

Table 4a. Antimicrobial Resistance among all *Salmonella* Isolates from Food Animals by Year, 1997-2005

Year			1997	1998	1999	2000	2001	2002	2003	2004	2005
Number of Isolates Tested	Chickens		214	561	1438	1173	1307	1500	1158	1280	1989
	Turkeys		107	240	713	518	550	244	262	236	227
	Cattle		24	284	1610	1388	893	1008	670	607	329
	Swine		111	793	876	451	418	379	211	308	301
Antimicrobial Class	Antimicrobial	Isolate Source									
Aminoglycosides	Amikacin	Chickens	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0
		Turkeys	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0
		Cattle	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0
		Swine	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0
	Gentamicin	Chickens	17.8% 38	15.3% 86	10.4% 150	14.9% 175	7.9% 103	5.5% 83	6.3% 73	4.9% 63	4.3% 85
		Turkeys	20.6% 22	18.3% 44	17.5% 125	16.2% 84	20.9% 115	19.3% 47	21.0% 55	25.4% 60	22.9% 52
		Cattle	0.0% 0	1.8% 5	1.6% 25	2.1% 29	2.1% 19	2.6% 26	2.7% 18	1.8% 11	2.4% 8
		Swine	0.9% 1	0.8% 6	1.1% 10	1.3% 6	1.4% 6	0.8% 3	0.5% 1	1.3% 4	2.7% 8
	Kanamycin	Chickens	2.3% 5	3.2% 18	1.2% 17	4.1% 48	2.4% 31	2.0% 30	2.8% 32	2.7% 34	2.5% 49
		Turkeys	24.3% 26	17.1% 41	21.5% 153	21.4% 111	22.9% 126	24.2% 59	16.0% 42	14.4% 34	19.8% 45
		Cattle	8.3% 2	9.5% 27	7.1% 115	6.6% 92	6.9% 62	10.1% 102	13.7% 92	8.9% 54	13.1% 43
		Swine	11.7% 13	7.2% 57	6.7% 59	9.3% 42	6.9% 29	4.2% 16	5.7% 12	3.9% 12	5.0% 15
	Streptomycin	Chickens	24.3% 52	27.8% 156	27.5% 396	28.6% 335	21.0% 275	22.9% 343	19.6% 227	22.2% 284	23.3% 464
		Turkeys	34.6% 37	40.8% 98	43.6% 311	41.9% 217	46.7% 257	37.7% 92	29.4% 77	33.9% 80	40.1% 91
		Cattle	12.5% 3	16.2% 46	15.4% 248	21.3% 296	20.3% 181	25.9% 261	28.7% 192	20.9% 127	24.3% 80
		Swine	27.9% 31	29.4% 233	29.3% 257	39.2% 177	35.6% 149	40.1% 152	30.8% 65	36.4% 112	36.5% 110
Aminopenicillins	Ampicillin	Chickens	11.7% 25	12.8% 72	12.4% 179	13.0% 152	9.4% 123	14.3% 215	13.7% 159	14.5% 185	14.0% 279
		Turkeys	12.1% 13	10.4% 25	17.7% 126	16.2% 84	19.5% 107	18.0% 44	18.7% 49	22.0% 52	22.9% 52
		Cattle	12.5% 3	9.2% 26	12.5% 202	18.7% 259	17.9% 160	23.9% 241	28.1% 188	19.3% 117	26.7% 88
		Swine	16.2% 18	12.9% 102	10.8% 95	18.8% 85	11.7% 49	13.7% 52	12.8% 27	16.2% 50	13.6% 41

Table 4b. Antimicrobial Resistance among all *Salmonella* Isolates from Food Animals by Year, 1997-2005

Year		1997	1998	1999	2000	2001	2002	2003	2004	2005	
Number of Isolates Tested	Chickens	214	561	1438	1173	1307	1500	1158	1280	1989	
	Turkeys	107	240	713	518	550	244	262	236	227	
	Cattle	24	284	1610	1388	893	1008	670	607	329	
	Swine	111	793	876	451	418	379	211	308	301	
Antimicrobial Class	Antimicrobial	Isolate Source									
β-Lactam/β-Lactamase Inhibitor Combinations	Amoxicillin-Clavulanic Acid	Chickens	0.5% 1	2.0% 11	4.9% 70	7.3% 86	4.5% 59	10.2% 153	9.7% 112	12.4% 159	12.1% 241
		Turkeys	4.7% 5	0.4% 1	4.3% 31	3.5% 18	6.9% 38	3.7% 9	1.5% 4	4.7% 11	3.5% 8
		Cattle	8.3% 2	2.5% 7	3.9% 62	9.9% 138	11.8% 105	17.7% 178	21.0% 141	13.5% 82	21.0% 69
		Swine	0.0% 0	0.4% 3	1.0% 9	1.8% 8	2.6% 11	3.7% 14	3.8% 8	1.9% 6	4.3% 13
Cephalosporins	Ceftiofur	Chickens	0.5% 1	2.0% 11	5.2% 75	7.6% 89	4.1% 54	10.2% 153	9.8% 113	12.4% 159	12.2% 242
		Turkeys	3.7% 4	0.4% 1	4.6% 33	3.3% 17	5.1% 28	3.3% 8	1.5% 4	4.7% 11	3.5% 8
		Cattle	0.0% 0	2.1% 6	4.2% 67	9.8% 136	11.4% 102	17.4% 175	21.0% 141	13.3% 81	21.6% 71
		Swine	0.0% 0	0.1% 1	1.9% 17	1.3% 6	2.2% 9	3.2% 12	4.3% 9	1.9% 6	3.7% 11
	Ceftriaxone	Chickens	0.0% 0	0.0% 0	0.0% 0	0.1% 1	0.0% 0	0.3% 5	0.1% 1	0.5% 6	0.3% 5
		Turkeys	0 0	0.0% 0	0.8% 6	0.4% 2	0.2% 1	0.0% 0	0.4% 1	0.4% 1	0.9% 2
		Cattle	0.0% 0	0.0% 0	0.1% 1	0.1% 1	0.1% 1	0.2% 2	0.1% 1	1.3% 8	2.1% 7
		Swine	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0	0.0% 0
	Cephalothin	Chickens	1.4% 3	4.5% 25	5.8% 83	7.8% 91	4.7% 62	10.5% 158	10.4% 121	10.4% 121	
		Turkeys	5.6% 6	5.0% 12	10.5% 75	8.3% 43	13.1% 72	9.8% 24	11.1% 29	11.1% 29	
		Cattle	0.0% 0	2.1% 6	4.7% 76	9.9% 137	11.6% 104	17.7% 178	21.2% 142	21.2% 142	
		Swine	0.0% 0	0.1% 1	0.8% 7	2.4% 11	2.2% 9	3.2% 12	3.8% 8	3.8% 8	
Cephamycins	Cefoxitin	Chickens				7.2% 85	4.1% 53	8.7% 130	8.2% 95	12.4% 159	12.0% 238
		Turkeys				3.3% 17	4.5% 25	2.5% 6	1.1% 3	5.1% 12	3.5% 8
		Cattle				9.1% 126	11.1% 99	15.9% 160	17.8% 119	13.2% 80	19.8% 65
		Swine				1.3% 6	2.2% 9	2.9% 11	4.3% 9	1.9% 6	3.7% 11

Table 4c. Antimicrobial Resistance among all *Salmonella* Isolates from Food Animals by Year, 1997-2005

Number of Isolates Tested		1997	1998	1999	2000	2001	2002	2003	2004	2005	
	Chickens	214	561	1438	1173	1307	1500	1158	1280	1989	
	Turkeys	107	240	713	518	550	244	262	236	227	
	Cattle	24	284	1610	1388	893	1008	670	607	329	
	Swine	111	793	876	451	418	379	211	308	301	
Antimicrobial Class	Antimicrobial	Isolate Source									
Folate Pathway Inhibitors	Sulfanomides	Chickens	24.8%	23.7%	15.9%	18.4%	11.8%	8.9%	10.3%	11.9%	8.5%
		Turkeys	53	133	229	216	154	133	119	152	169
		Cattle	37.4%	32.1%	36.0%	25.1%	38.0%	30.3%	28.2%	36.4%	37.0%
		Swine	40	77	257	130	209	74	74	86	84
	Trimethoprim-Sulfamethoxazole	Chickens	20.8%	15.5%	15.0%	19.9%	19.7%	22.3%	25.1%	22.7%	27.4%
		Turkeys	5	44	242	276	176	225	168	138	90
		Cattle	34.2%	29.0%	30.7%	35.7%	34.9%	34.6%	25.1%	37.0%	32.9%
		Swine	38	230	269	161	146	131	53	114	99
Chloramphenicol	Chickens	0.5%	1.2%	1.1%	0.4%	0.5%	0.8%	0.3%	0.2%	0.2%	
	Turkeys	1	7	16	5	6	12	4	3	4	
	Cattle	3.7%	2.5%	4.2%	1.5%	2.5%	2.5%	2.3%	0.8%	1.8%	
	Swine	4	6	30	8	14	6	6	2	4	
Phenicols	Chickens	4.2%	2.5%	2.4%	2.2%	2.6%	2.5%	3.3%	1.5%	4.9%	
	Turkeys	1	7	39	30	23	25	22	9	16	
	Cattle	1.8%	0.3%	1.1%	0.9%	0.0%	1.6%	2.4%	1.6%	2.3%	
	Swine	2	2	10	4	0	6	5	5	7	
Quinolones	Ciprofloxacin	Chickens	2.3%	2.9%	1.8%	4.6%	2.5%	2.4%	2.1%	1.3%	1.8%
		Turkeys	5	16	26	54	33	36	24	16	36
		Cattle	3.7%	0.8%	4.1%	4.1%	3.8%	5.3%	4.2%	4.7%	4.8%
		Swine	4	2	29	21	21	13	11	11	11
	Nalidixic Acid	Chickens	4.2%	5.6%	8.5%	15.1%	16.5%	20.6%	25.1%	17.6%	21.9%
		Turkeys	1	16	137	209	147	208	168	107	72
		Cattle	11.7%	8.4%	8.0%	12.4%	7.7%	10.0%	8.5%	12.7%	10.6%
		Swine	13	67	70	56	32	38	18	39	32
Ciprofloxacin	Chickens	0.0%	0.2%	0.2%	0.5%	0.0%	0.8%	0.4%	0.5%	0.3%	
	Turkeys	0	1	3	6	0	12	5	6	6	
	Cattle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Swine	0	0	0	0	0	0	0	0	0	
Nalidixic Acid	Chickens	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Turkeys	0	0	0	0	0	0	0	0	0	
	Cattle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
	Swine	0	0	0	0	0	0	0	0	0	
Tetracyclines	Tetracycline	Chickens	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		Turkeys	0	0	0	0	0	0	0	0	0
		Cattle	0.0%	0.4%	0.1%	0.4%	0.4%	0.4%	0.4%	2.0%	1.5%
		Swine	0	1	1	6	4	4	3	12	5
	Tetracycline	Chickens	0.0%	0.0%	0.0%	0.2%	0.0%	0.3%	0.0%	0.0%	0.3%
		Turkeys	0	0	0	1	0	1	0	0	1
		Cattle	20.6%	20.5%	25.0%	26.3%	21.9%	24.9%	26.2%	27.4%	28.3%
		Swine	44	115	359	308	286	374	303	351	563
Tetracycline	Chickens	52.3%	45.8%	52.9%	56.2%	54.9%	54.5%	58.8%	48.3%	54.6%	
	Turkeys	56	110	377	291	302	133	154	114	124	
	Cattle	25.0%	24.3%	20.9%	25.8%	26.3%	32.0%	36.9%	31.8%	34.0%	
	Swine	6	69	336	358	235	323	247	193	112	
Tetracycline	Chickens	52.3%	47.5%	48.4%	54.3%	53.1%	57.8%	43.1%	58.8%	54.8%	
	Turkeys	58	377	424	245	222	219	91	181	165	
	Cattle	6	69	336	358	235	323	247	193	112	
	Swine	58	377	424	245	222	219	91	181	165	