Table 4.1
Scoring Table for Veterinary Drugs
1999 FSIS NRP, Monitoring Plan and Special Projects

COMPOUND/COMPOUND CLASS	HISTORICAL TESTING INFORMA-TION ON VIOLATIONS (FSIS)	REGULA-TORY CONCERN (CVM)	LACK OF TESTING INFORMA-TION ON VIOLATIONS (FSIS)	WITH-DRAW-AL TIME (CVM)	IMPACT ON NEW AND EXISTING HUMAN DISEASE (CDC)	RELATIVE NUMBER OF ANIMALS TREATED (CVM)	ACUTE OR CHRONIC TOXICITY CONCERNS (CVM)
Those antibiotics quantitated by the FSIS Bioassay	4	4	1	4	3	4	4
Aminoglycosides (incl. spectinomycin, streptomycin, apramycin)	NT	4	4	4	3	3	2
Bambermycins	NT	1	4	1	1	3	1
Ceftiofur	NT	3	4	2	3	3	2
Chloramphenicol	NA (2)	4	3	2	4	1	4
Florfenicol in cattle	NT	3	4	4	3	4	3
Fluoroquinolones (incl. enrofloxacin)	NT	4	4	3	4	3	2
Glycopeptides (incl. avoparcin, vancomycin)	NT	4	4	2	4	1	1
Macrolides (incl. tilmicosin, tylosin)	4	4	2	4	3	3	3
Pirlimycin	NT	3	4	4	2	3	2
Virginiamycin	NT	1	4	1	3	3	1
Arsenicals (detected as As)	3	3	1	2	3	4	2
Avermectins in FSIS multi-residue method (incl. doramectin, ivermectin)	4	3	2	4	2	4	2
Eprinomectin	NT	2	4	2	2	(3)	2
Benzimidazoles	1	1	2	3	1	2	2
Berenil	NA (2)	4	3	4	2	(2)	3
Beta agonists (incl. clenbuterol)	NA (2)	4	4	2	1	1	4
Carbadox	NA	4	4	4	2	(3)	4
Clorsulon	NT	2	4	3	2	2	2
Halofuginone	2	1	1	2	2	2	2
Hormones, naturally-occurring	NT	2	4	1	2	(4)	2
DES	NA (1)	4	3	2	2	1	4

Table 4.1 - *Continued*
Scoring Table for Veterinary Drugs
1999 FSIS NRP, Monitoring Plan and Special Projects

COMPOUND/COMPOUND CLASS	HISTORICAL TESTING INFORMA-TION ON VIOLATIONS (FSIS)	REGULA-TORY CONCERN (CVM)	LACK OF TESTING INFORMA-TION ON VIOLATIONS (FSIS)	WITH-DRAW-AL TIME (CVM)	IMPACT ON NEW AND EXISTING HUMAN DISEASE (CDC)	RELATIVE NUMBER OF ANIMALS TREATED (CVM)	ACUTE OR CHRONIC TOXICITY CONCERNS (CVM)
Glucocorticoids (incl. methyl prednisone, dexamethasone)	NT	3	4	1	1	(2)	3
MGA	1	1	2	1	2	4	2
Trenbolone	NT	2	4	1	2	(3)	2
Zeranol	1	2	2	1	2	3	2
Lasalocid	NT	2	4	1	2	3	2
Levamisole	2	3	1	3	1	(2)	1
Morantel and pyrantel	2	1	1	1	2	(2)	1
Nicarbazin (in poultry)	1	2	2	2	2	1	1
Nicarbazin (in egg products)	NT	2	4	2	2	1	1
Nitrofurans (incl. furazolidone, nitrofurazone)	NT	4	4	2	3	1	4
Nitroimidazoles (incl. ronidazole, dimetridazole, ipronidazole)	NA (1)	4	3	2	1	(1)	4
NSAIDS besides phenylbutazone (incl. flunixin)	NT	4	4	2	1	3	3
Phenylbutazone	NA (3)	4	3	3	1	2	3
Sulfonamides	4	4	1	3	3	4	3
Thyreostats (incl. thiouracil)	NT	4	4	3	2	(1)	4
Veterinary tranquilizers	NT	4	4	2	1	2	1

Key:
NT = Not Tested by FSIS (1983-1998)
NA = Compound has been tested by FSIS (1983-1998), but the information is Not Applicable (e.g., compound has not been tested in the current species of concern)
(FSIS) = Scores in this column supplied by FSIS
(CVM) = Scores in this column supplied by FDA-CVM
(CDC) = Sores in this column supplied by CDC
Numbers surrounded by parentheses are estimates

Table 4.2
Veterinary Drug Residues Rated with Various Weighting Formulas
1999 FSIS NRP, Monitoring Plan and Special Projects

DRUG	ACTUAL VIOLA-TION SCORE	PREDIC-TED VIOLA-TION SCORE	VIOLA-TION SCORE USED IN FORMULAS (V)	LACK INFO. (L)	DIS-EASE (D)	TOXIC-ITY (T)	V*[(D+3*T)/4]*{1+[(L-1)*0.1]}	V*[(D+3*T)/4]*{1+[(L-1)*0.05]}	V*[(D+2*T)/3]*{1+[(L-1)*0.05]}	V*[(D+T)/2]*{1+[(L-1)*0.05]}
Antibiotics in Bioassay	4	4.13	4.00	1	3	4	15.0	15.0	14.7	14.0
Aminoglycosides		3.76	3.76	4	3	2	11.0	9.7	10.1	10.8
Bambermycins		1.20	1.20	4	1	1	1.6	1.4	1.4	1.4
Ceftiofur		2.50	2.50	4	3	2	7.3	6.5	6.7	7.2
Chloramphenicol		2.23	2.23	3	4	4	10.7	9.8	9.8	9.8
Florfenicol		3.68	3.68	4	3	3	14.3	12.7	12.7	12.7
Fluoroquinolones		3.36	3.36	4	4	2	10.9	9.7	10.3	11.6
Glycopeptides		2.23	2.23	4	4	1	5.1	4.5	5.1	6.4
Macrolides	4	3.76	4.00	2	3	3	13.2	12.6	12.6	12.6
Pirlimycin		3.32	3.32	4	2	2	8.6	7.6	7.6	7.6
Virginiamycin		1.20	1.20	4	3	1	2.3	2.1	2.3	2.8
Arsenicals	3	2.87	3.00	1	3	2	6.8	6.8	7.0	7.5
Avermectins	4	3.68	4.00	2	2	2	8.8	8.4	8.4	8.4
Eprinomectin		2.06	2.06	4	2	2	5.3	4.7	4.7	4.7
Benzimidazoles	1	1.65	1.00	2	1	2	1.9	1.8	1.8	1.6
Berenil		3.40	3.40	3	2	3	11.2	10.3	10.0	9.4
Beta agonists		2.23	2.23	4	1	4	9.4	8.3	7.7	6.4
Carbadox		3.76	3.76	4	2	4	17.1	15.1	14.4	13.0
Clorsulon		2.10	2.10	4	2	2	5.5	4.8	4.8	4.8
Halofuginone	2	1.25	2.00	1	2	2	4.0	4.0	4.0	4.0
Hormones, naturally-occurring.		2.01	2.01	4	2	2	5.2	4.6	4.6	4.6
DES		2.23	2.23	3	2	4	9.3	8.6	8.2	7.3
Glucocorticoids		1.74	1.74	4	1	3	5.6	5.0	4.7	4.0
MGA	1	1.57	1.00	2	2	2	2.2	2.1	2.1	2.1
Trenbolone		1.65	1.65	4	2	2	4.3	3.8	3.8	3.8

Table 4.2 – *Continued*
Veterinary Drug Residues Rated with Various Weighting Formulas
1999 FSIS NRP, Monitoring Plan and Special Projects

DRUG	ACTUAL VIOLA-TION SCORE	PREDIC-TED VIOLA-TION SCORE	VIOLA-TION SCORE USED IN FORMULAS (V)	LACK INFO. (L)	DIS-EASE (D)	TOXIC-ITY (T)	V*[(D+3*T)/4]*{1+[(L-1)*0.1]}	V*[(D+3*T)/4]*{1+[(L-1)*0.05]}	V*[(D+2*T)/3]*{1+[(L-1)*0.05]}	V*[(D+T)/2]*{1+[(L-1)*0.05]}
Zeranol	1	1.65	1.00	2	2	2	2.2	2.1	2.1	2.1
Lasalocid		1.65	1.65	4	2	2	4.3	3.8	3.8	3.8
Levamisole	2	2.55	2.00	1	1	1	2.0	2.0	2.0	2.0
Morantel and pyrantel	2	0.84	2.00	1	2	1	2.5	2.5	2.7	3.0
Nicarbazin in poultry	1	1.33	1.00	2	2	1	1.4	1.3	1.4	1.6
Nicarbazin in eggs		1.33	1.33	4	2	1	2.2	1.9	2.0	2.3
Nitrofurans		2.23	2.23	4	3	4	10.9	9.6	9.4	9.0
Nitroimidazoles		2.23	2.23	3	1	4	8.7	8.0	7.3	6.1
NSAIDS		2.95	2.95	4	1	3	9.6	8.5	7.9	6.8
Phenylbutazone		2.99	2.99	3	1	3	9.0	8.2	7.7	6.6
Sulfonamides	4	3.72	4.00	1	3	3	12.0	12.0	12.0	12.0
Thyreostats		2.63	2.63	4	2	4	12.0	10.6	10.1	9.1
Vet. tranquilizers		2.59	2.59	4	1	1	3.4	3.0	3.0	3.0

Key:
V = Predicted or actual score for FSIS Historical Information on Violations
L = Lack of FSIS Testing Information on Violations
D = Impact on New and Existing Human Disease
T = Acute or Chronic Toxicity Concerns

Table 4.3
Veterinary Drug Residues Rated with Various Weighting Formulas, Sorted by Rating
1999 FSIS NRP, Monitoring Plan and Special Projects

RANK	DRUG	V*((D+3*T)/4)*{1+[(L-1)*0.1]}	DRUG	V*((D+3*T)/4)*{1+[(L-1)*0.05]}	DRUG	V*((D+2*T)/4)*{1+[(L-1)*0.05]}	DRUG	V*((D+T)/4) * {1+[(L-1)*0.05]}
1	Carbadx	17.1	***Carbadx***	***15.1***	Antibiots	14.7	Antibiots	14.0
2	Antibiots	15.0	***Antibiots***	***15.0***	Carbadx	14.4	Carbadx	13.0
3	Flofenco	14.3	***Flofenco***	***12.7***	Flofenco	12.7	Flofenco	12.7
4	Macros	13.2	***Macros***	***12.6***	Macros	12.6	Macros	12.6
5	Sulfas	12.0	***Sulfas***	***12.0***	Sulfas	12.0	Sulfas	12.0
6	Thyreos	12.0	***Thyreos***	***10.6***	Fluorqns	10.3	Fluorqns	11.6
7	Berenil	11.2	***Berenil***	***10.3***	Amiglys	10.1	Amiglys	10.8
8	Amiglys	11.0	***Clfencol***	***9.8***	Thyreos	10.1	Clfencol	9.8
9	Fluorqns	10.9	***Amiglys***	***9.7***	Berenil	10.0	Berenil	9.4
10	Nitrofurs	10.9	***Fluorqns***	***9.7***	Clfencol	9.8	Thyreos	9.1
11	Clfencol	10.7	***Nitrofurs***	***9.6***	Nitrofurs	9.4	Nitrofurs	9.0
12	NSAIDS	9.6	***DES***	***8.6***	Avmecs	8.4	Avmecs	8.4
13	Beta ags	9.4	***NSAIDS***	***8.5***	DES	8.2	Pirlmycn	7.6
14	DES	9.3	***Avmecs***	***8.4***	NSAIDS	7.9	Arsencls	7.5
15	Phnlbute	9.0	***Beta ags***	***8.3***	Phnlbute	7.7	DES	7.3
16	Avmecs	8.8	***Phnlbute***	***8.2***	Beta ags	7.7	Ceftiofur	7.2
17	Nitroims	8.7	***Nitroims***	***8.0***	Pirlmycn	7.6	NSAIDS	6.8
18	Pirlmycn	8.6	***Pirlmycn***	***7.6***	Nitroims	7.3	Phnlbute	6.6
19	Ceftiofur	7.3	***Arsencls***	***6.8***	Arsencls	7.0	Glycops	6.4
20	Arsencls	6.8	***Ceftiofur***	***6.5***	Ceftiofur	6.7	Beta ags	6.4
21	Glucorts	5.6	***Glucorts***	***5.0***	Glycops	5.1	Nitroims	6.1
22	Clorsuln	5.5	***Clorsuln***	***4.8***	Clorsuln	4.8	Clorsuln	4.8
23	Eprinom	5.3	***Eprinom***	***4.7***	Eprinom	4.7	Eprinom	4.7
24	Hrms,ntl	5.2	***Hrms,ntl***	***4.6***	Glucorts	4.7	Hrms,ntl	4.6
25	Glycops	5.1	***Glycops***	***4.5***	Hrms,ntl	4.6	Halofugi	4.0
26	Trenboln	4.3	***Halofugi***	***4.0***	Halofugi	4.0	Glucorts	4.0
27	Lasalcid	4.3	***Trenboln***	***3.8***	Trenboln	3.8	Trenboln	3.8
28	Halofugi	4.0	***Lasalcid***	***3.8***	Lasalcid	3.8	Lasalcid	3.8
29	Vt.tranks	3.4	***Vt.tranks***	***3.0***	Vt.tranks	3.0	Mor,pyr	3.0
30	Mor,pyr	2.5	***Mor,pyr***	***2.5***	Mor,pyr	2.7	Vt.tranks	3.0
31	Viginiam	2.3	***MGA***	***2.1***	Viginiam	2.3	Viginiam	2.8
32	MGA	2.2	***Zeranol***	***2.1***	MGA	2.1	Nic,eggs	2.3
33	Zeranol	2.2	***Viginiam***	***2.1***	Zeranol	2.1	MGA	2.1
34	Nic,eggs	2.2	***Levamsol***	***2.0***	Nic,eggs	2.0	Zeranol	2.1
35	Levamsol	2.0	***Nic,eggs***	***1.9***	Levamsol	2.0	Levamsol	2.0
36	Benzims	1.9	***Benzims***	***1.8***	Benzims	1.8	Benzims	1.6
37	Bambers	1.6	***Bambers***	***1.4***	Nic,poul	1.4	Nic,poul	1.6
38	Nic,poul	1.4	***Nic,poul***	***1.3***	Bambers	1.4	Bambers	1.4

Key:
V = Predicted or actual score for FSIS Historical Information on Violations
D = Impact on New and Existing Human Disease
L = Lack of FSIS Testing Information on Violations
T = Acute or Chronic Toxicity Concerns
The two bolded columns show the results obtained with the formula chosen by the RPC.

Table 4.4
Key to Abbreviations Used for Veterinary Drugs
1999 FSIS NRP, Monitoring Plan and Special Projects

ABBREVIATION	COMPOUND/COMPOUND CLASS
Antibiots	Those antibiotics quantitated by the FSIS Bioassay
Amiglys	Aminoglycosides (incl. spectinomycin, streptomycin, apramycin)
Bambers	Bambermycins
Ceftiofur	Ceftiofur
Clfencol	Chloramphenicol
Flofenco	Florfenicol
Fluorqns	Fluoroquinolones (incl. enrofloxacin)
Glycops	Glycopeptides (incl. avoparcin, vancomycin)
Macros	Macrolides (incl. tilmicosin, tylosin)
Pirlmycn	Pirlimycin
Viginiam	Virginiamycin
Arsencls	Arsenicals (detected as As)
Avmecs	Avermectins in FSIS multi-residue method (incl. doramectin, ivermectin)
Eprinom	Eprinomectin
Benzims	Benzimidazoles
Berenil	Berenil
Beta ags	Beta agonists
Carbadx	Carbadox
Clorsuln	Clorsulon
Halofugi	Halofuginone
Hrms,ntl	Hormones, naturally-occuring
DES	DES
Glucorts	Glucocorticoids (incl. methyl prednisone, dexamethasone)
MGA	MGA
Trenboln	Trenbolone
Zeranol	Zeranol
Lasalcid	Lasalocid
Levamsol	Levamisole
Mor,pyr	Morantel and pyrantel
Nic,poul	Nicarbazin (in poultry)
Nic,eggs	Nicarbazin (in egg products)
Nitrofurs	Nitrofurans (incl. furazolidone, nitrofurazone)
Nitroims	Nitroimidazoles (incl. ronidazole, dimetridazole, ipronidazole)
NSAIDS	NSAIDS besides phenylbutazone (incl. flunixin)
Phnlbute	Phenylbutazone
Sulfas	Sulfonamides
Thyreos	Thyreostats (incl. thiouracil)
Vt.tranks	Veterinary tranquilizers

Table 4.5
Rank and Status for Veterinary Drugs
1999 FSIS NRP, Monitoring Plan and Special Projects

RANK	DRUG	SCORE	STATUS IN 1999 NATIONAL RESIDUE PROGRAM
1	Carbadox	15.1	Special Project, roaster pigs
2	Antibiotics in Bioassay	15.0	Monitoring Plan, MRM, all production classes
3	Florfenicol	12.7	NIP, delay until MRM available for florfenicol and chloramphenicol (est. 2000)
4	Macrolides	12.6	Monitoring Plan, method available for tilmicosin only, dairy cows and formula-fed veal
5	Sulfonamides	12.0	Monitoring Plan, MRM, all production classes except egg products
6	Thyreostats	10.6	NIP, method not yet installed in FSIS laboratories
7	Berenil	10.3	NIP, current method requires improvement
8	Chloramphenicol	9.8	NIP, delay until MRM available for florfenicol and chloramphenicol (est. 2000)
9	Aminoglycosides	9.7	Special Project, spectinomycin only, dairy cows
10	Fluoroquinolones	9.7	Special Project, MRM, dairy cows, young chicken and young turkey
11	Nitrofurans	9.6	NIP, current method requires improvement
12	DES	8.6	Special Project, formula-fed veal
13	NSAIDS	8.5	Special Project, flunixin only, dairy cows
14	Avermectins	8.4	Monitoring Plan, MRM, all livestock production classes except bob veal calves
15	Beta agonists	8.3	Special Project, MRM, market hogs and formula-fed veal
16	Phenylbutazone	8.2	Monitoring Plan, all production classes except egg products
17	Nitroimidazoles	8.0	Special Project, MRM, formula-fed veal
18	Pirlimycin	7.6	NIP, method needs improvement
19	Arsenicals	6.8	Monitoring Plan, multiple production classes
20	Ceftiofur	6.5	NIP, new method - awaiting availability
21	Glucocorticoids	5.0	Special Project, dexamethasone only, dairy cows
22	Clorsulon	4.8	NIP, low priority
23	Eprinomectin	4.7	NIP, low priority
24	Hormones, nat.-occur.	4.6	NIP, low priority
25	Glycopeptides	4.5	NIP, low priority
26	Halofuginone	4.0	NIP, low priority
27	Trenbolone	3.8	NIP, low priority
28	Lasalocid	3.8	NIP, low priority
29	Vet. tranquilizers	3.0	Special Project, MRM, screening method only, market hogs
30	Morantel and pyrantel	2.5	NIP, low priority
31	MGA	2.1	NIP, low priority
32	Zeranol	2.1	NIP, low priority
33	Virginiamycin	2.1	NIP, low priority
34	Levamisole	2.0	NIP, low priority
35	Nicarbazin in eggs	1.9	NIP, low priority
36	Benzimidazoles	1.8	NIP, low priority
37	Bambermycins	1.4	NIP, low priority
38	Nicarbazin in poultry	1.3	NIP, low priority

Key:
MRM = Multi-Residue Method
NIP = Not Included in 1999 FSIS National Residue Program

Table 4.6
Production Classes to be Considered for Each Veterinary Drug/Drug Class
1999 FSIS NRP, Monitoring Plan and Special Projects

Est. Rel. % Dom. Cons.	DRUG->	Carbadx	Anti-biots	Til-mic	Sulfas	Spec-tin	Fluor-qns	DES	Flu-nixin	Av-mecs	Phnl-bute	Beta Ags	Nitro-ims	Arsen-cls	Dex	Vet. Tranks
	DRUG SCORE->	15.1	15.0	12.6	12.0	9.7	9.7	8.6	8.5	8.4	8.2	8.0	8.0	6.8	5.0	3.0
0.037	Horses		●		●	○			○	●	●	○			○	○
0.581	Bulls		●	○	●	○	○		○	●	●				○	○
1.589	Beef cows		●	○	●	○	○		○	●	●	○			○	○
1.907	Dairy cows		●	●	●	●	●		●	●	●				●	○
8.107	Heifers	○	●	○	●	○	○	○	○	●	●	○		●		
13.481	Steers	○	●	○	●	○	○		○	●	●	○		●		
0.057	Bob veal calves		●	○	●	○	○		○		●			●		
0.190	Formula-fed veal		●	●	●	○	○	●	○	●	●	●	●	●	○	
0.008	Non-formula-fed veal		●	○	●	○	○	○	○	●	●	○	○			
0.017	Heavy calves		●	○	●		○		○	●	●	○				
0.013	Sheep		●		○	○	○		○	●	●				○	
0.239	Lambs		●		●	○	○			●	⭘	○				
0.022	Goats		●		●	○	○		○	●	●			●		
18.904	Market hogs	●	●	○	●	○	○			●	⭘	●	○	●		●
0.013	Roaster pigs	●	●	○	●	○	○		○	●	⭘		○	●		
0.168	Boars/Stags	○	●	○	●	○	○		○	●	●		○	●	○	○
1.052	Sows	○	●	○	●	○	○		○	●	●		○	●	○	○
42.083	Young chickens		●		●	○	●				⭘	○		●		
0.402	Mature chickens		●		●	○	○				⭘			●		
7.579	Young turkeys		●		●	○	●				⭘	○		●		
0.057	Mature turkeys		●		●	○	○				⭘			●		
0.175	Ducks		●		●		○				⭘			●		
0.003	Geese		●		●		○				⭘			●		
0.002	Rabbits		●		○	○	○			●	⭘					
3.328	Egg products		●		●	○	○				⭘			●		

Key:

Est. Rel. % Dom. Cons. = Estimated relative percent of domestic consumption. This was derived by estimating the total annual U.S. domestic production (pounds dressed weight) for each production class, and dividing by the total poundage for all production classes on this list.

● = Sampled under the 1999 FSIS NRP

○ = Of potential regulatory concern, but could not be sampled under the 1999 FSIS NRP because of laboratory resource constraints

⭘ = Since all production classes will be sampled with the CHC/COP method (see Section 6), and since this method also detects phenylbutazone, the latter will, by default, likewise be sampled in all production classes. However, phenylbutazone is not of regulatory concern in all production class. Thus, this designation indicates those production classes in which phenylbutazone will be sampled because it is detected as part of the CHC/COP method, but where it is NOT of regulatory concern.

Table 4.7
Veterinary Drug Compound/Production Class Pairs,
Sorted by Sampling Priority Score, "Full-Resource" Sampling
1999 FSIS NRP, Monitoring Plan and Special Projects

RANK	COMPOUND CLASS	COMPOUND PRIORITY RATING (P)	PRODUCTION CLASS	EST. RELATIVE % DOMESTIC CONSUMPTION (D)	C/PC PAIR PRIORITY SCORE (P x D)	# SAMPLES
1	Antibiotics	15.00	Young chickens	42.083	631.24	460
2	Sulfonamides	12.00	Young chickens	42.083	505.00	460
3	Arsenicals	6.75	Young chickens	42.083	284.06	460
4	Antibiotics	15.00	Market hogs	18.904	283.56	460
5	Sulfonamides	12.00	Market hogs	18.904	226.85	460
6	Antibiotics	15.00	Steers	13.481	202.22	460
7	Sulfonamides	12.00	Steers	13.481	161.78	460
8	Avermectins	8.40	Market hogs	18.904	158.79	460
9	Arsenicals	6.75	Market hogs	18.904	127.60	460
10	Antibiotics	15.00	Heifers	8.107	121.60	460
11	Antibiotics	15.00	Young turkeys	7.579	113.69	460
12	Avermectins	8.40	Steers	13.481	113.24	460
13	Sulfonamides	12.00	Heifers	8.107	97.28	460
14	Arsenicals	6.75	Steers	13.481	91.00	460
15	Sulfonamides	12.00	Young turkeys	7.579	90.95	460
16	Avermectins	8.40	Heifers	8.107	68.10	460
17	Arsenicals	6.75	Heifers	8.107	54.72	460
18	Arsenicals	6.75	Young turkeys	7.579	51.16	460
19	Antibiotics	15.00	Egg products	3.328	49.92	460
20	Sulfonamides	12.00	Egg products	3.328	39.94	460
21	Antibiotics	15.00	Dairy cows	1.907	28.60	460
22	Antibiotics	15.00	Beef cows	1.589	23.83	300
23	Sulfonamides	12.00	Dairy cows	1.907	22.88	300
24	Arsenicals	6.75	Egg products	3.328	22.46	300
25	Sulfonamides	12.00	Beef cows	1.589	19.07	300
26	Avermectins	8.40	Dairy cows	1.907	16.01	300
27	Antibiotics	15.00	Sows	1.052	15.79	300
28	Avermectins	8.40	Beef cows	1.589	13.35	300
29	Sulfonamides	12.00	Sows	1.052	12.63	300
30	Avermectins	8.40	Sows	1.052	8.84	300
31	Antibiotics	15.00	Bulls	0.581	8.71	300
32	Arsenicals	6.75	Sows	1.052	7.10	300
33	Sulfonamides	12.00	Bulls	0.581	6.97	300
34	Antibiotics	15.00	Mature chickens	0.402	6.02	300
35	Avermectins	8.40	Bulls	0.581	4.88	300
36	Sulfonamides	12.00	Mature chickens	0.402	4.82	300
37	Antibiotics	15.00	Lambs	0.239	3.59	300
38	Sulfonamides	12.00	Lambs	0.239	2.87	300
39	Antibiotics	15.00	Formula-fed	0.190	2.85	300
40	Arsenicals	6.75	Mature chickens	0.402	2.71	300
41	Antibiotics	15.00	Ducks	0.175	2.62	300
42	Antibiotics	15.00	Boars/Stags	0.168	2.51	300

Table 4.7 - *Continued*
Veterinary Drug Compound/Production Class Pairs,
Sorted by Sampling Priority Score, "Full-Resource" Sampling
1999 FSIS NRP, Monitoring Plan and Special Projects

RANK	COMPOUND CLASS	COMPOUND PRIORITY RATING (P)	PRODUCTION CLASS	EST. RELATIVE % DOMESTIC CONSUMPTION (D)	C/PC PAIR PRIORITY SCORE (P x D)	# SAMPLES
43	Sulfonamides	12.00	Formula-fed	0.190	2.28	300
44	Sulfonamides	12.00	Ducks	0.175	2.10	230
45	Avermectins	8.40	Lambs	0.239	2.01	230
46	Sulfonamides	12.00	Boars/Stags	0.168	2.01	230
47	Avermectins	8.40	Formula-fed	0.190	1.60	230
48	Avermectins	8.40	Boars/Stags	0.168	1.41	230
49	Arsenicals	6.75	Formula-fed	0.190	1.28	230
50	Arsenicals	6.75	Ducks	0.175	1.18	230
51	Arsenicals	6.75	Boars/Stags	0.168	1.13	230
52	Antibiotics	15.00	Mature turkeys	0.057	0.86	230
53	Antibiotics	15.00	Bob calves	0.057	0.86	230
54	Sulfonamides	12.00	Mature turkeys	0.057	0.69	230
55	Sulfonamides	12.00	Bob calves	0.057	0.68	230
56	Antibiotics	15.00	Horses	0.037	0.55	230
57	Sulfonamides	12.00	Horses	0.037	0.44	230
58	Arsenicals	6.75	Mature turkeys	0.057	0.39	230
59	Arsenicals	6.75	Bob calves	0.057	0.39	230
60	Antibiotics	15.00	Goats	0.022	0.33	230
61	Avermectins	8.40	Horses	0.037	0.31	230
62	Sulfonamides	12.00	Goats	0.022	0.26	230
63	Antibiotics	15.00	Heavy calves	0.017	0.26	230
64	Sulfonamides	12.00	Heavy calves	0.017	0.21	230
65	Antibiotics	15.00	Sheep	0.013	0.19	230
66	Antibiotics	15.00	Roaster pigs	0.013	0.19	230
67	Avermectins	8.40	Goats	0.022	0.18	90
68	Sulfonamides	12.00	Sheep	0.013	0.15	90
69	Sulfonamides	12.00	Roaster pigs	0.013	0.15	90
70	Arsenicals	6.75	Goats	0.022	0.15	90
71	Avermectins	8.40	Heavy calves	0.017	0.14	90
72	Antibiotics	15.00	Non-formula	0.008	0.13	90
73	Avermectins	8.40	Sheep	0.013	0.11	90
74	Avermectins	8.40	Roaster pigs	0.013	0.11	90
75	Sulfonamides	12.00	Non-formula	0.008	0.10	90
76	Arsenicals	6.75	Roaster pigs	0.013	0.08	90
77	Avermectins	8.40	Non-formula	0.008	0.07	90
78	Antibiotics	15.00	Geese	0.003	0.04	90
79	Sulfonamides	12.00	Geese	0.003	0.03	90
80	Antibiotics	15.00	Rabbits	0.002	0.03	90
81	Sulfonamides	12.00	Rabbits	0.002	0.02	90
82	Arsenicals	6.75	Geese	0.003	0.02	90
83	Avermectins	8.40	Rabbits	0.002	0.02	90

Table 4.8
Adjusted Number of Analyses for Each Veterinary Drug Compound/Production Class Pair, "Full Resource" Sampling
1999 FSIS NRP Monitoring Plan and Special Projects

DRUG CLASS	PRODUCTION CLASS	SCORE	# SAMP.	%VIOL.	%NVP	UNADJ. #	ADJUST-MENT	INITIAL ADJ.#	ADJUST-MENT	FINAL ADJ.#
Antibiotics	Young chickens	631.24	2585	0.00	0.12	460		460		460
Antibiotics	Market hogs	283.56	2160	0.37	3.29	460		460		460
Antibiotics	Steers	202.22	1972	0.05	0.00	460		460		460
Antibiotics	Heifers	121.60	1673	0.00	0.00	460		460		460
Antibiotics	Young turkeys	113.69	2631	0.19	0.91	460		460		460
Antibiotics	Egg products	49.92	NT	NT	NT	460	+1 level	460		460
Antibiotics	Dairy cows	28.60	2636	0.34	0.08	460		460		460
Antibiotics	Beef cows	23.83	3123	0.06	0.19	300		300		300
Antibiotics	Sows	15.79	3011	0.23	0.96	300		300		300
Antibiotics	Bulls	8.71	1732	0.00	0.00	300		300		300
Antibiotics	Mature chickens	6.02	2108	0.00	0.14	300		300		300
Antibiotics	Lambs	3.59	2528	0.24	0.12	300		300		300
Antibiotics	Formula-fed	2.85	3047	0.30	2.43	300		300		300
Antibiotics	Ducks	2.62	2511	0.20	0.60	300		300		300
Antibiotics	Boars/Stags	2.51	2328	0.13	1.33	300		300		300
Antibiotics	Mature turkeys	0.86	1148	0.17	0.78	230		230	min 300	300
Antibiotics	Bob calves	0.86	2743	1.09	1.06	230	+2 levels	460		460
Antibiotics	Horses	0.55	1046	3.63	1.43	230	+2 levels	460		460
Antibiotics	Goats	0.33	1903	0.00	0.05	230		230	min 300	300
Antibiotics	Heavy calves	0.26	2221	0.27	0.59	230		230	min 300	300
Antibiotics	Sheep	0.19	1913	0.10	0.00	230		230	min 300	300
Antibiotics	Roaster pigs	0.19	NT	NT	NT	230	+1 level	300	+1 level	460
Antibiotics	Non-formula	0.13	1994	0.50	0.60	90	+1 level	230	min 300	300
Antibiotics	Geese	0.04	113	0.00	0.00	90		90	NO ADJ	90
Antibiotics	Rabbits	0.03	647	2.63	27.05	90	+2 levels	300		300
TOTAL # SAMPLES						**7500**		**8380**		**8890**

Table 4.8 - *Continued*
Adjusted Number of Analyses for Each Veterinary Drug Compound/Production Class Pair, "Full Resource" Sampling
1999 FSIS NRP Monitoring Plan and Special Projects

DRUG CLASS	PRODUCTION CLASS	SCORE	# SAMP.	%VIOL.	%NVP	UNADJ. #	ADJUST-MENT	INITIAL ADJ.#	ADJUST-MENT	FINAL ADJ.#
Avermectins	Market hogs	158.79	1189	0.00	0.08	460		460		460
Avermectins	Steers	113.24	2069	0.05	0.05	460		460		460
Avermectins	Heifers	68.10	1333	0.00	0.08	460		460		460
Avermectins	Dairy cows	16.01	1682	0.18	0.24	300		300		300
Avermectins	Beef cows	13.35	1986	0.10	0.20	300		300		300
Avermectins	Sows	8.84	1204	0.00	0.42	300		300		300
Avermectins	Bulls	4.88	1233	0.16	1.46	300		300		300
Avermectins	Lambs	2.01	1084	0.00	0.18	230		230		230
Avermectins	Formula-fed	1.60	1704	0.18	1.53	230		230		230
Avermectins	Boars/Stags	1.41	1034	0.00	0.10	230		230		230
Avermectins	Horses	0.31	509	0.39	0.20	230		230		230
Avermectins	Goats	0.18	1652	0.67	0.06	90	+1 level	230		230
Avermectins	Heavy calves	0.14	1936	0.26	0.41	90		90		90
Avermectins	Sheep	0.11	1761	0.28	0.34	90		90		90
Avermectins	Roaster pigs	0.11	NT	NT	NT	90	+1 level	230		230
Avermectins	Non-formula	0.07	1281	0.39	0.86	90		90		90
Avermectins	Rabbits	0.02	NT	NT	NT	90	+1 level	230		230
TOTAL # SAMPLES						**4040**		**4460**		**4460**

Table 4.8 - *Continued*
Adjusted Number of Analyses for Each Veterinary Drug Compound/Production Class Pair, "Full Resource" Sampling
1999 FSIS NRP Monitoring Plan and Special Projects

DRUG CLASS	PRODUCTION CLASS	SCORE	# SAMP.	%VIOL.	%NVP	UNADJ. #	ADJUST-MENT	INITIAL ADJ.#	ADJUST-MENT	FINAL ADJ.#
Sulfonamides	Young chickens	505.00	2474	0.12	0.28	460		460		460
Sulfonamides	Market hogs	226.85	2314	0.52	0.61	460	+1 level	460		460
Sulfonamides	Steers	161.78	1643	0.18	0.00	460		460		460
Sulfonamides	Heifers	97.28	1622	0.00	0.43	460	-1 level	300		300
Sulfonamides	Young turkeys	90.95	2448	0.20	0.86	460		460		460
Sulfonamides	Egg products	39.94	NT	NT	NT	460	+1 level	460		460
Sulfonamides	Dairy cows	22.88	2282	0.31	0.09	300		300		300
Sulfonamides	Beef cows	19.07	2807	0.14	0.39	300		300		300
Sulfonamides	Sows	12.63	2721	0.85	0.59	300	+2 levels	460		460
Sulfonamides	Bulls	6.97	1752	0.06	0.40	300		300		300
Sulfonamides	Mature chickens	4.82	2108	0.00	0.19	300	-1 level	230		230
Sulfonamides	Lambs	2.87	1643	0.12	0.00	300		300		300
Sulfonamides	Formula-fed	2.28	2726	0.07	0.66	300		300		300
Sulfonamides	Ducks	2.10	1945	0.05	0.00	230		230		230
Sulfonamides	Boars/Stags	2.01	2337	0.77	1.33	230	+2 levels	460		460
Sulfonamides	Mature turkeys	0.69	1236	0.40	1.05	230		230		230
Sulfonamides	Bob calves	0.68	2868	0.84	0.45	230	+2 levels	460		460
Sulfonamides	Horses	0.44	737	0.54	0.00	230	+1 level	300		300
Sulfonamides	Goats	0.26	1737	0.40	0.00	230		230		230
Sulfonamides	Heavy calves	0.21	2098	0.19	0.62	230		230		230
Sulfonamides	Sheep	0.15	1340	0.00	0.00	90	-1 level	0		0
Sulfonamides	Roaster pigs	0.15	NT	NT	NT	90	+1 level	230		230
Sulfonamides	Non-formula	0.10	2015	0.55	1.04	90	+1 level	230		230
Sulfonamides	Geese	0.03	120	0.83	0.00	90	NO ADJ	90		90
Sulfonamides	Rabbits	0.02	646	0.00	0.15	90	-1 level	0		0
TOTAL # SAMPLES						**6920**		**7480**		**7480**

Table 4.8 - *Continued*
Adjusted Number of Analyses for Each Veterinary Drug Compound/Production Class Pair, "Full Resource" Sampling
1999 FSIS NRP Monitoring Plan and Special Projects

DRUG CLASS	PRODUCTION CLASS	SCORE	# SAMP.	%VIOL.	%NVP	UNADJ. #	ADJUST-MENT	INITIAL ADJ.#	ADJUST-MENT	FINAL ADJ.#
Arsenicals	Young chickens	284.06	2368	0.46	77.62	460		460		460
Arsenicals	Market hogs	127.60	1194	0.00	21.19	460		460	max 300	300
Arsenicals	Steers	91.00	172	0.00	1.16	460		460	max 300	300
Arsenicals	Heifers	54.72	173	0.00	2.31	460		460	max 300	300
Arsenicals	Young turkeys	51.16	1702	0.35	38.31	460		460	max 300	300
Arsenicals	Egg products	22.46	NT	NT	NT	300	+1 level	460	max 300	300
Arsenicals	Sows	7.10	933	0.00	28.62	300	-1 level	230		230
Arsenicals	Mature chickens	2.71	1127	0.00	32.03	300	-1 level	230		230
Arsenicals	Formula-fed	1.28	187	0.00	0.53	230		230		230
Arsenicals	Ducks	1.18	90	0.00	0.00	230		230		230
Arsenicals	Boars/Stags	1.13	774	0.00	26.87	230	-1 level	90		90
Arsenicals	Mature turkeys	0.39	445	0.00	40.00	230	-1 level	90		90
Arsenicals	Bob calves	0.39	140	0.00	0.71	230		230		230
Arsenicals	Goats	0.15	612	0.00	22.06	90	-1 level	0		0
Arsenicals	Roaster pigs	0.08	NT	NT	NT	90	+1 level	230		230
Arsenicals	Geese	0.02	NT	NT	NT	90	NO ADJ	90		90
TOTAL # SAMPLES						**4620**		**4410**		**3610**

Key:
#SAMP. = Total number of samples analyzed by the FSIS Monitoring Plan and/or Special Projects (i.e., random sampling only), 1/1/93 - 10/15/98;
%VIOL. = Percent violative, i.e., the percent of samples with residue concentrations exceeding the tolerance or action level (or, for a drug whose use was not permitted in the production class in which it was detected, the percent of samples with any detectable residue)
%NVP = Percent non-violative positive, i.e., the percent of samples in which the drug was detected at a level below the tolerance or action level
UNADJ. # = Unadjusted number of samples, obtained from last column of Table 4.7
INITIAL ADJ.# = Number of samples proposed following adjustment for historical violation rate information or lack of testing information
FINAL ADJ.# = Finalized sample numbers, obtained following any adjustments needed to match sample volume to laboratory capacity.
NT = Not Tested
+1 level, +2 levels, -1 level = There are four different sampling levels: 90, 230, 300 and 460. Sampling levels were increased or decreased (e.g., changed from 300 samples to 230 samples) based on the rules described in Section 4.
NO ADJ = As explained in Section 4, the number of samples taken from geese is limited to 90 per compound class per year, and thus this number could not be adjusted upward based on the rules applied to the other production class