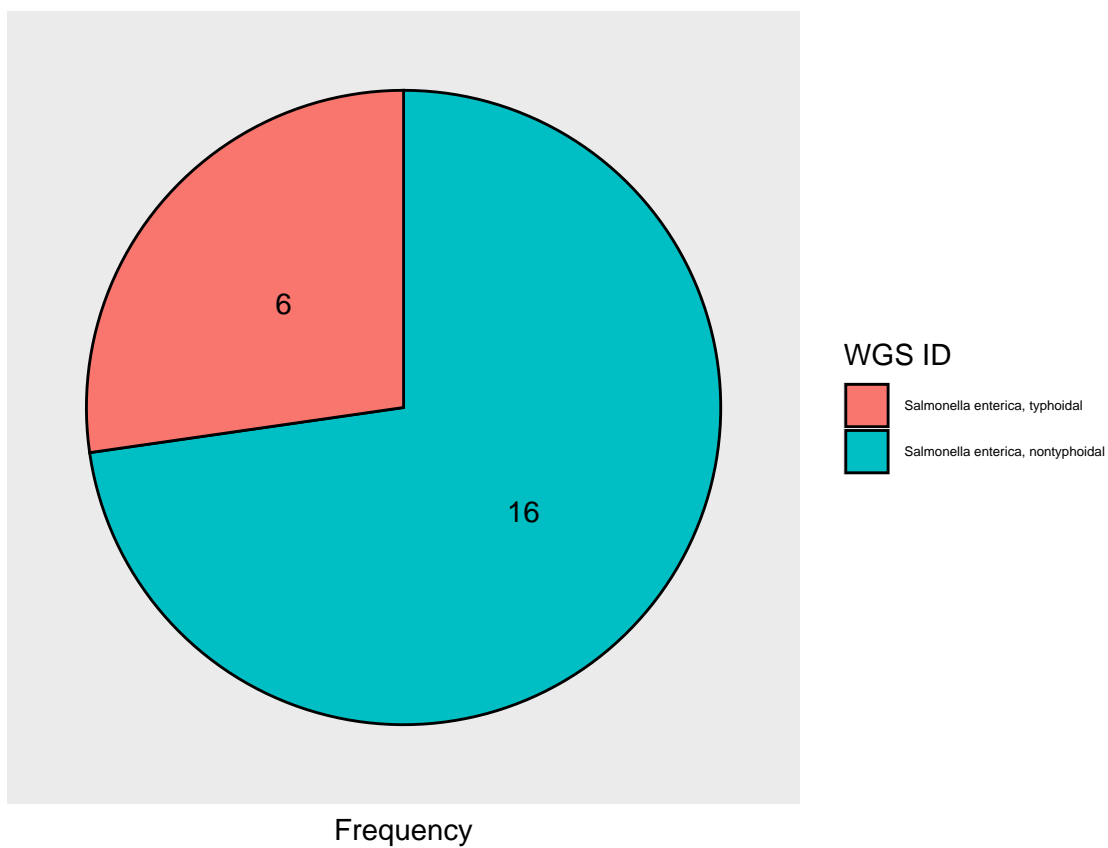
With Warning/s		
Isolate No.	Sample ID	Value with warning/s
5	24ARS_BRH0012	fastqc.1.Per.sequence.GC.content.metric_value, fastqc.1.Sequence.Length.Distribution.metric_value, fastqc.2.Per.sequence.GC.content.metric_value, fastqc.2.Sequence.Length.Distribution.metric_value
10	24ARS_BRT0041	fastqc.1.Per.sequence.GC.content.metric_value, fastqc.1.Sequence.Length.Distribution.metric_value, fastqc.2.Per.sequence.GC.content.metric_value, fastqc.2.Sequence.Length.Distribution.metric_value
12	24ARS_CRH0031	fastqc.1.Per.sequence.GC.content.metric_value, fastqc.1.Sequence.Length.Distribution.metric_value, fastqc.2.Per.sequence.GC.content.metric_value, fastqc.2.Sequence.Length.Distribution.metric_value
13	24ARS_CRH0049	fastqc.1.Per.sequence.GC.content.metric_value, fastqc.1.Sequence.Length.Distribution.metric_value, fastqc.2.Per.sequence.GC.content.metric_value, fastqc.2.Sequence.Length.Distribution.metric_value
21	24ARS_GMH0033	fastqc.1.Per.sequence.GC.content.metric_value, fastqc.1.Sequence.Length.Distribution.metric_value, fastqc.2.Per.sequence.GC.content.metric_value, fastqc.2.Sequence.Length.Distribution.metric_value

List of samples above/below QC threshold metrics	
Sample ID	Remarks
No QC failures found.	

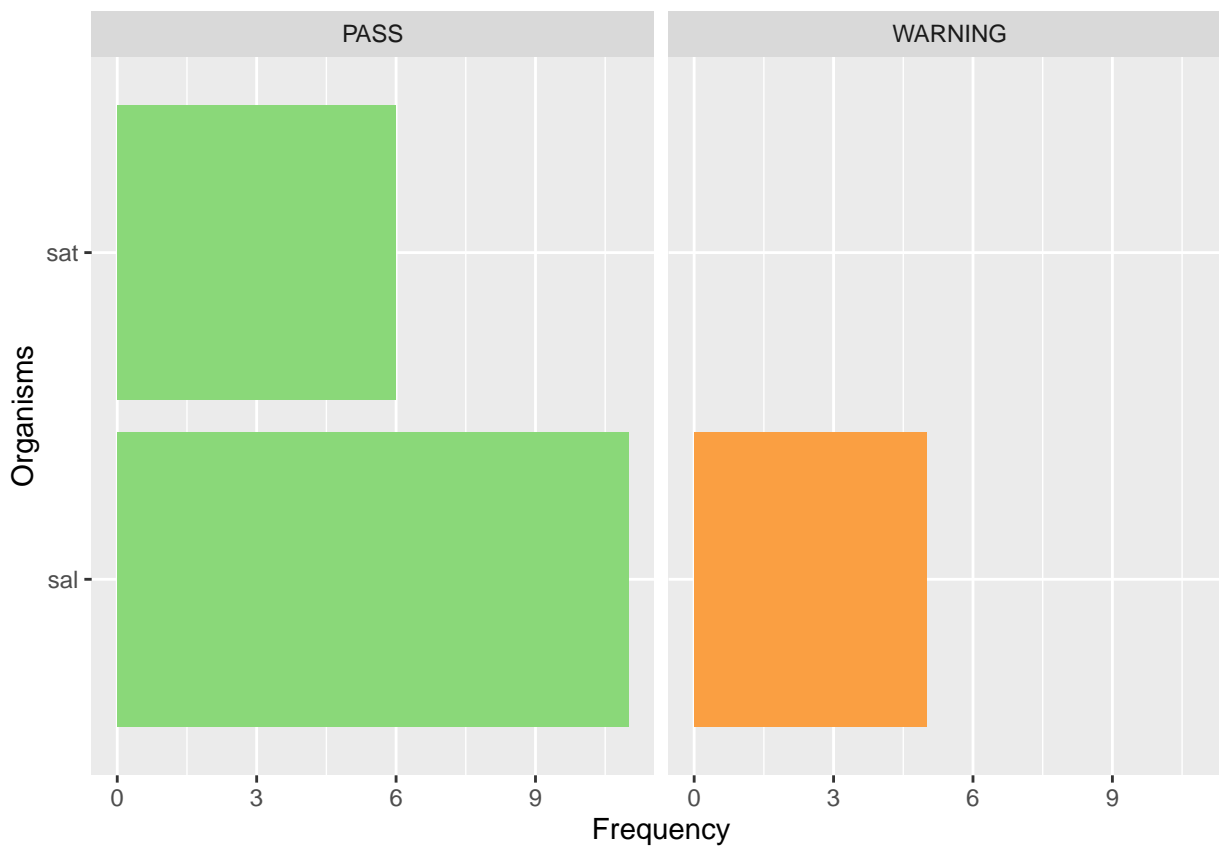
WGS_ID	Number
Salmonella enterica, nontyphoidal	16
Salmonella enterica, typhoidal	6

- 2 distinct species were identified among 22 isolates.
- 77.27 % (n=17) of the isolates passed the QC, while 22.73 % (n=5) were tagged with warning.
- Concordance between ARSRL and WGS species report was 100.00 %.

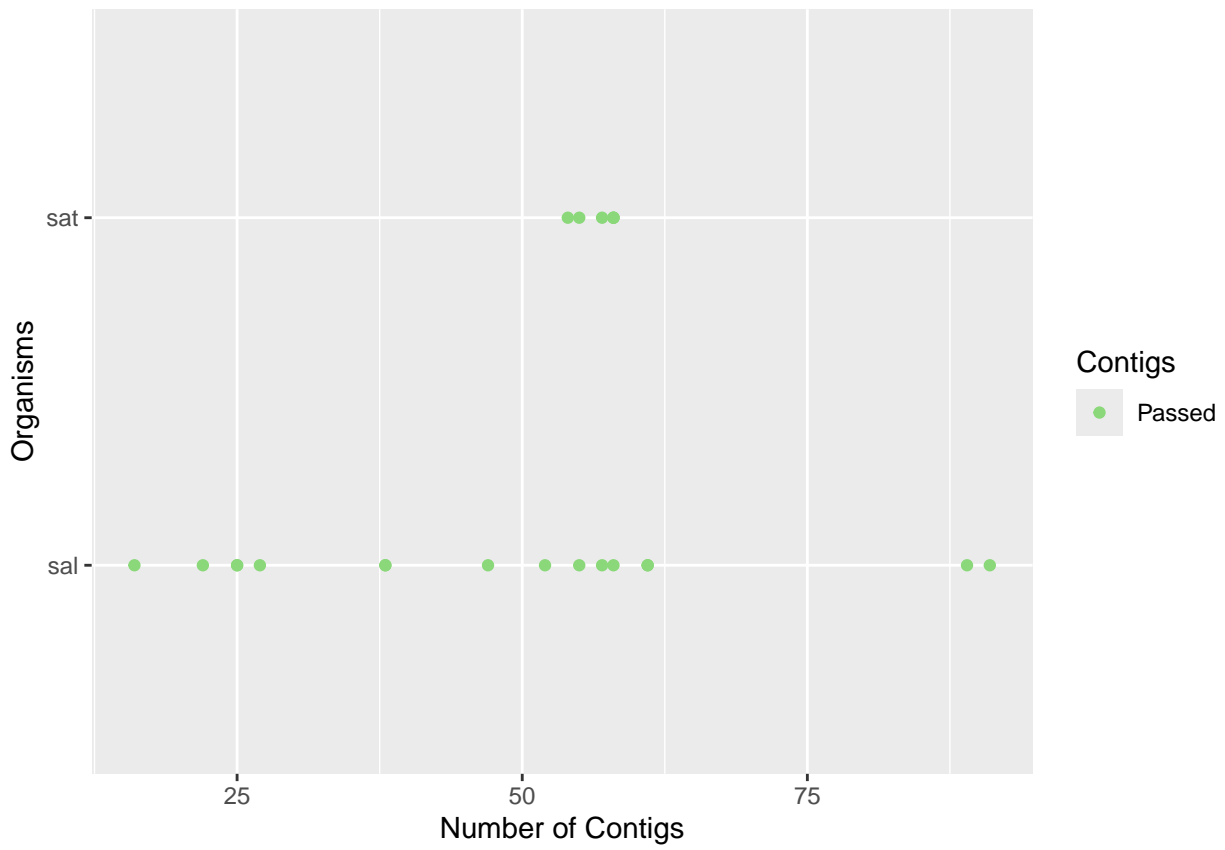
GRAPHS



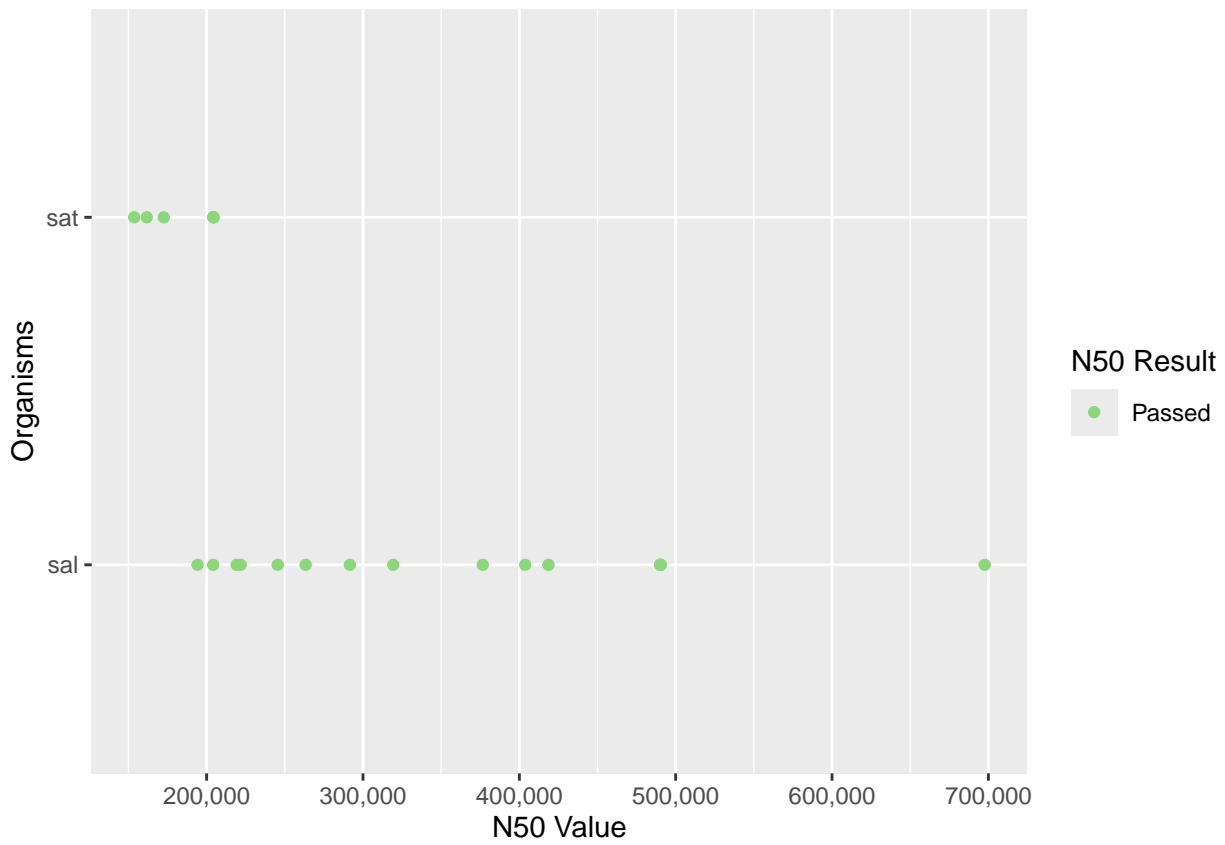
Result Classification



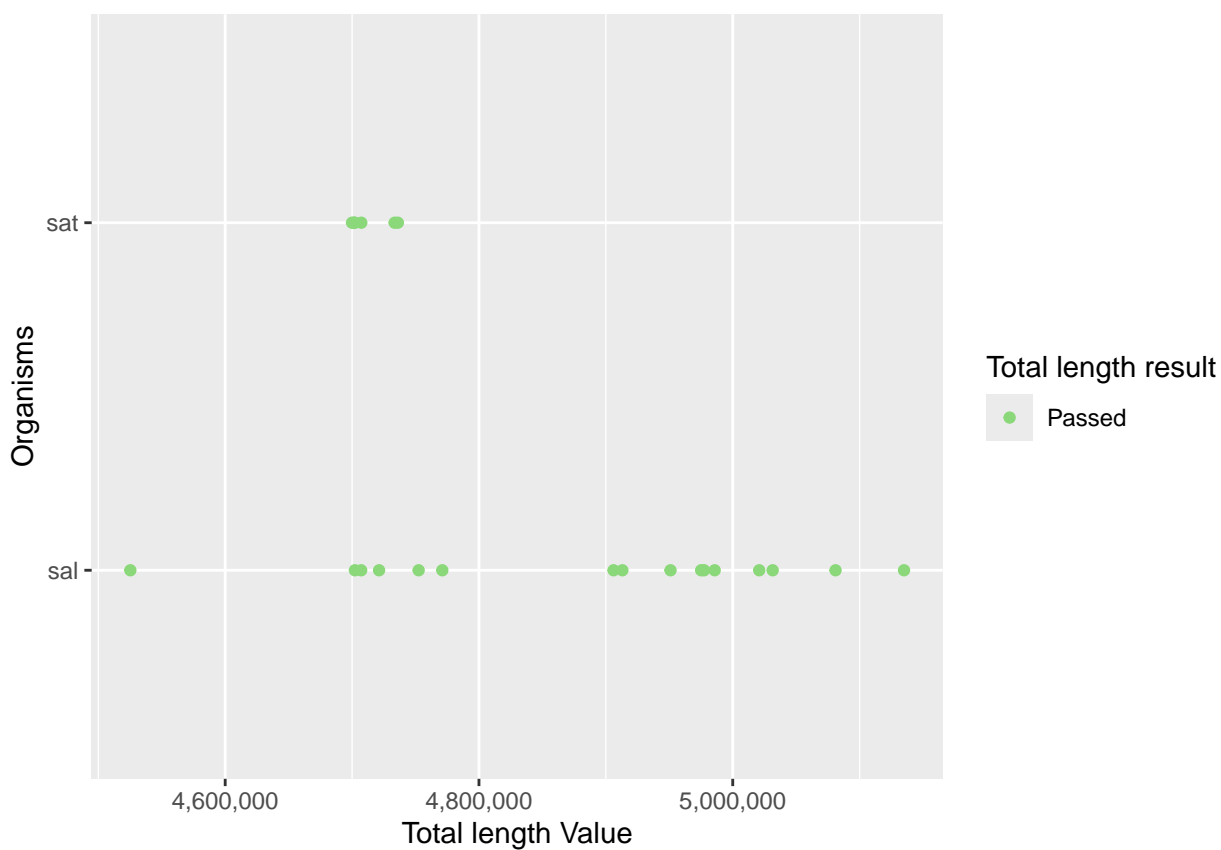
Number of contigs



N50 Value



Total Length



RECOMMENDATION:

Sample ID	Action	Reason
No further action required for this batch		

MLST RESULTS

sample_id	species	MLST	aroC	dnaN	hemD	hisD	purE	sucA	thrA
24ARS_BGH0073	Salmonella enterica	34	10	19	12	9	5	9	2
24ARS_BGH0098	Salmonella enterica subsp. enterica serovar Infantis	32	17	18	22	17	5	21	19
24ARS_BGH0099	Salmonella enterica subsp. enterica serovar Typhimurium	313	10	7	12	9	112	9	2
24ARS_BGH0100	Salmonella enterica subsp. enterica serovar Infantis	32	17	18	22	17	5	21	19
24ARS_BRH0012	Salmonella enterica subsp. enterica serovar Enteritidis	-	5,638	2	3	7	6	6	11
24ARS_BRH0054	Salmonella enterica subsp. enterica serovar Typhimurium	19	10	7	12	9	5	9	2
24ARS_BRT0041	Salmonella enterica	-	5,638	2	3	7	6	6	11
24ARS_CRH0031	Salmonella enterica	437	13	12	63	16	13	16	4
24ARS_CRH0049	Salmonella enterica subsp. enterica serovar Typhimurium	43	2	14	24	14	2	19	8
24ARS_DMC0100	Salmonella enterica subsp. enterica serovar Weltevreden	365	130	97	25	125	84	9	101
24ARS_DMC0101	Salmonella enterica subsp. enterica serovar Weltevreden	365	130	97	25	125	84	9	101
24ARS_DMC0162	Salmonella enterica	1877	452	26	30	144	131	145	134
24ARS_DMC0291	Salmonella enterica	34	10	19	12	9	5	9	2

24ARS_GMH0033	Salmonella enterica	-	5,638	2	3	7	6	6	11
24ARS_JLM0046	Salmonella enterica subsp. enterica serovar Infantis	-	17	18	22	17	~5	21	19

Legend: (-) Not identified

sample_id	species	MLST	aroC	dnaN	hemD	hisD	purE	sucA	thrA
24ARS_BRH0068	Salmonella enterica subsp. enterica serovar Typhi	2	1	1	2	1	1	1	5
24ARS_BRT0028	Salmonella enterica subsp. enterica serovar Typhi	1	1	1	1	1	1	1	5
24ARS_CMC0007	Salmonella enterica subsp. enterica serovar Typhi	1	1	1	1	1	1	1	5
24ARS_CVM0082	Salmonella enterica subsp. enterica serovar Typhi	1	1	1	1	1	1	1	5
24ARS_DMC0218	Salmonella enterica subsp. enterica serovar Typhi	1	1	1	1	1	1	1	5
24ARS_DMC0292	Salmonella enterica subsp. enterica serovar Typhi	2	1	1	2	1	1	1	5

Legend: (-) Not identified

MLST RESULTS SUMMARY:

Group	mlst_count
Salmonella enterica, nontyphoidal	- (n= 4), 1877 (n= 1), 19 (n= 1), 313 (n= 1), 32 (n= 2), 34 (n= 2), 365 (n= 2), 43 (n= 1), 437 (n= 1)
Salmonella enterica, typhoidal	1 (n= 4), 2 (n= 2)

Legend: (-) Not identified

AMR PREDICTION RESULTS

Salmonella enterica, nontyphoidal																										
sample_id	AMR AFRABAYCIN/ GENTAMICIN/ TOBRAMYCIN	AMR BETA-LACTAM	AMR CEPHALOSPORIN	AMR CHLORAM- PHENICOL/ FLORFENICOL	AMR EFFLUX	AMR FOSFOMYCIN	AMR HYGROMYCIN	AMR KANAMYCIN	AMR STREPTOMYCIN	AMR SULFONAMIDE	AMR TETRACYCLINE	AMR TRIMETHOPRIM	STRESS ARSENATE	STRESS ARSENIC	STRESS ARSENITE	STRESS COPPER	STRESS COPPER/ GOLD	STRESS COPPER/ SILVER	STRESS GOLD	STRESS MERCURY	STRESS NA	STRESS ORGANOMER- CURY	STRESS QUATERNARY AMMONIUM	STRESS SILVER	VIRULENCE NA	
24ARS_BGH0073	NA	blaTEM-1	NA	NA	mdsA, mdsB	NA	NA	NA	aph(6)-Id, aph(7)-Ib	su2	tet(B)	NA	arsC	arsR	arsB, arsA, arsD	pcoS, pcoR, pcoD, pcoC, pcoA	goIT	slrA, slrB, slrF, slrC, slrR, slrS	goIS	merP, merT, merR	fieF	merC	NA	slrP, slrE	iroC, iroB, sinH, sodC1	
24ARS_BGH0098	aac(3)-Iva	NA	blaCTX-M-65	floR	mdsA, mdsB	NA	aph(4)-Ia	NA	aadA1	su1	NA	dhA14	NA	arsR	NA	NA	goIT	NA	goIS	merP, merT, merR	fieF	merC	qacEdelta1	NA	iroB, iroC, sinH, yefP, ynfQ	
24ARS_BGH0099	NA	NA	NA	NA	mdsA, mdsB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	goIT	NA	goIS	NA	fieF	NA	NA	NA	iroB, iroC, sodC1, sinH	
24ARS_BGH0100	aac(3)-Iva	NA	blaCTX-M-65	floR	mdsA, mdsB	NA	aph(4)-Ia	NA	aadA1	su1	tet(A)	dhA14	NA	arsR	NA	NA	goIT	NA	goIS	merP, merT, merR	fieF	merC	qacEdelta1	NA	sinH, yefP, ynfQ, iroB, iroC	
24ARS_BRH0012	NA	NA	NA	NA	mdsA, mdsB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	goIT	NA	goIS	NA	fieF	NA	NA	NA	sodC1, iroB, iroC, sinH	
24ARS_BRH0054	NA	NA	NA	NA	mdsA, mdsB	NA	NA	NA	aph(6)-Id, aph(7)-Ib	su2	tet(A)	NA	NA	NA	NA	NA	goIT	NA	goIS	NA	fieF	NA	NA	NA	sinH, iroB, iroC, sodC1	
24ARS_BRT0041	NA	blaTEM-1	NA	NA	mdsA, mdsB	NA	NA	NA	aph(6)-Id, aph(7)-Ib	su2	NA	NA	NA	NA	NA	NA	goIT	NA	goIS	NA	fieF	NA	NA	NA	sodC1, iroC, iroB, sinH	
24ARS_CRH0031	NA	NA	NA	NA	mdsA, mdsB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	goIT	NA	goIS	NA	fieF	NA	NA	NA	cdtB, iroC, iroB, sinH	
24ARS_CRH0049	NA	NA	NA	NA	mdsA, mdsB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	goIT	NA	goIS	NA	fieF	NA	NA	NA	sinH, iroB, iroC, iroB, iroC, sinH	
24ARS_DMC0100	NA	NA	NA	NA	mdsA, mdsB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	goIT	NA	goIS	NA	fieF	NA	NA	NA	iroB, iroC, sinH, sodC1	
24ARS_DMC0101	NA	NA	NA	NA	mdsA, mdsB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	goIT	NA	goIS	NA	fieF	NA	NA	NA	sinH, iroB, iroC, sodC1	
24ARS_DMC0162	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	fieF	NA	NA	NA	NA	ynfQ, yefP, cdtB, isaA, isaC, mcrF, iroB, iroC
24ARS_DMC0291	NA	blaTEM-1	NA	NA	mdsA, mdsB	NA	NA	NA	NA	NA	tet(B)	NA	arsC	arsR	arsB, arsA, arsD	pcoS, pcoR, pcoD, pcoC, pcoA	goIT	slrA, slrB, slrF, slrC, slrR, slrS	goIS	NA	fieF	NA	NA	slrP, slrE	iroC, iroB, sinH, isaA, isaC, mcrF, iroB, iroC	
24ARS_GMH0033	NA	blaTEM-1	NA	NA	mdsA, mdsB	NA	NA	NA	aadA5	NA	NA	dhA17	NA	NA	NA	NA	goIT	NA	goIS	merR, merT, merP	fieF	merC	qacEdelta1	NA	sodC1, sinH, iroB, iroC	
24ARS_ILM0046	aac(3)-Iva	NA	blaCTX-M-65	floR	mdsA, mdsB	fosA3	aph(4)-Ia	aph(3)-Ia	aadA1	su1	tet(A)	dhA14	NA	arsR	NA	NA	goIT	NA	goIS	merP, merT, merR	fieF	merC	qacEdelta1	NA	sinH, yefP, ynfQ, iroB, iroC	

Salmonella enterica, typhoidal

sample_id	STRESS NA	VIRULENCE NA
24ARS_BRH0068	fieF	sinH, iroB, iroC, cdtB
24ARS_BRT0028	fieF	iroB, iroC, sinH, cdtB
24ARS_CMC0007	fieF	sinH, iroC, cdtB
24ARS_CVM0082	fieF	iroB, iroC, sinH, cdtB
24ARS_DMC0218	fieF	iroB, iroC, sinH, cdtB
24ARS_DMC0292	fieF	iroB, iroC, sinH, cdtB