COMMUNICABLE DISEASE CENTER

# SALMONELLA

SURVEILLANCE

#### CONTENTS. .

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For the month of November

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE/PUBLIC HEALTH SERVICE
Bureau of Disease Prevention and Environmental Control

### **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, lowa, 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

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Attention: Chief, Salmonella Unit, Epidemiology Program

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#### I. SUMMARY

In November 1966, 2,121 isolations of salmonellae were reported from humans, an average of 424 isolations per week (Tables I and II). This number represents a decrease of 6 (1.4 percent) from the weekly average of October 1966 and an increase of 35 (9.0 percent) over the weekly average of November 1965. The cumulative number of isolations reported for the first eleven months of 1966 (18,581) represents a decrease of 2.5 percent from the total number of isolations reported during this same period in 1965 (19,052).

Reports of 1,026 nonhuman isolations of salmonellae were received during November, an increase of 313 (43.9 percent) over October 1966 (Tables IV, V, and VI).

#### II. REPORTS OF ISOLATIONS FROM THE STATES

#### A. Human

The seven most frequently reported serotypes during November were:

Rank	Serotype	Number	Percent	Rank Last Month
1	S. typhi-murium and S. typhi-murium var. copenhagen	628	29.6	1
2 3 4 5 6 7	S. newport S. heidelberg S. enteritidis S. infantis S. saint-paul S. blockley	181 131 115 104 85 68	8.5 6.2 5.4 4.9 4.0 3.2	3 2 4 5 7 Not Listed
	Total	1312	61.8	
	Total (all serotypes)	2121		

The age and sex distribution (Table III) was similar to that of previous months.

#### B. Nonhuman

Thirty-seven states reported nonhuman isolations, represented by 70 different serotypes.

The seven most frequently reported serotypes during November were:

Rank	<u>Serotype</u>	Predominant Source and Number	Number	Percent	Rank Last Month
1	S. heidelberg	Turkeys (57) and Porcine (37)	114	11.1	1
1	S. typhi-murium and S. typhi-murium var. copenhagen	Porcine (34), Chickens (26) and Bovine (21)	114	11.1	2
3	S. derby	Porcine (83)	103	10.0	Not Listed
4	S. anatum	Porcine (53)	94	9.2	Not Listed
5	S. saint-paul	Turkeys (26) and Porcine (20)	53	5.2	7
6	S. schwarzengrund	Turkeys (46)	50	4.9	6
7	S. infantis	Chickens (16)	47	4.6	4
	Total		575	56.1	
	Total (all serotypes)		1026		

The most prominent nonhuman sources of salmonellae reported during November were porcine, 312 (30.4 percent); turkey, 215 (21.0 percent); chicken, 111 (10.8 percent); animal feed, 61 (5.9 percent); and bovine, 40 (3.9 percent). <u>Salmonella derby</u> ranks third this month due mainly to 83 isolates of porcine origin, 52 of which were reported by Louisiana and 31 by the National Animal Disease Laboratory, Ames, Iowa.

#### III. CURRENT INVESTIGATIONS

NONE

#### IV. REPORTS FROM THE STATES

NONE

#### V. SPECIAL REPORTS

NONE

#### VI. INTERNATIONAL

NONE

#### VII. FOOD AND FEED SURVEILLANCE

#### A. Progress Report on Food Surveillance

As indicated in this section last month, salmonellae have been isolated both from carmine dye, a commonly used red food coloring, and from products containing carmine. The Veterinary Public Health Laboratory has been examining foods containing red food coloring for salmonellae, shigellae, <u>Escherichia coli</u>, and coagulase-positive staphylococci. Twenty-seven samples of such foods were received from Florida in November. The foods were candy, 3; food decoration, 5; non-gelatin dessert, 4; gelatin dessert, 7; soft drink mix, 5; cake icing, 1; pie filling, 1; strawberry flavoring, 1. All samples were negative.

A total of 187 samples containing red food coloring were received from Washington, Louisiana, North Carolina, New York City, Virginia, Illinois, Colorado, and New Mexico. The samples were soft drink mix, 35; frosting mix, 27; gelatin dessert, 22; food decorations, 12; liquid soft drink, 11; candy, 9; cake mix, 8; cookies with filling, 7; food coloring, 7; canned diet food, 7; non-gelatin dessert, 3; cereal, 3; chewing gum, 6; multiple vitamins, 3; gravy mix, 3; and miscellaneous food samples, 24. The samples were examined for the presence of salmonellae and  $\underline{E}$ .  $\underline{coli}$ , and all were found to be negative.

B. Regulations Concerning the Import and Sale of Egg Products in West Germany Abstracted from Verordnung zum Schutze gegen Infektion durch Erreger der Salmonella-Gruppe in Eiproduction. December 17, 1956 (BGBI I S. 944).

Egg products are not to be offered for sale as foodstuffs without adequate preliminary treatment, by which the agents of the salmonella group and other agents of the group of the Enterobacteriaceae are killed. Egg products are defined as liquid, frozen, or powdered egg. The nature of the preliminary treatment is to be noted on the containers. Anyone wishing to pre-treat egg products needs approval from responsible authorities. Approval is given only when the applicant has facilities available that guarantee controlled adequate preliminary treatment. Anyone pre-treating egg products is obligated to keep records of incoming and outgoing material according to source, nature of product, quantity, time and date of treatment, and receiver of the egg products.

It is forbidden to transport egg products as foodstuffs into West Germany without adequate preliminary treatment, with the exception of duty free areas. The clearance of egg products through customs service sites takes place only after a certificate of the responsible authorities is given to customs officials showing that the egg products, according to the results of bacteriological examination, are adequately pre-treated.

In similar shipments, the samples required for the official examination are indicated below:

Up to 3 packages - samples from all packages

4 to 10 packages - samples from at least 3 packages

11 to 20 packages - samples from at least 4 packages

21 to 40 packages - samples from at least 5 packages

41 to 60 packages - samples from at least 6 packages

61 to 1000 packages - samples from at least 5% of all packages

If there is a shipment of more than 1000 packages, then the number of random samples taken is limited to 3 percent in the number of packages exceeding 1000 and to 2 percent of the number of packages exceeding 3000. Samples of approximately 30 gm. are randomly taken using sterile technique.

The homogeneity of the contents of a shipment is assumed if a uniform trademark, nature of the package, or the code numbers permit this to be concluded.

The samplings are not taken if the egg products are subjected to preliminary treatment in a plant located in a duty free area. The provisions of the decree are not applicable to egg products destined for shipment to regions outside the range of enforcement of the decree.

C. Regulations Concerning the Import of Feeds of Animal Origin into West Germany. Abstracted from Verordnung zum Schutze gegen die Gefahr der Einschleppung von Salmonellen durch Futtermittel tierischer Herkunft aus dem Ausland. February 14, 1958 (GVBl. S. 27).

Feeds of animal origin are defined as parts or products of animals of all kinds used as feed either processed or unprocessed, or mixtures in which feeds of animal origin are contained. Animals include marine animals and fowl, as well as mammals.

Feeds may be imported only if there is displayed to customs officials a certificate from responsible authorities of the exporting countries that the feed during or after drying was submitted to a heating process or to another equivalent procedure through which salmonellae, if present, are killed. The regulations are also applicable if the feeds are destined for use as fertilizer. Feeds are to be imported only in new paper sacks except for feeds processed into cake form. The latter may be imported in other packing material. The regulations do not apply to direct transport or storage of feeds under customs supervision or to the shipment of samples of 250 gm. or less. Health authorities may grant exceptions from the regulations if there is no fear of endangering the health of humans or native cattle.

The feeds may furthermore be imported only if the official bacteriological examination of the material for salmonellae has shown a negative result. Sampling required for analogous shipments:

1 to 100 sacks - samples from at least 5% of the sacks 101 to 500 sacks - samples from at least 3% of the sacks 501 and above - samples from at least 2% of the sacks

If salmonellae are found, the feeds can be imported only after they have been submitted to a heating process under official supervision or to another equivalent procedure, by which the salmonellae are killed.

The clearance of feeds through customs service will be approved only after presentation of a certificate from health authorities showing negative results of the official examination.

Copies of these regulations were received from Dr. Leistner, Director, Institut fur Bakteriologie und Histologie, Bundesanstalt fur Fleischforschung, Kulmbach, West Germany.

D. Results of Examination of Eggs and Egg Products for Salmonella During FY 1966. Reported by the U.S. Food and Drug Administration.

A report of findings on eggs and egg products by the Food and Drug Administration during fiscal years 1964, 1965, and the first 3 quarters of 1966, appeared in Salmonella Surveillance Report No. 50 (page 3). Information for the fourth quarter of 1966 has been received and can be compared with the first 3 quarters in the table below. The increase in percent of salmonella isolations in the fourth quarter is notable. It is difficult to determine whether this is a real increase or if it is a result of more selective sampling. It is believed that selective sampling had a significant influence.

### Results of Examinations of Eggs and Egg Products for Salmonella Organisms

Fiscal years:	Inv	vestigatio		les		Official	. Samples	
riscal years:	1-6			/+1-	1-4			/+h
	lst	2nd	3rd	4th	lst	2nd	3rd	4th
Samples examined	40	86	35	39	76	112	92	29
Percent positive	42.5	32.6	11.4	23.1	46.0	23.2	12.0	31.0
Subsamples examined	634	1329	532	486	733	916	1076	230
Percent positive	12.9	10.5	0.94	4.1	20.0	9.3	2.5	10.0

TABLE I
COMMON SALMONELLA SEROTYPES ISOLATED FROM HUMANS IN THE UNITED STATES DURING \*NOVEMBER, 1966

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TABLE I (Continued)
COMMON SALMONELLA SEROTYPES ISOLATED FROM HUMANS IN THE UNITED STATES DURING NOVEMBER, 1966

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Age and Sex Distribution of Individuals Reported as Harboring Salmonellae

During November 1966

TABLE III

Age (Years)	Male	<u>Female</u>	<u>Unknown</u>	Total	%_	Cumulative %
Under 1	167	153	9	329	21.7	21.7
1 - 4	204	180	4	388	25.6	47.3
5 - 9	93	96	1	190	12.5	59.8
10 - 19	76	67		143	9.4	69.2
20 - 29	40	72	1	113	7.5	76.7
30 - 39	34	51	2	87	5.7	82.4
40 - 49	29	45	1	75	4.9	87.3
50 - 59	31	32	1	64	4.2	91.5
60 - 69	30	33		63	4.2	95.7
70 <b>- 7</b> 9	14	24		38	2.5	98.2
80 +	9	16	1	26	1.7	99.9
Child (Unspec.)	14	9	4	27		
Adult (Unspec.)	27	13	3	43		
Unknown	237	226	_72_	535		
Total	1005	1017	99	2121		
% of Total	49.7	50.3				

TABLE IV SEPORTED NORHINAN INDIATES BY SEROTYPE AND SOURCE, \*\*NOMEMBER, 1966

ll Mos. Total	abortus-h alachua anatum bareilly binga	blockley braenderu bredeney californi	chester cholerae-suis cholerae-suis cubana denver	dublin eastbourne rimsbuerrel enteritidis	gallinarum give grumpensis habana halmstad	heidelberg infantis inverness java	jedburgh kentucky lexington 1111e Itvingstone	luciana manhatran manila meleagridis minneapolis	minnesota montevideo muenchen muenster new-brunsvick	nevington nevport norwich oranienburg orion	osio panama paratyphi-B pomona poona	reading saint-paul san-diego schwarzengrund senitenberg	simebury taksony tennessee thompson typhi-murium	typhi-morium v c urbana westerstede wichita	untypable group untypable group untypable group untypable	Total
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報告 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	abertus-bevis alachus matus bareilly	blockley braenderup braenney california	chester cholerae-nus cholerae-sus v von cuhana denver	by hourne buettel	Rallinarom Rive Rrumpensis habana halmstad	heidelberg infantis inverness java	Jedburgh kentucky lexingion 1111e	luciana menhattan manila meleagridis minneapolis	minnencia muenchen muenchen merekter new-brunswick	newington newport norwich oranienburg	osto panana paratyphi-8 pomona poona	reading haini-peul haini-peul han-dego nchwarzengrund senfrenberg	aimsbury taksony tennasse thompson typhi-marium	ryphi-murium v cop urbana wasteratede wichita worthington	uniypable group i - 1 uniypable group K uniypable group O	T. real

Numerical Sectional Divisor Laboratory, News, 1999, working Salmonella Report from testivational states and PS-PR-DIV of Microbiology, Washington, D.C.

#### TABLE V REPORTED NONHUMAN ISOLATES BY SPROTYPE AND STATE, \*NOVEMBER, 1966

SEROTYPE	ALA	ART	ARA	CAL	coto	CONN	DC I	FLA	GA I	DA II	-	-	-	-	-		-		_	-	-	-	_	_	-	-	0HIO	-	ORE	PA	SC S	D TE	X L	TAHIV	A WAS	SH W	ISC	TOTAL	11 MOS.	SEROTYPE
abortus-bovis alachua anatum bareilly binza			2	1				1	2	Ì	1 6		2		2	1			1 4	1			17			1	2			22					ı			1 1 94 1 20	27 408 26	abortus-bovis alachus anatum bareilly binza
blockley braenderup bredeney california cerro				6							2	1		1		15	1 1 2		1	2	1 1	1 1	2					3	2								1	15 16 11 1 5	33 69 29	blockley braenderup bredeney california cerro
chester cholerae-suis cholerae-suis v kun cubana denver								1	1		2	4			2	9		4	15	5		1			8	1	1			1	1	2	3				2	24 2 7 33 3	93 152	chester cholerae-suis cholerae-suis v kun cubana denver
derby dublin eastbourne eimsbuettel enteritidis			1	1 4		1	1		1			2 4 1	1			55			6	2	5		4				2			30	1							103 1 2 25 2	33 2 140	derby dublin eastbourne eimsbuettel enteritidis
gallinarum give grumpensis habana halmstad	1		1	1			1				1		1		1	2	1		1 4	1			2							1								11 1 1 4	52 6 2	gallinarum give grumpensis habana halmstad
heidelberg infantis inverness java javiana		2	,	38					8			3	1		1	31 3				12		5					1		4	7 8			1	2	1	5	1	114 47 1 1 5	334 1 50	heidelberg infantis inverness java javiana
jedburgh kentucky lexington lille livingstone		3					1					2				1	2 2		1								1								1			7 2 2 3	12	jedburgh kentucky lexington lille livingstone
luciana manhattan manila meleagridia minneapolia											1	1	1			1	1		1	1			3							2						1		1 6 3 6	12	luciana manhattan manila meleagridis minneapolis
minnesota montevideo muenchen muenater new-brunawick				1					5		4	3	1	3		1 3 1	4		4 2	2		2	3			1							1					5 31 9 1	327 64 21	minnesota montevideo muenchen muenster new-brunswick
newington newport norwich oranienburg orion		1		1					1		1 1	1		1	1	1 19 2	1		2	3			4	1 3			1						2		,	1		7 36 3 9	145 7 174	newington newport norwich oranienburg orion
oslo penama paratyphi-B pomona poona																						1	3													1		1 1 1 1 4	9 2	oslo panama paratyphi-B pomona poona
reading saint-paul san-diego schwarzengrund senftenberg	1	1		4 4 5	2 1		4	1	1		1		1			12 1 1 1			1	1 14 2 3		2 2	1			1			2 5 3	10	1				1		6	10 53 11 50 21	315 106 251	reading saint-paul san-diego schwarzengrund seoftenberg
simsbury taksony tennessee thompson typhi-murium		2	1	1 1	2		1		3	3	4 3	9	2	1	2 2	1 1 15	1		1 2 1	1 1 3		1 5					3	1	1	12	1		1	1		1 3	7	1 17 8 93	191	simsbury taksony tennessee thompson typhi-murium
typhi-murium v cop urbana westerstede wichita worthington				2				1	2	1	2		2	2	1	2	1		3	1		1	1	П		2			1	3								21 5 5 1 24	18	typhi-murium v cop urbana westerstede wichita worthington
untypable group C-1 untypable group K untypable group O untypable																			2										1									3 2 2	3 7 10 5	untypable group 0 untypable
Total	2	14	1	0 14	3 5	1	8	8	41	4	72	36	13	8	14	224	20	4	54	57	9	23	45	6	- 8	6	11	4	19	100	4	2	8	3	6 1	4	20	1,026	7,032	Total

Source: National Disease Laboratory, Ames, Iowa, weekly Salmonella Reports from individual states and CS-FDA-Div. of Microbiology, Washington, D. C.

(NYA- New York-Albany)
elm lides October late reports.

### TABLE VI OTHER SEROTYPES REPORTED DURING 1966 FROM NONHUMAN SOURCES

SEROTYPE	MONTH(S)	REPORTING CENTER(S)	NUMBER OF ISOLATIONS
adelaide	Mar	La	1
alagbon	Mar	NJ	2
albany	Aug	Miss(1)	
	Sep	Md (1)	2
mager	May-Jul-Oct	Ark(3)	
Annual Control	Oct	Ida(1)	4
amsterdam	Jan	Ohio	1
abelsberg	Jan	Ind	1
erta	Feb	Ga(2)	
	May	Ca1(1)	3
oirmingham oovis-morbificans	Jun	La	1
ovis-morbificans	Jan	Cal(1)	3
oradford	Aug Jan	DC(2) NJ	1
			,
cambridge	Apr	La	1
caracas carrau	Mar	La Mass	1 2
champaign	Apr Mar-Oct	La	4
colorado	Mar Mar	NJ	1
corvallis	Apr-Jun	La	2
drypool	Jun-Sep-Oct	La	7
emek	Jul Jul	Tex	1
eppendorf	Jan	NJ	i
ayed	Apr	La(1)	
	Apr	NC(1)	2
gaminara	Jul	La(1)	
,	Aug	Tex(1)	2
namilton	Jan	La	1
nartford	Mar	Fla	1
illinois	Mar-Sep	Minn(2)	
	Jun-Sep	La(2)	
	Ju1	Ca1(2)	6
indiana	Jan	F1a(1)	
	Jan	NJ(6)	
	Feb-Mar-Apr-May-Jun-Oct	Ind(15)	(15)
	Feb	La(1)	
	Mar	Iowa(3)	
	Mar	Miss(1)	
	Mar	Pa(1)	
	Jun	111(1)	
	Jul	SC(1)	
	Aug Oct	Mo(3) Ohio(1)	34
i ahama ahu	Mare	Mich(1)	
ohannesburg	Mar	Mich(1) Ark(1)	
	Sep	NJ(1)	3
aapstad	Sep Mar	La	1
cottbus	Feb	Ga	1
itchfield	Apr	Ca1(1)	
. Lectil Lead	May	Conn(4)	!
	May	Ga(1)	
	May	Kan(2)	
	Jun-Jul	F1a(9)	1
	Jul	Ohio(1)	
	Jul	Wash(1)	19
nadelia	Jul	SC(1)	
			2

## TABLE VI (Continued) OTHER SEROTYPES REPORTED DURING 1966 FROM NONHUMAN SOURCES

SEROTYPE	MONTH(S)	REPORTING CENTER(S)	NUMBER OF ISOLATIONS
menston	Sep	Kan	1
niami	Feb	Cal(1)	*
	Feb	Tex(1)	
	Ju1	Fla(1)	
	Ju1	Wash(1)	4
nikawashima	Jul	Ind	2
ission	Mar	Ohio(1)	
	May	La(1)	2
ississippi	Mar	La(1)	
	Oct	Va(1)	2
ew-haw	Mar	NJ	1
hio	Feb	Iowa(7)	
	Feb	Minn(1)	
	Jun	NJ(1)	
	Jun	NYA(1)	10
harr	Jan	Mich	1
ortland	Jul		1
ullorum	Jan-Jun	Wash	1
di korum	Control of the Contro	La(2)	
	Jan	Mont(1)	
	Jan-Mar-Oct	Pa(3)	
	Jan	Tenn(1)	
	Jan-Apr-Jun	Va(9)	
	Feb-Apr-Jun	Neb(4)	
	Mar-May	Iowa(2)	
	Mar-Apr-Aug-Sep	Minn(5)	
	Mar	Ore(1)	
	Mar-Apr	SC(3)	
	Apr-Jun-Jul-Sep	Mo(4)	
	Apr-Sep	Vt(2)	
	Jun	Md(1)	
	Jun	Ohio(5)	
	Jun-Jul-Aug-Oct	Wisc(10)	
	Jun	Wyo(1)	
	Aug		
	Aug	Kan(1) Mich(1)	56
rubislaw	Jul	C(1)	
	Jul	Conn(1)	
		La(2)	,
	Aug	Ind(1)	4
eremban	Aug	Kan	1
siegburg	Feb-Sep-Oct	Mich(27)	
	May-Aug-Sep-Oct	La(5)	
	Oct	Ark(2)	34
tockholm	May	Ohio	1
eddington	Aug	La	1
homasville	Jan	Ca1(1)	
	Mar-Apr-May-Jun-Jul-Aug-Sep	La(21)	
	Mar-May-Aug-Oct	Minn(4)	
	May	Miss(1)	27
ournai	Mar	NJ	1
uebinger	Jan	Mich	1
yphi	Jan	Mo	1
yphi-suis	Feb-Mar	Cal(6)	1
ypii1-suis	Mar Mar	Minn(1)	7
ejle	Apr	La	1
		Minn	1
aycross esthampton	Sep Mar	Kan	1
		-	-
Total			272

Figure 1.

REPORTED HUMAN ISOLATIONS OF SALMONELLA
IN THE UNITED STATES

