



Salmonella Contamination in Pet Food, Animal Feed and Feed Ingredients

Xin Li, Ph.D.

Division of Animal Feeds

Office of Surveillance and Compliance

Center for Veterinary Medicine

AFIA Webcast

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Laws, Regulations and Guidance

- Section 402(a) of FDCA
 - A food shall be deemed to be adulterated if it bears or contains any poisonous or deleterious substance which may render it injurious to health
- 21 CFR 500.35
 - *Salmonella* contamination of such animal feeds having the potentiality for producing infection and disease in animals must be regarded as an adulterant within the meaning of the Section 402(a) of FDCA
- 21 CFR 7.40
 - Recall policy
- CPG 7371.003
 - Feed Contaminant Program
- Nationwide *Salmonella* assignment for direct-human-contact feeds
 - To determine the prevalence of *Salmonella* in samples collected from a limited number of direct-human-contact feeds
 - To determine the serotype, genetic fingerprint, and/or antimicrobial susceptibilities of each *Salmonella* found in samples collected from direct-human-contact feeds under this assignment.
 - To ensure that direct-human-contact feeds contaminated with *Salmonella* are removed from interstate commerce



Animal Feeds and Human Salmonellosis

- 1999 - pig ear pet treats confirmed as the source of an outbreak of human *Salmonella* Infantis infections in Canada
- 2002 - contaminated pet treats from Texas linked to human *S. Newport* infections in Calgary
- 2004-2005 - *Salmonella*-contaminated pet treats resulted in human *Salmonella* Thompson infections in Washington State and Western Canada
- 2005 - 2006 - multi-state *Salmonella* Typhimurium outbreak was associated with frozen vaccum-packed rodents used to feed snakes
- 2006-2007 – seventy human cases of salmonellosis were associated with *Salmonella* Schwarzengrund isolated from dry dog foods in the U.S.

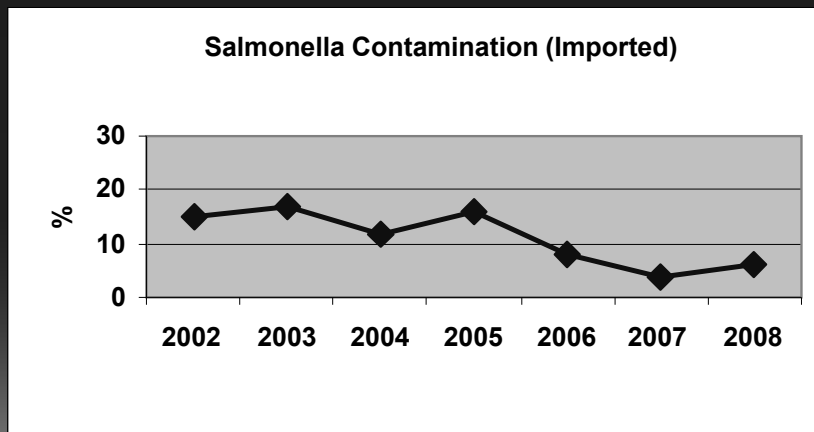
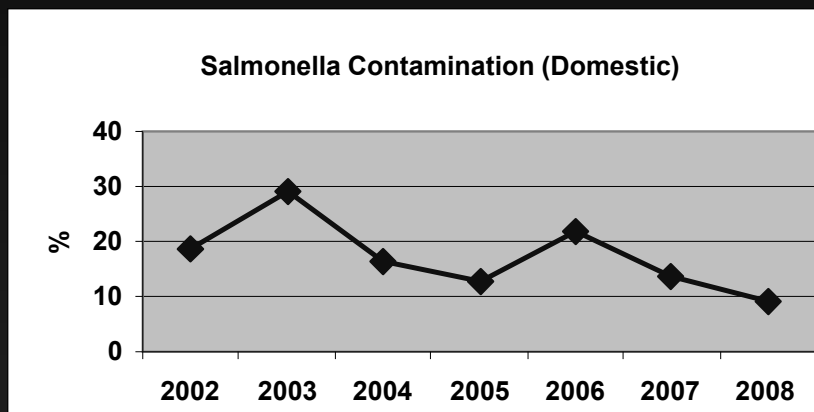


Salmonella Contamination 2002-2008

Year	# of samples tested	# positive	% positive
2002	187	34	18.2
2003	194	51	26.3
2004	150	22	14.7
2005	194	27	14.0
2006	144	23	16.0
2007	284	28	9.9
2008	321	25	7.8
2007-assignment	91	5	5.5
2007-rest	193	23	11.9
2008 assignment	97	2	2.1
2008 rest	224	23	10.3
Total	1474	210	14.2



Salmonella Prevalence 2002 - 2008





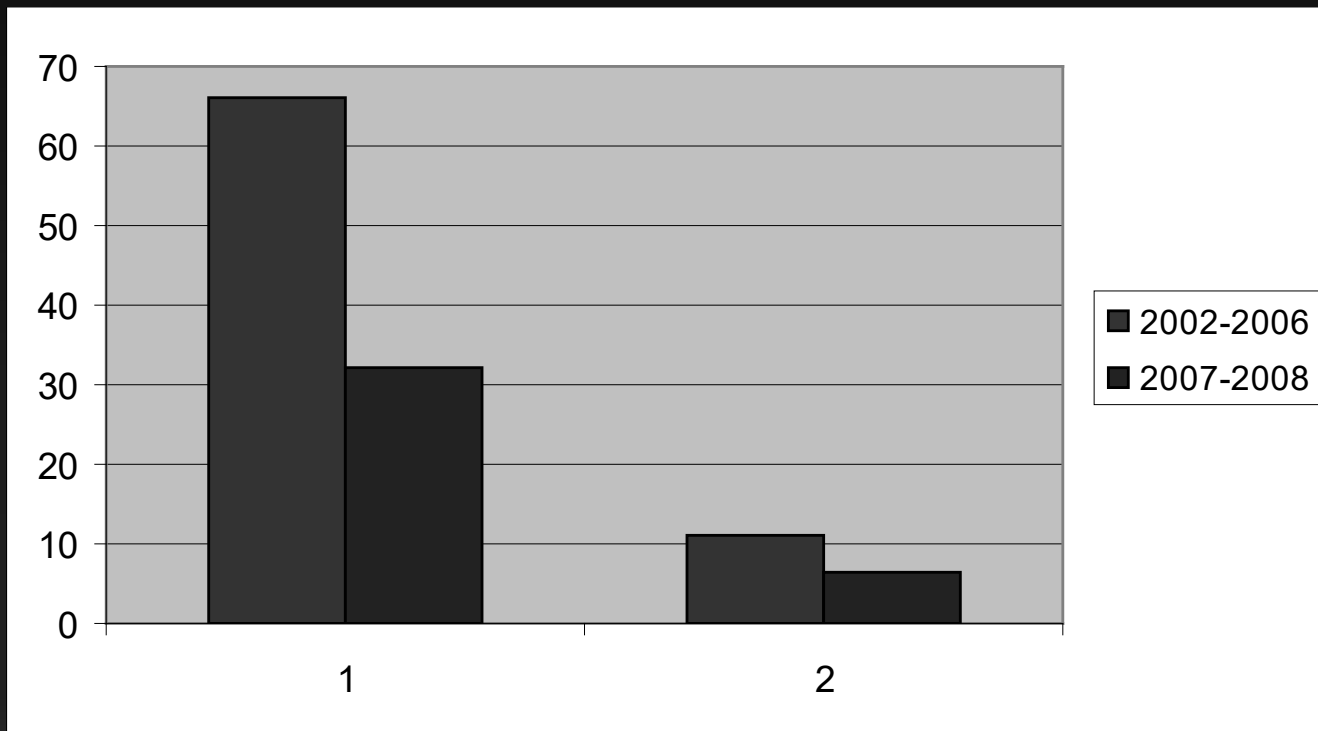
Contamination by Category

	FY 2002-2006			FY 2007-2008		
Feeds	Tested	Salm +	%	Tested	Salm +	%
Supplements	16	3	18.8	47	6	12.8
Cattle feeds	121	4	3.3	43	3	7
Feeds for minor species	13	0	0	26	0	0
Horse feeds	17	0	0	5	0	0
Ingredients¹	337	104	30.9	104	14	13.5
Medicated feeds	59	7	11.9	9	1	11.1
Pet foods²	153	19	12.4	356	29	8.1
Poultry feeds	93	12	12.9	11	0	0
Swine feeds	60	8	13.3	4	0	0
Total³	869	157	18.1	605	53	5.8

1. P<0.001; 2. P=0.12; 3. P<0.001



Salmonella Contamination of Ingredients



Animal derived

Plant derived

1. $P < 0.001$

2. $P < 0.10$

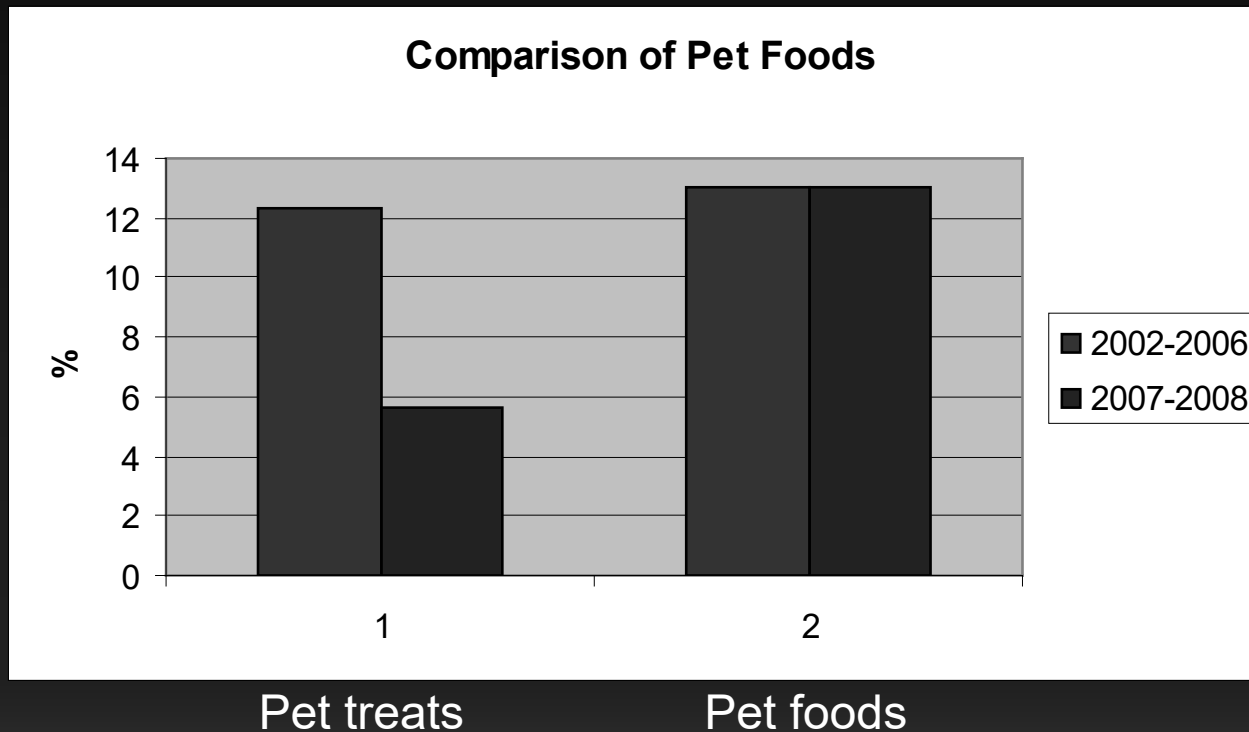


U.S. Food and Drug Administration

U. S. Department
of Health and
Human Services



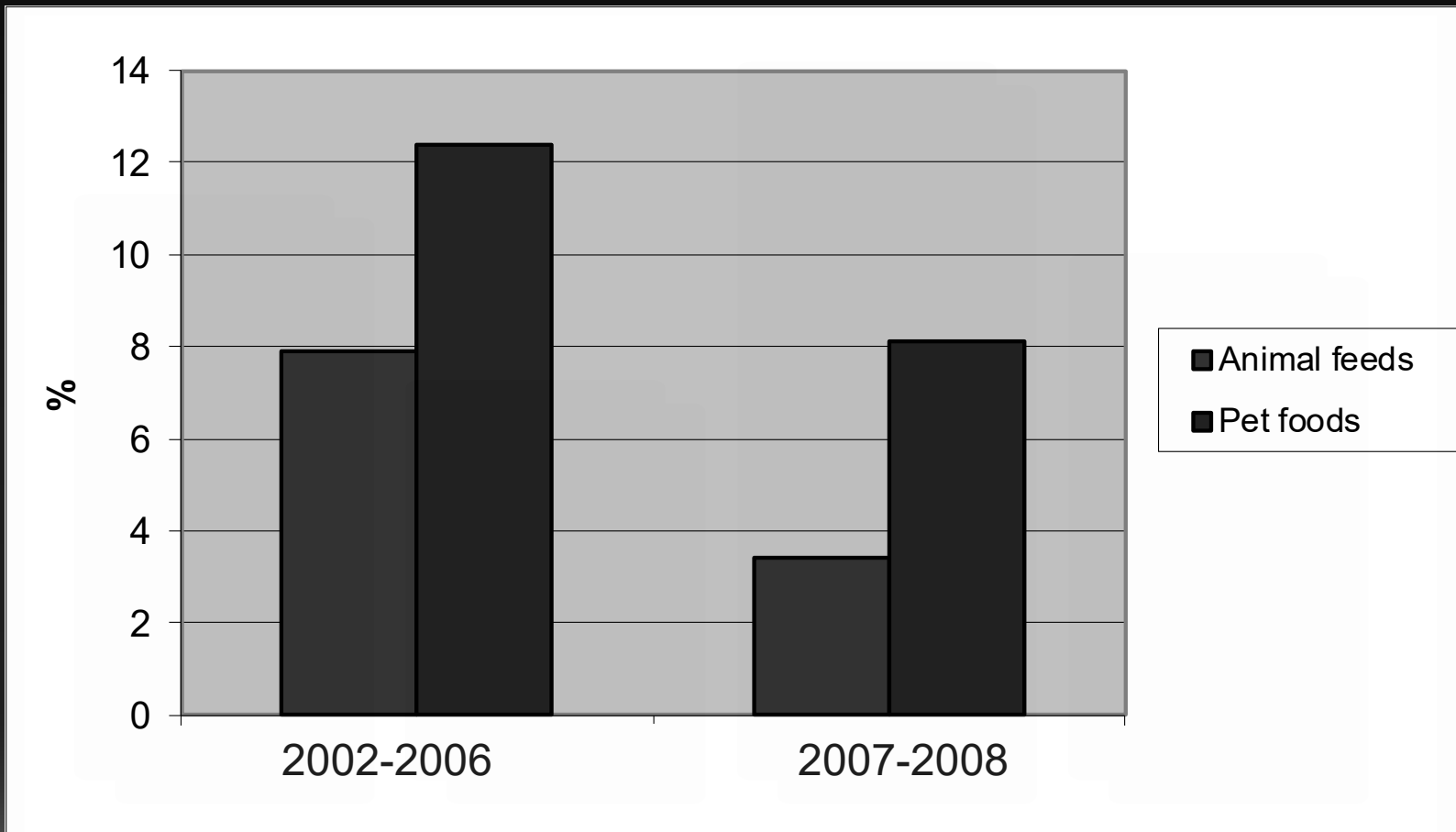
Salmonella Contamination of Pet Foods



1. $P < 0.01$

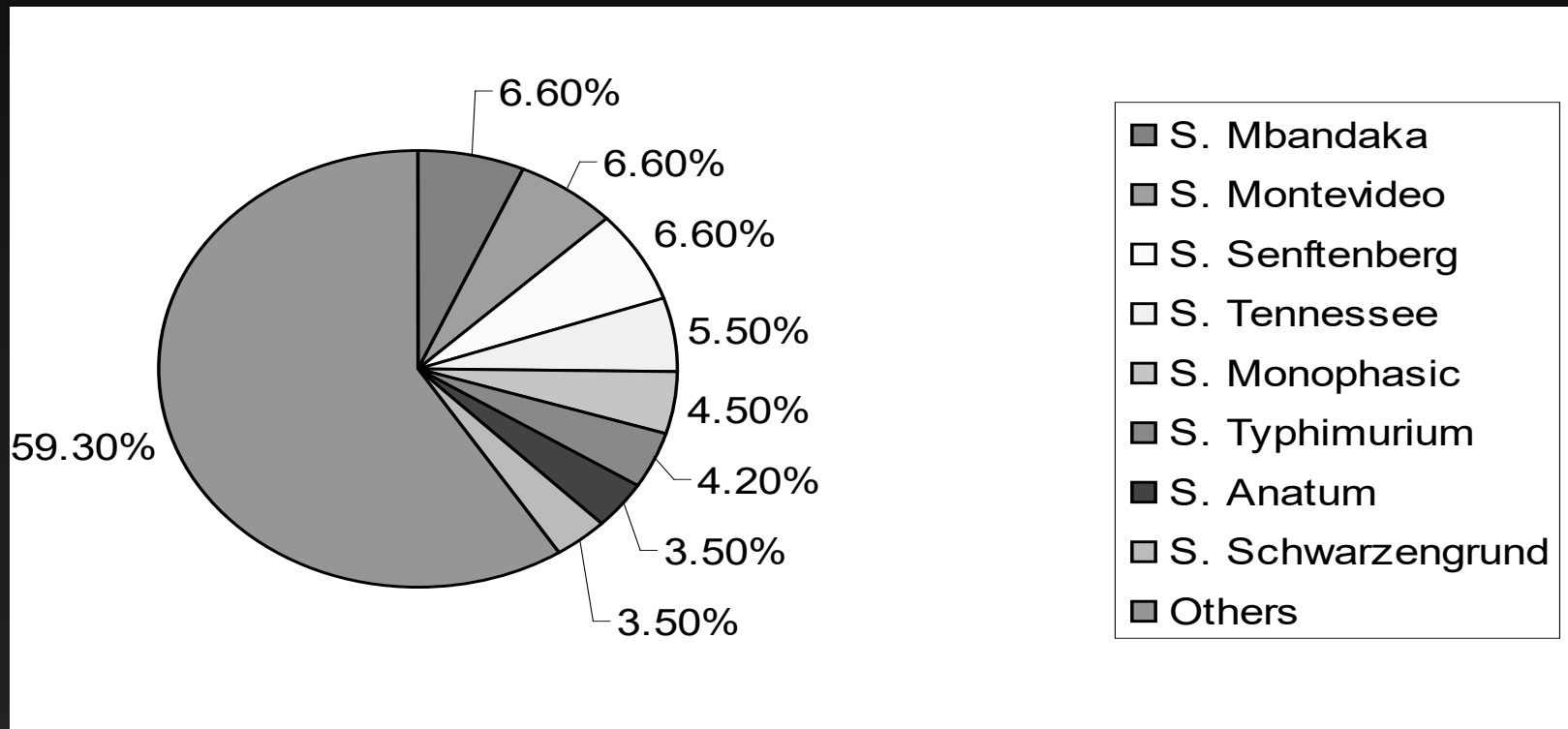


Contamination of Animal Feeds vs Pet Foods





Distribution of *Salmonella* Serotypes 2002-2008





Contamination by U.S. Manufacturer (FY 2002-2008)

Manufacturers	Positive cases/Total #	Products
A.	8/9	Meat & bone meal
B.	5/5	Animal protein concentrate
C.	5/5	Poultry feed
D.	4/5	Meat & bone meal
E.	3/3	Meat & bone meal
F.	3/3	Meat & bone meal
G.	3/5	Meat & bone meal
H.	3/5	Cattle feed
I.	3/6	Pet treats
J.	3/6	Cat and dog food



Contamination by Manufacturer - Imports (FY 2002-2008)

Manufacturers	Positive cases	Products
K	4/4	Soybean meal
L	3/3	Meat & bone meal
M	3/6	Pet treats/dog chews/ Meat & bone meal
N	5/10	Fish meal



Summary of *Salmonella* Surveillance

- A total of 1474 samples were collected and analyzed for *Salmonella* from 2002 to 2008
- Overall prevalence of *Salmonella* was 14.2% (210/1474)
- Ingredient category had highest prevalence of *Salmonella*
- Prevalence of *Salmonella* in animal derived ingredients and pet treats decreased
- Prevalence of *Salmonella* in feed decreased from double digit 18.2% in 2002 to single digit 7.8% in 2008
- Risk based surveillance of human-direct-contact feeds may have contribute to the reduction of *Salmonella* prevalence in 2007 - 2008



What to do when *Salmonella* is Found

- Report to reportable food registry
- Factors to consider:
 - Direct human contact vs secondary contact
 - Household or farm environment
 - Product availability



What to do when *Salmonella* is Found

- Potential FDA actions related to recall
 - Contact firm
 - Visit / inspect firm and gather information
 - Determine scope / extent of problem
 - date of positive sample
 - date of previous inspection
 - Adequacy of records (lot codes, distribution)



What to do when *Salmonella* is Found

- Recalls
 - Is a recall always necessary
 - If in distribution—yes
- Recall classification:
 - Pet food in retail distribution - class I
 - Pet food only in wholesale distribution - class II
 - Animal feed in commerce - class I, II, or III



Limiting Scope of Recall

- Record quality and lot codes
 - Range of products or lot codes involved
- Batch testing (it depends)
- Release specification (it depends)
- Environmental plan



FDA Options if Firm Does Not Recall

- Request recall (class I)
- Request State action /State stop sale
- Health advisory
- Press release
- Seizure, injunction
- Court action





Acknowledgement

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Thank You!