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SALMONELLA

SURVEILLANCE

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For the Month of March 1966

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PREFACE

Summarized in this report is information received from State and City Health Departments, university and hospital laboratories, the National Animal Disease Laboratory (USDA, ARS), Ames, Iowa, and other pertinent sources, domestic and foreign. Much of the information is preliminary. It is intended primarily for the use of those with responsibility for disease control activities. Anyone desiring to quote this report should contact the original investigator for confirmation and interpretation.

Contributions to the Surveillance Report are most welcome. Please address to:

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I. SUMMARY

During March, an average of 275 recoveries of salmonellae from human beings was reported per week. This represented a decrease of 12 from February and 45 from March 1965. The total for March was 1,374 and for the first quarter of 1966 was 4,054, 197 less than the same period last year. The first three months of 1966 have followed the expected seasonal pattern (See Figure 1).

Seven hundred and fifty-four recoveries from other sources were reported during March, an increase of 232 over February.

II. REPORTS OF ISOLATIONS FROM THE STATES

A. Human

The seven most frequently reported serotypes during March were:

<u>Rank</u>	<u>Serotype</u>	<u>Number</u>	<u>Per Cent</u>	<u>Rank Last Month</u>
1	<u>S. typhi-murium</u> and <u>S. typhi-murium var.</u> <u>copenhagen</u>	420	30.6	1
2	<u>S. infantis</u>	144	10.5	2
3	<u>S. heidelberg</u>	97	7.1	4
4	<u>S. newport</u>	77	5.6	3
5	<u>S. enteritidis</u>	68	4.9	5
6	<u>S. typhi</u>	58	4.2	6
7	<u>S. oranienburg</u>	<u>48</u>	<u>3.5</u>	8
	Total	912	66.4	
	Total (all serotypes)	1,374		

A total of 67 serotypes was reported during March. The seven most common accounted for 66.4 per cent of all isolations.

Salmonella infantis remained unusually high in number of isolations reported during March. A S. infantis alert was included in last month's report as a result of the large number of S. infantis isolates reported during the last week in February and the first two weeks in March. To date, no information leading to the source of recent cases due to S. infantis has been received. The number of S. infantis isolations reported remained significantly high throughout March (See Table I). We encourage the reporting of information about the epidemiology of these illnesses to the Salmonella Surveillance Unit.

The age and sex distribution (Table III) was consistent with past experience.

B. Nonhuman

There were 754 isolations of salmonella from nonhuman sources during March, 232 more than February. Seventy-four serotypes were represented among these isolations, which were from 30 different states.

The seven most frequently reported serotypes were:

<u>Rank</u>	<u>Serotype</u>	<u>Predominant Source and Number</u>	<u>No.</u>	<u>%</u>	<u>Rank Last Month</u>
1	<u>S. typhi-murium</u> and <u>S. typhi-murium var.</u> <u>copenhagen</u>	Chickens (43) Bovines (33) Turkeys (22)	131	17.4	1
2	<u>S. heidelberg</u>	Turkeys (53)	68	9.0	2
3	<u>S. montevideo</u>	Chickens (20) and Animal Feed(18)	50	6.6	5
4	<u>S. anatum</u>	Animal Feed(13) and Chickens(12)	39	5.2	7
5	<u>S. blockley</u>	Chickens (16) and Turkeys (14)	35	4.6	Not listed
6	<u>S. saint-paul</u>	Turkeys (26)	34	4.5	4
7	<u>S. infantis</u>	Chickens (17)	<u>31</u>	<u>4.1</u>	Not listed
	Total		388	51.5	
	Total (all serotypes)		754		

The most prominent nonhuman sources of salmonella reported during March were: animal feeds, 200 (26.5 per cent); turkeys, 185 (24.5 per cent) and chickens, 168 (22.3 per cent).

III. CURRENT INVESTIGATIONS

NONE

IV. REPORTS FROM THE STATES

NONE

V. SPECIAL REPORTS

Announcement of a Course in Epidemiology and Control of Salmonellosis:

The Communicable Disease Center in Atlanta, Georgia, will present a course, "Epidemiology and Control of Salmonellosis," June 6-10, 1966. Control of salmonellosis will be emphasized. Current information and immediately useful techniques related to control will be delineated.

This course is designed especially for sanitarians, engineers, and veterinarians; however, it is also of interest to other members of the public health team involved in the epidemiology and control of salmonellosis.

Course content will include the status and surveillance of salmonellosis in the United States; a review of the bacteriology of salmonella; sources and reservoirs of salmonellae, epidemiology of salmonellosis; and controls related to animal feeds, the farm environment, food processing, and food service.

There will be no charge for the course or the training materials distributed. Travel and living costs are the responsibility of the applicant. For application forms and information, write: Chief, Training Branch, Communicable Disease Center, Atlanta, Georgia 30333.

Figure 1.

REPORTED HUMAN ISOLATIONS OF SALMONELLA
IN THE UNITED STATES

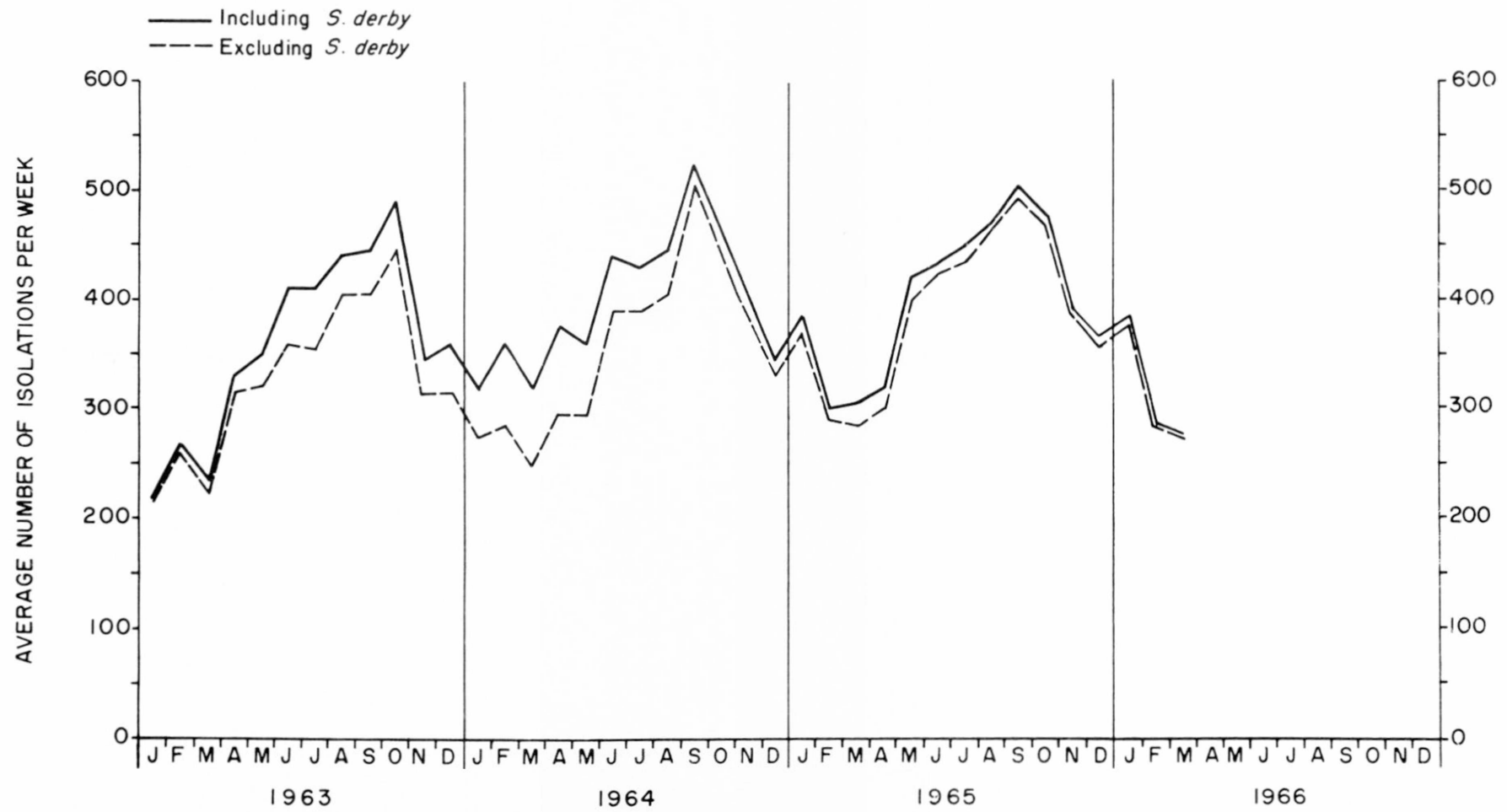


TABLE I (Continued)

SERO TYPE	GEOGRAPHIC DIVISION AND REPORTING CENTER																				TOTAL	% OF TOTAL	1966 CUM. TOTAL	% OF 1966 CUM. TOTAL	1965 CUM. TOTAL	% OF 1965 CUM. TOTAL	SERO TYPE						
	EAST SOUTH CENTRAL					WEST SOUTH CENTRAL					MOUNTAIN							PACIFIC										OTHER					
	KY	TENN	ALA	MISS	TOT	ARK	LA	OKLA	TEX	TOT	MONT	IDA	WYO	COLO	NM	ARI	UTAH	NEV	TOT	WASH								ORE	CAL	ALAS	HAI	TOT	VI
anatum						3			1	4														2	2		18	1.3	74	1.8	67		anatum
bareilly						1				1																	4	.3	12	.3	18		bareilly
berta						1				1			2														5	.4	12	.3	9		berta
blockley						2				2										4	2	12			1	19	43	3.1	96	2.4	77	1.8	blockley
bovis-morbificans																																	bovis-morbificans
braenderup																				1					1		5	.4	30	.7	16		braenderup
bredenev	1				1	1				1												2			2		6	.4	28	.7	26		bredenev
chester																2											9	.7	25	.6	34		chester
cholerae-suis v kun																											2	.1	7	.2	11		cholerae-suis v kun
cubana						1				1						1				1	1				2		17	1.2	44	1.1	42		cubana
derby										1												3			4	7	22	1.6	74	1.8	175	4.1	derby
enteritidis	3	2			5	1				1					1									1	5		68	4.9	259	6.4	232	5.5	enteritidis
give																											7	.5	22	.6	25		give
heidelberg	1	5			6															3					2	13	97	7.0	279	6.9	325	7.6	heidelberg
indiana																											8	.6	20	.5	12		indiana
infantis		5			5	2			2	4	1			1	2				4	2	4	7			8	21	144	10.5	372	9.2	257	6.0	infantis
java										1																	14	1.0	35	.9	26		java
javana						1				1																	8	.6	44	1.1	30		javana
litchfield										2	3																5	.4	14	.4	27		litchfield
livingstone										1	1														1	1	2	.1	9	.2	9		livingstone
manhattan										1	1														2		12	.9	28	.7	29		manhattan
meleagridis										1	1														1	1	2	.1	3	.1	4		meleagridis
miami																											5	.4	16	.4	19		miami
mississippi																																	mississippi
montevideo						1			3	4									1	1					6		34	2.5	71	1.8	128	3.0	montevideo
muenchen										2	3														1		14	1.0	44	1.1	40		muenchen
newington																											3	.2	6	.2	12		newington
newport		1			1	7			5	13						2						7		1	8		77	5.6	240	5.9	192	4.5	newport
oranienburg		2			2	2			2	4						2						4			4		48	3.5	109	2.7	150	3.5	oranienburg
panama									1	1										1					2	5	16	1.2	42	1.0	31		panama
paratyphi B		2			2																				1		12	.9	31	.8	40		paratyphi B
poona										1															2		7	.5	13	.3	13		poona
saint-paul			2		2	1			2	3										4	2	1			1	8	38	2.8	131	3.2	164	3.9	saint-paul
san-diego																										3	6	.4	21	.5	101		san-diego
schwarzengrund						1				1																	2	.1	13	.3	37		schwarzengrund
senftenberg										1																	6	.4	17	.5	18		senftenberg
tennessee						1	1			2																	8	.6	26	.6	47	1.1	tennessee
thompson													1							1							20	1.5	116	2.9	88	2.1	thompson
typhi	1	8			9	2	6		1	9						2	2								5		58	4.2	166	4.1	214	5.0	typhi
typhi-murium	1	1	1		3	1	8	6	6	21	2					2	4			9	4	62			4	79	404	29.4	1,169	28.8	1,207	28.4	typhi-murium
typhi-murium v cop										1						2											2				51		typhi-murium v cop
urbana																																	urbana
weltvedren																									1	1	1	.1	3	.1	10		weltvedren
worthington																											5	.4	12	.3	12		worthington
untypable, group B		1			1					5															3	3	25	1.8	69	1.7	51		untypable, group B
untypable, group C1																7									1		10	.7	30	.7	20		untypable, group C1
untypable, group C2						1				1																	1	.1	7	.2	20		untypable, group C2
untypable, group D																											3	.2	8	.2	3		untypable, group D
untypable, group E																											1	.1	3	.1			untypable, group E
untypable, or unknown																											8	.6	21	.5	25		untypable, or unknown
Total Common	7	27	3	-0-	37	15	43	6	30	94	3	-0-	-0-	15	15	15	16	-0-	64	27	18	133	1	32	211		1,326	96.5	3,913	96.5		Total Common	
Total Uncommon	-	-	-	-	-	-	5	1	-	6	-	-	-	3	1	1	-	-	5	1	1	4	-	-	6		48	3.5	141	3.5		Total Uncommon	
Grand Total	7	27	3	-0-	37	15	48	7	30	100	3	-0-	-0-	18	16	16	16	-0-	69	28	19	137	1	32	217		1,374	100.0	4,054	100.0	4,251	Grand Total	

TABLE II (Continued)
UNCOMMON SALMONELLA SEROTYPES ISOLATED FROM HUMANS DURING 1966

SEROTYPE	REPORTING CENTER																			MARCH TOTAL	1966 CUM. TOTAL	MONTH LAST REPORTED	STATE LAST REPORTED	TOTAL PREVIOUSLY REPORTED TO SAL. SURV. UNIT 1962 - 1965	SEROTYPE				
	NY-A	NY-BI	NY-C	NC	ND	OHIO	OKLA	ORE	PA	RI	SC	SD	TENN	TEX	UTAH	VT	VA	VI	WASH							WV	WIS	WYO	
abortus-bovis																								2	Jan 66	Ill	0	abortus-bovis	
alachua																								1	Feb 66	La	21	alachua	
albany			1																					3	Sep 65	Ill	15	albany	
austin																									1	Feb 66	Mo	0	austin
ball																								2	Jan 66	Calif	0	ball	
binza	1																							2	Dec 65	Calif	54	binza	
bradford																								2	Feb 66	Colo	2	bradford	
california																								2	Dec 65	La-Va	64	california	
carrau																									3	Jan 66	La	12	carrau
cerro														1										3	Feb 66	Tex-Hai	28	cerro	
cholerae-suis		2				1																		4	Dec 65	NYC-Ohio	61	cholerae-suis	
colorado																									1	Feb 66	La	8	colorado
duesseldorf			1																						4	Feb 66	NYC	7	duesseldorf
duisburg																									2	Feb 66	Wash	1	duisburg
eimsbuettel	1											1												2	Feb 66	Tenn	3	eimsbuettel	
fayed				5																				5	Mar 65	NC	6	fayed	
gaminara																								1	Jan 66	La	20	gaminara	
garoli			1																					1	*	*	0	garoli	
hartford						1																		4	Feb 66	Fla	90	hartford	
inverness																								1	Feb 66	Mich	13	inverness	
kaapstad																								1	Jun 65	Colo	3	kaapstad	
kentucky																								1	Feb 66	DC-Fla-Minn	117	kentucky	
menston																									1	Jan 66	Kan	14	menston
minnesota														1										1	Feb 66	Tex	40	minnesota	
mission														2										1	Jan 66	Tenn	7	mission	
mjimwema	1																								1	Jan 66	NYA	0	mjimwema
molade																									1	Feb 66	Wisc	0	molade
muenster																									3	Jan 66	Fla, Ill	26	muenster
new-brunswick																									4	Feb 66	Calif-Ga	32	new-brunswick
norwich			1			1						1												2	Feb 66	Tenn	51	norwich	
ohio			1			1																		2	Feb 66	Calif	13	ohio	
oritamerin																								1	*	*	0	oritamerin	
os																								1	Feb 66	La	0	os	
oslo																									5	Feb 66	Hai	15	oslo
paratyphi-C								1																2	Jun 65	Iowa	7	paratyphi-C	
pullorum																								1	Jan 66	Ill	4	pullorum	
reading																								4	Feb 66	Ill-Mont	102	reading	
rubislaw																								1	Feb 66	La	42	rubislaw	
siegburg**																									4	Feb 66	Tex	19	siegburg**
stanley														1										1	Jan 66	Ill	26	stanley	
virchow			1																					2	Jan 66	Mich	16	virchow	
westerstede																								1	Nov 65	Fla	5	westerstede	
untypable G																								1	Jan 66	Fla		untypable G	
untypable O																									2	Jan 66	Calif		untypable O
Total	3	2	6	5	-0-	4	1	1	-0-	-0-	-0-	-0-	2	5	-0-	-0-	-0-	-0-	3	-0-	1	-0-	48	141			Total		

*Not previously reported.

**Siegburg erroneously reported as Siuzaramo in February.

TABLE III

Age and Sex Distribution of 1,374 Isolations of Salmonella
Reported for March 1966

<u>Age (Years)</u>	<u>Male</u>	<u>Female</u>	<u>Unknown</u>	<u>Total</u>	<u>%</u>	<u>Cumulative %</u>
Under 1	94	69	1	164	17.2	17.2
1 - 4	167	108		275	28.8	46.0
5 - 9	79	57	2	138	14.4	60.4
10 - 19	40	43		83	8.7	69.1
20 - 29	20	45		65	6.8	75.9
30 - 39	18	47		65	6.8	82.7
40 - 49	15	27		42	4.5	87.2
50 - 59	21	28		49	5.1	92.3
60 - 69	10	31		41	4.3	96.6
70 - 79	12	12		24	2.5	99.1
80 +	5	4		9	0.9	100.0
Child (Unspec.)	5	6	2	13		
Adult	17	25	1	43		
Unknown	<u>178</u>	<u>168</u>	<u>17</u>	<u>363</u>		
Total	681	670	23	1,374		
% of Total	50.4	49.6				

TABLE V
 REPORTED NONHUMAN ISOLATES BY SEROTYPE AND STATE, MARCH, 1966

Ala	Ark	Calif	Conn	Fla	Ga	Ida	Ill	Ind	Iowa	Kan	La	Md	Mich	Minn	Miss	Mo	NH	NJ	NC	Ohio	Ore	Pa	SC	Tenn	Tex	Utah	Va
											1																
		7					1			6	9			6				2	2	1	1		1		2	1	
1		1									1							1	4	3		4				1	
	1	12			1		1	1	2		3		2	4				1	4	3							
		4									2							1		2							
				1			2				1							1		1							
		3					1		1		1			2				1		2						1	
							1	5			2				1				3	2							
		4					1				2		2	2				1	12	3	1						1
		4									3								3	2							
					2			1			2	2			1				1	1					1		
							1				2	1			1				1	1						1	
		27		1	2			2	1		3								1	1						6	
								2	3					27	1				3	2			1				
	1	8			4		3	2						3				2	2	1	1			3	2		2
		2									1		1														
											3								2	1							
		2									1								10								
											11																
1	2	6			10		2				1		1	6	2			6	2	5				2	1	1	
1											3																
		8					1	2			2		1	1					1								1
		2						1			5			3						3	2						
		1										1							1								1
											1									1							
		2							1					1													
		3			1	6	1	1	2		1	1	1	12								1	1	2			
		16																									
		1					3				4			3					2	11				1			
		1			1		1	1	1		2			5						1							
		2			1			1			2	1	1	1	2				1	1	2				1	1	
op	2	6			10	1		6	2	1	1	1	2	9	2	1	5	1	1	3	2	4		3		1	
	1																										
		5									1			1													
							1							1						2							
	7	17	188	3	5	43	1	24	22	14	8	81	12	9	97	10	3	13	74	16	25	11	8	5	5	9	1

Source: National Disease Laboratory, Ames, Iowa, weekly Salmonella Reports from individual States and US-FDA-Division of Microbiology, Washington, D.C.

TABLE V-A
OTHER SEROTYPES REPORTED DURING 1966
FROM NONHUMAN SOURCES

SEROTYPE	MONTH(S)	REPORTING CENTER(S)	NUMBER OF ISOLATIONS
amsterdam	Jan	Ohio	1
babelsberg	Jan	Ind	1
berta	Feb	Ga	2
bovis-morbificans	Jan	Calif	1
bradford	Jan	NJ	1
colerae-suis	Feb	Calif	1
eppendorf	Jan	NJ	1
kottbus	Feb	Ga	1
manila	Jan	Ind	1
miami	Feb	Calif(1)	
	Feb	Tex(1)	2
ohio	Feb	Iowa(7)	
	Feb	Minn(1)	8
pharr	Jan	Mich	1
siegburg	Feb	Mich	2
taksony	Feb	Calif	1
tuebinger	Jan	Mich	1
typhi	Jan	Mo	1
Total			26