

REPORT NO. 82

February 23, 1969

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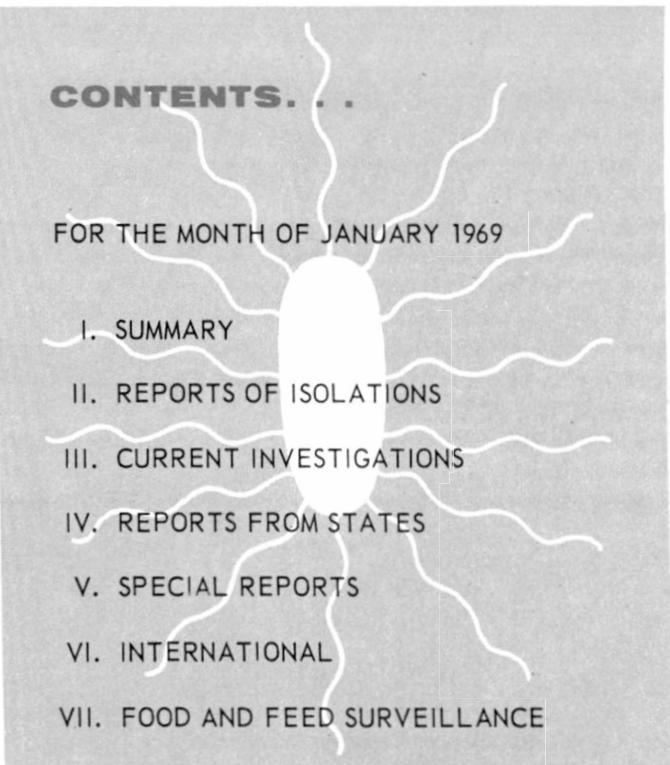
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SALMONELLA

SURVEILLANCE



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

National Communicable Disease Center, Atlanta, Georgia 30333

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February 27, 1969

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I. SUMMARY

In January 1969, 1,671 isolations of salmonellae were reported from humans, an average of 334 isolations per week (Tables I, II, and V-A). This number represents a decrease of 18 (5.1 percent) from the weekly average of December 1968 and an increase of 62 (22.8 percent) over the weekly average of January 1968.

Reports of 599 nonhuman isolations of salmonellae were received during January 1969 (Tables III, IV, and V-B).

II. REPORTS OF ISOLATIONS

The ten most frequently reported serotypes during January:

HUMAN				NONHUMAN		
Serotype	Number	Percent	Rank Last Month	Serotype	Number	Percent
1 <u>typhi-murium</u> *	503	30.1	1	<u>typhi-murium</u> *	98	16.4
2 <u>enteritidis</u>	133	8.0	2	<u>heidelberg</u>	61	10.2
3 <u>newport</u>	127	7.6	3	<u>cholerae-suis</u>	45	7.5
				<u>var. kunzendorf</u>		
4 <u>heidelberg</u>	104	6.2	4	<u>meleagridis</u>	30	5.0
5 <u>infantis</u>	101	6.0	6	<u>montevideo</u>	25	4.2
6 <u>saint-paul</u>	88	5.3	5	<u>saint-paul</u>	23	3.8
7 <u>thompson</u>	52	3.1	7	<u>thompson</u>	22	3.7
8 <u>blockley</u>	44	2.6	> 10	<u>anatum</u>	20	3.3
9 <u>derby</u>	38	2.3	> 10	<u>eimsbuettel</u>	18	3.0
10 <u>typhi</u>	38	2.3	10	<u>newport</u>	17	2.8
Total	1,228	73.5		Total	359	59.9
TOTAL (all serotypes)	1,671			TOTAL (all serotypes)	599	
*Includes <u>var. copenhagen</u>	23	1.4		*Includes <u>var. copenhagen</u>	23	3.8

III. CURRENT INVESTIGATIONS

NONE

IV. REPORTS FROM THE STATES

NONE

V. SPECIAL REPORTS

Announcement of a Course on the Epidemiology and Control of Salmonellosis

The National Communicable Disease Center will present a course, "Epidemiology and Control of Salmonellosis," in Davis, California, March 24-28, 1969. Control of salmonellosis will be emphasized. Current information and useful techniques related to control will be delineated. Laboratory isolation will be only briefly covered in the course.

This five-day course has been designed for workers in Public Health Service Region IX (Alaska, Arizona, California, Hawaii, Nevada, Oregon, Washington, Guam, and American Samoa) who are actively working on the epidemiology and control of salmonellosis. Following an overview of the morbidity and mortality attributed to salmonellosis, the bacteriology of the salmonella organism and environmental factors that govern its survival or destruction will be presented. Selected phenomena of the epidemiology of salmonellosis including the reservoirs of salmonellae will be discussed. Close attention will be given to the contributory sources of salmonella-contamination of food, water, animal feed, and fertilizer, and of animals themselves. The course will emphasize techniques of control, particularly in the farm environment, in the processing of foods and animal feed, and in food-service operations. Administrative application of the information, techniques, and concepts will be considered and program activities of various interested agencies reviewed. Lectures, demonstrations, problem workshops, discussions, and field work will be used to teach the course. For further information, contact: Frank L. Bryan, Ph.D., Chief, Foodborne Disease Unit, Community Services Training Section, Training Program, NCDC, Atlanta, Georgia 30333.

VI. INTERNATIONAL

Salmonellosis in France - 1968

Reported by Dr. L. S. LeMinor, Institut Pasteur, Paris, France.

Serotyping of salmonellae isolated in France is performed by the Institut Pasteur. In 1968, a total of 2,216 isolates of salmonellae from humans and 457 isolates from nonhuman sources were serotyped. The ten most frequently isolated serotypes are listed in the table below. As in past years, Salmonella panama was the most frequently isolated serotype from humans in France. However, in 1968, the number of isolations of S. typhi-murium increased markedly from the total of 287 reported in 1967. This was accompanied by corresponding decrease in isolations of S. panama from 729 in 1967 to 543 in 1968.

HUMAN			NONHUMAN		
Serotype	Number	Percent	Serotype	Number	Percent
<u>panama</u>	543	24.5	<u>dublin</u>	76	16.6
<u>typhi-murium</u>	505	22.8	<u>typhi-murium</u>	50	10.9
<u>brandenburg</u>	251	11.3	<u>gallinarum pullorum</u>	47	10.3
<u>newport</u>	115	5.2	<u>thompson</u>	47	10.3
<u>heidelberg</u>	102	4.6	<u>panama</u>	29	6.3
<u>typhi</u>	91	4.1	<u>brandenburg</u>	20	4.4
<u>enteritidis</u>	77	3.5	<u>enteritidis</u>	15	3.3
<u>oranienburg</u>	69	3.1	<u>meleagridis</u>	14	3.1
<u>paratyphi B</u>	66	3.0	<u>anatum</u>	12	2.6
<u>poona</u>	53	2.4	<u>bredeney</u>	9	2.0
TOTAL	1,872	84.5	TOTAL	319	69.8
TOTAL (all serotypes)	2,216		TOTAL (all serotypes)	457	

VII. FOOD AND FEED SURVEILLANCE

NONE

TABLE I. COMMON SALMONELLA REPORTED FROM HUMAN SOURCES, JANUARY 1969

SEROTYPE	GEOGRAPHIC DIVISION AND REPORTING CENTER																															
	NEW ENGLAND						MIDDLE ATLANTIC					EAST NORTH CENTRAL					WEST NORTH CENTRAL					SOUTH ATLANTIC										
	ME	NH	VT	MAS	RI	CON	NYA	NYB	NYC	NJ	PA	OHI	IND	ILL	MIC	WIS	MIN	IOW	MON	ND	SD	NEB	KAN	DEL	MD	DC	VA	WV	NC	SC	GA	FLA
<i>anatum</i>				1		1									2																3	
<i>bareilly</i>				1																										2		
<i>blockley</i>				2	1		1	1			4	4	1	3			3	1	1	2									1			
<i>braenderup</i>				3	1		2		1							1	1	1											3			
<i>bredeney</i>																														1		
<i>chester</i>											2					2	1		2													
<i>cholerae-suis v kun</i>																	1	1	1													
<i>cubana</i>						1					1	2		1			2													2		
<i>derby</i>							3	2			6	4		4																1		
<i>enteritidis</i>				15		1	10	8	2	7	5	7	9	1	10	1		1						3	7	4		4	5			
<i>give</i>																																
<i>heidelberg</i>	1			5		3	3	3	1	7	6	5	27	1	1	4								5	1	4	1	3	4			
<i>indiana</i>						4	1	12		3	2	1	1	2	2	11	2	1		1	1			2	3	1	1	3	1			
<i>infantis</i>																													15			
<i>java</i>																														5		
<i>javiana</i>																1	1													25		
<i>litchfield</i>																														5		
<i>livingstone</i>																																
<i>manhattan</i>																														3		
<i>miami</i>																														19		
<i>mississippi</i>																																
<i>montevideo</i>				2		1					1	2	2	3															4			
<i>muenchen</i>							1	1																						3		
<i>newington</i>																																
<i>newport</i>				1		2				8			6		7	7	2			2					2	5		1	1	39		
<i>oranienburg</i>										2	6				1															2		
<i>panama</i>															2															3		
<i>paratyphi B</i>				3																										2		
<i>reading</i>				1																										2		
<i>saint-paul</i>				3	4	4	7	5	2	3		6	5					1	1					1	1	1	4		1	24		
<i>san-diego</i>				2																												
<i>schwarzengrund</i>				1		1				1																					1	
<i>senftenberg</i>																																
<i>tennessee</i>																																
<i>thompson</i>				1						4	2	1		5	3	2	1		2					3	1	2			1	7		
<i>typhi</i>						1				1			2	3	1																	
<i>typhimurium</i>				1	15	9	7	1	31	31	17	21	14	4	72	18	14	5	2	6	2	1	5		10	3	8	1	1	1		
<i>typhimurium v cop</i>	1				2		3																							12	38	
<i>weltevreden</i>																																
<i>worthington</i>																																
TOTAL	2	-	1	61	10	43	3	61	80	38	66	57	21	149	45	46	19	9	17	1	2	1	18	2	38	11	22	1	17	1	30	212
ALL OTHER*	-	-	-	4	1	-	24	1	1	1	6	4	-	3	-	1	-	4	1	6	-	-	-	-	1	15	-	1	2	3	2	
TOTAL	2	-	1	65	11	43	27	62	81	39	72	61	21	152	45	47	19	13	18	7	2	1	18	2	39	26	22	2	19	4	32	240

Note: NYA - New York, Albany; NYB - Beth Israel Hospital; NYC - New York City
Beth Israel Hospital laboratory is a reference laboratory and this month serotyped
a total of 120 cultures.

* See Table II.

TABLE I - Continued

GEOGRAPHIC DIVISION AND REPORTING CENTER																			TOTAL	% OF TOTAL	CUMULATIVE TOTAL	% OF CUMULATIVE TOTAL	SEROTYPE			
EAST S. CENTRAL				WEST S. CENTRAL				MOUNTAIN							PACIFIC											
KY	TEN	ALA	MIS	ARK	LA	OKL	TEX	MON	IDA	WYO	COL	NM	ARI	UTA	NEV	WAS	ORE	CAL	ALK	HAW						
					1								1					2		1	12	0.7	12	0.7	<i>anatum</i>	
						1												8	0.5		8	0.5		<i>bareilly</i>		
							1											7		4	44	2.6	44	2.6	<i>blockley</i>	
								1											1		8	0.5	8	0.5	<i>braenderup</i>	
																			6	0.4		6	0.4		<i>bredeney</i>	
																					8	0.5	8	0.5	<i>chester</i>	
																					4	0.2	4	0.2	<i>choleræ-suis v kun</i>	
																					14	0.8	14	0.8	<i>cubana</i>	
																				6	38	2.3	38	2.3	<i>derby</i>	
																				16	133	8.0	133	8.0	<i>enteritidis</i>	
																					2	3	0.2	3	0.2	<i>give</i>
																				104	6.2	104	6.2		<i>heidelberg</i>	
																				1	0.1	1	0.1		<i>indiana</i>	
	1	6	2																	101	6.0	101	6.0		<i>infantis</i>	
																				17	1.0	17	1.0		<i>java</i>	
																				36	2.2	36	2.2		<i>javiana</i>	
																				1	7	0.4	7	0.4		<i>litchfield</i>
																				2	3	0.2	3	0.2		<i>livingstone</i>
																				21	1.3	21	1.3		<i>manhattan</i>	
																				20	1.2	20	1.2		<i>miami</i>	
																				2	0.1	2	0.1		<i>mississippi</i>	
																				20	1.2	20	1.2		<i>montevideo</i>	
																				7	22	1.3	22	1.3		<i>muenchen</i>
																				—	—	—	—		<i>newington</i>	
	1	3	1	5	4	1	13												127	7.6	127	7.6		<i>newport</i>		
																				28	1.7	28	1.7		<i>oranienburg</i>	
																				21	1.3	21	1.3		<i>panama</i>	
																				8	0.5	8	0.5		<i>paratyphi B</i>	
																				4	0.2	4	0.2		<i>reading</i>	
																				88	5.3	88	5.3		<i>saint-paul</i>	
																				5	0.3	5	0.3		<i>san-diego</i>	
																				8	0.5	8	0.5		<i>schwarzengrund</i>	
																				4	0.2	4	0.2		<i>senftenberg</i>	
																				1	5	0.3	5	0.3	<i>tennessee</i>	
																				2	52	3.1	52	3.1		<i>thompson</i>
	1	1	2	5	1	6														38	2.3	38	2.3		<i>typhi</i>	
	2	2	3	1	2	9	27													480	28.7	480	28.7		<i>typhimurium</i>	
																				23	1.4	23	1.4		<i>typhimurium v cop</i>	
																				3	3	0.2	3	0.2		<i>weltevreden</i>
																				1	2	0.1	2	0.1		<i>worthington</i>
7	21	6	2	11	40	3	74	2	8	—	17	—	9	3	—	12	8	159	1	61	1,528	91.4	1,528	91.4	TOTAL	
—	—	—	2	3	1	1	9	1	—	—	—	3	1	—	—	1	1	7	2	2	143	X	X	X	ALL OTHER*	
7	21	6	4	14	41	4	83	3	8	—	17	3	10	3	—	13	9	166	3	63	1,671	X	X	X	TOTAL	

TABLE II. OTHER SALMONELLAES REPORTED FROM HUMAN SOURCES, JANUARY 1969

SEROTYPE	REPORTING CENTER																						
	ALK	ARI	ARK	CAL	DC		FLA	GA	HAW	ILL	IOW		LA	MD	MAS	MIS	MO		MON	NJ	NM	NY	ANYB
albany																2							
amager																	1						
berlin																							
bertha																							
binza	1					1						1											
bonariensis																							
california																							
carrau																							
cholerae-suis																							
duesseldorf																							
eimsbuettel																							
gallinarum																							
hartford																							
kentucky		1				1						6											
lanka																							
madelia																							
manchester																							
minnesota																							
muenster																							
norwich																						1	
orion																							
paratyphi-A																		1					
pomona																							
poona																							
rubislaw																							
siegburg																		1					
stanley																							
tallahassee																						1	
urbana																							
wassenaar																							
westhampton																							
TOTAL	-	1	-	2	-		26	2	2	3	-		1	1	4	-	1	1	1	1	-	-	1
NOT TYPED*	2	-	3	5	15		2	-	-	-	4		-	-	-	2	-	-	-	3	24	-	
TOTAL	2	1	3	7	15		28	2	2	3	4		1	1	4	2	1	1	1	3	24	1	

* See Table V-A

TABLE II - Continued

REPORTING CENTER														TOTAL	CUMULATIVE TOTAL	SEROTYPE
NYC	NC	ND	OHI	OKL	ORE	PA	RI	SC	TEX	WAS	WVA	WIS				
														2	2	<i>albany</i>
														1	1	<i>amager</i>
														1	1	<i>berlin</i>
														1	1	<i>bertha</i>
														2	2	<i>binza</i>
														1	1	<i>bonariensis</i>
														4	4	<i>california</i>
														1	1	<i>carrau</i>
														1	1	<i>cholerae-suis</i>
														1	1	<i>duesseldorf</i>
														5	5	<i>eimsbuettel</i>
														1	1	<i>gallinarum</i>
														8	8	<i>hartford</i>
														1	1	<i>kentucky</i>
														1	1	<i>lanka</i>
														5	5	<i>madelia</i>
														1	1	<i>manchester</i>
														2	2	<i>minnesota</i>
														4	4	<i>muenster</i>
														2	2	<i>norwich</i>
														1	1	<i>orion</i>
														1	1	<i>paratyphi-A</i>
														2	2	<i>pomona</i>
														2	2	<i>poona</i>
														2	2	<i>rubislaw</i>
														2	2	<i>siegburg</i>
														1	1	<i>stanley</i>
														3	3	<i>tallahassee</i>
														2	2	<i>urbana</i>
														1	1	<i>wassenaar</i>
														1	1	<i>westhampton</i>
1	2	-	4	1	-	6	-	1	1	1	-	-		63	63	TOTAL
-	-	6	-	-	1	-	1	2	8	-	1	1		80	80	NOT TYPED*
1	2	6	4	1	1	6	1	3	9	1	1	1		143	143	TOTAL

Cumulative Totals include isolations of all serotypes (except those listed in Table I) reported this year.

TABLE III. COMMON SALMONELLAEE REPORTED FROM NONHUMAN SOURCES, JANUARY 1969

SEROTYPE	DOMESTIC ANIMALS AND THEIR ENVIRONMENT						ANIMAL FEEDS				
	CHICKENS	TURKEYS	SWINE	CATTLE	HORSES	OTHER	SUBTOTAL	TANKAGE	VEGETABLE PROTEIN	OTHER	SUBTOTAL
<i>anatum</i>	4	6		1	2		13	3			3
<i>bareilly</i>			1				1	3			3
<i>blockley</i>	4						4				—
<i>braenderup</i>							—				—
<i>bredeney</i>		4	1				5	2		1	3
<i>chester</i>						1	1				—
<i>cholerae-suis v kun</i>			45				45				—
<i>cubana</i>							—	3		1	4
<i>derby</i>		3					3	2		1	3
<i>enteritidis</i>	8		1				9				—
<i>give</i>		2					2				—
<i>heidelberg</i>	25	23	1				49	7		1	8
<i>indiana</i>						1	1				—
<i>infantis</i>	2	5			1		8	1			1
<i>java</i>							—				—
<i>javiana</i>							—				—
<i>litchfield</i>							1				—
<i>livingstone</i>							—	1			14
<i>manhattan</i>							1				—
<i>miami</i>							—				—
<i>mississippi</i>							—				—
<i>montevideo</i>	2						2	10		6	16
<i>muenchen</i>	1		1				2				—
<i>newington</i>	1		1				1	1			1
<i>newport</i>		6	1	1			8				—
<i>oranienburg</i>							—	3			3
<i>panama</i>						1	1				—
<i>paratyphi B</i>							—				—
<i>reading</i>	1	6					7				—
<i>saint-paul</i>	2	15		2	2		21				—
<i>san-diego</i>		4					4				—
<i>schwarzengrund</i>		1					2			1	1
<i>senftenberg</i>	3						3	1			1
<i>tennessee</i>							—				—
<i>thompson</i>	13	1	1				16	1		1	2
<i>typhi</i>							—				—
<i>typhimurium</i>	13		7	24	4	8	56				—
<i>typhimurium v cop</i>	8	1	2	3		4	18				—
<i>weltevreden</i>							—				—
<i>worthington</i>	1	2		1			4	1			1
TOTAL	88	79	62	33	9	19	290	39	—	25	64
ALL OTHER*	19	14	5	22	3	8	71	22	—	12	34
TOTAL	107	93	67	55	12	27	361	61	—	37	98

* See Table IV

TABLE III - Continued

WILD ANIMALS AND BIRDS	REPTILES AND ENVIRON- MENT	HUMAN DIETARY ITEMS						MISCEL- LA- NEOUS	TOTAL	CUMU- LATIVE TOTAL	SEROTYPE
		EGGS AND PRODUCTS	POULTRY	RED MEAT	DAIRY PRODUCTS	OTHER	SUBTOTAL				
1	1	1				1	3	20	20	anatum	
1	3					2	5	5	5	bareilly	
						—	—	4	4	blockley	
						—	—	—	—	braenderup	
1						1	1	1	1	chester	
						1	1	5	5	cholerae-suis v kum	
						—	—	8	8	cubana	
1		1				1	1	9	9	derby	
						—	—	9	9	enteritidis	
2						—	2	61	61	give	
						—	1	1	1	heidelberg	
						—	3	12	12	indiana	
2	2	1				—	3	12	12	infantis	
	3					—	3	3	3	java	
						—	—	—	—	javiana	
						—	1	1	1	itchfield	
1						—	1	15	15	livingstone	
						—	2	2	2	manhattan	
						—	—	—	—	miami	
						—	—	—	—	mississippi	
						—	2	25	25	montevideo	
1	2	3	5	2		—	1	3	3	muenchien	
	1	1	1	3		—	4	4	4	newington	
1	8	—	—	17		17	17	17	17	newport	
	2	1	3	6		6	6	6	6	oranienburg	
	2	—	—	—		—	1	1	1	panama	
	2	—	—	7		—	7	7	7	paratyphi B	
	2	—	—	23		—	7	7	7	reeding	
	2	—	—	23		—	7	7	7	saint-paul	
						—	—	—	—	san-diego	
						4	4	4	4	schwarzengrund	
1	1	—	—	4		3	3	3	3	senftenberg	
1	5	1	5	2	7	5	5	5	5	tennessee	
	1	1	1	22		7	7	7	7	thompson	
9	6			—		—	—	—	—	typhi	
5				1	1	3	75	75	75	typhimurium	
						—	23	23	23	typhimurium v cop	
						—	—	—	—	wellevreden	
						—	5	5	5	worthington	
19	22	18	—	2	—	9	29	15	439	439	TOTAL
—	5	15	2	2	21	5	45	5	160	160	ALL OTHER*
19	27	33	2	4	21	14	74	20	599	599	TOTAL

TABLE IV. OTHER SALMONELLAES REPORTED FROM NONHUMAN SOURCES, JANUARY 1969

SEROTYPE	DOMESTIC ANIMALS AND THEIR ENVIRONMENT							ANIMAL FEEDS			
	CHICKENS	TURKEYS	SWINE	CATTLE	HORSES	OTHER	SUBTOTAL	TANKAGE	VEGETABLE PROTEIN	OTHER	SUBTOTAL
alachua	1	2					3			2	2
albany							1			—	—
bertha							—			3	3
binza							—			—	—
caracas							—			—	—
cerro		1					2	1		1	2
cholerae-suis			2				2			—	—
drypool	1		1				2	4		—	4
dublin							15			—	—
eimsbuettel	2	9					2	4		—	4
florida	1									—	—
gallinarum										—	—
hartford										—	—
illinois										1	1
johannesburg								1		—	1
kentucky	4									—	3
lexington										—	—
madelia				1			1			—	—
meleagridis				1	1					—	—
minnesota		1								1	6
muenster	1									—	—
oslo										—	—
poona										—	—
potsdam										—	—
pullorum	2									—	—
siegburg	2									2	2
simsbury	1									—	—
stanley		1								—	—
taksony	1									—	—
typhi-suis			2							—	—
TOTAL	16	14	5	18	3	6	62	20	—	8	28
NOT TYPED*	3	—	—	4	—	2	9	2	—	4	6
TOTAL	19	14	5	22	3	8	71	22	—	12	34

* See Table V-B

TABLE IV - Continued

TABLE V. SALMONELLA REPORTED BY GROUP IDENTIFICATION ONLY, JANUARY 1969

A. HUMAN SOURCES

REPORTING CENTER	GROUP												TOTAL
	B		C1		C2		D		E	UNK			
ALASKA	1				1								2
ARKANSAS			1		2								3
CALIFORNIA													5
DISTRICT OF COLUMBIA	6		3		1		3						15
FLORIDA	2									2			2
IOWA	1			1		2							4
MISSISSIPPI	1			1									2
NEW MEXICO			2		1								3
NEW YORK - A													24
NORTH DAKOTA										24			6
OREGON							1						1
RHODE ISLAND													1
SOUTH CAROLINA	1												2
TEXAS	1				1				1				8
WEST VIRGINIA			1							5			1
WISCONSIN	1												1
TOTAL	14		9		8		4		1		44		80

B. NONHUMAN SOURCES

SOURCES	GROUP												TOTAL
	B		C1		C2		D		E	UNK			
DOMESTIC ANIMALS AND THEIR ENVIRONMENT	2										7		9
ANIMAL FEEDS					1						5		6
WILD ANIMALS AND BIRDS													-
REPTILES AND ENVIRONMENT											2		2
HUMAN DIETARY ITEMS			2								1		3
MISCELLANEOUS													-
TOTAL	2		2		1		-		-		15		20