Results: residues testing programmes - 2006

Results of the residues testing programmes for banned and veterinary medicines for 2006 are listed below.
Shellfish testing results for marine biotoxins are held by the Food Standards Agency, Northern Ireland.

National Surveillance Scheme 2006 results:

Milk
Eggs
Fish
Poultry
Cattle
Pigs
Sheep
Horses
Additional Testing
Bovine QA
Meat Inspection
Pigs Testing scheme
Surveys

2006 National Surveillance Scheme, Northern Ireland: Milk

Group of substances	Compounds	Species	Matrix	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A6	Chloramphenicol	Bovine	Milk	Not set	45	45		
A6	Nitroimidazoles	Bovine	Milk	Not set	45	45		
B1	Antimicrobial screen	Bovine	Milk	Various	90	90		
B1	Cephalosporins	Bovine	Milk	Various	50	50		
B1	Quinolones	Bovine	Milk	100	40	40		
B1	Sulphonamides	Bovine	Milk	100µg/l	25	25		
B2a	Avermectins	Bovine	Milk	Not set	42	42		
B2a	Benzimidazoles	Bovine	Milk	Various	11	11		
B2a	Levamisole	Bovine	Milk	Not set	10	10		
B2e	Phenylbutazone	Bovine	Milk	Not Set	27	27		
B2e	Flunixin	Bovine	Milk	40	9	9		
B3a	Organochlorines/ PCBs	Bovine	Milk	Not set	5	5		
B3b	Organophosphates	Bovine	Milk	Not set	4	4		
B3c	Cadmium/Lead	Bovine	Milk	20	6	6		
B3d	Aflatoxins	Bovine	Milk	0.05 (M1)	14	14		

2006 National Surveillance Scheme, Northern Ireland: Eggs

Group of substances	Compounds	Matrix	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A6	Chloramphenicol	Eggs	Not Set	8	8		
A6	Dimetridazole	Eggs	Not Set	18	18		
A6	Nitrofurans	Eggs	Not Set	8	8		
B1	Antimicrobial Screen	Eggs	Not Set	25	25		
	Tetracylines	Eggs	Not Set	8	8		
B2a	Benzimidazoles	Eggs (free range only)	400 flubendazole	2	2		
B2b	Nicarbazin	Eggs	Not Set	20	20		
B2b	Ionophores	Eggs	150 Lasalocid	18	18		
B2b	Ionophores	Eggs	150 Lasalocid	4	4		
B3a	Organochlorines/ PCBs	Eggs	Various Not set	4	4		

2006 National Surveillance Scheme, Northern Ireland: Fish

Group of substances	Compounds	Species	Matrix	MRL/MRPL µg/kg	Number analysed	Less than MRPL	Concentration detected above the MRPL (µg/kg)	Note
B3e	Malachite green	Trout	skin+muscle	2 µg/kg	5	5		
B3e	Malachite green	Salmon	skin+muscle	2 µg/kg	2	2		

2006 National Surveillance Scheme, Northern Ireland: Poultry

On farm

Group of substances	Compounds	Species	Matrix	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A5	ß-agonists	Broilers	Feed	Not set	21	21		
A6	Dimetridazole	Broilers	Feed	Not set	12	12		
A6	Dimetridazole	Turkeys	Feed	Not set	1	1		
A6	Nitrofurans	Broilers	Feed	Not set	17	17		
A6	Nitrofurans	Turkeys	Feed	Not set	1	1		

Slaughterhouse

Group of substances	Compounds	Species	Matrix	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A1	DES	Broilers	Liver/serum	Not set	17	17		
A1	DES	Turkeys	Liver/serum	Not set	1	1		
A3	Trenbolone	Broilers	Liver/serum	Not set	14	14		
A4	Zeranol	Broilers	Liver/serum	Not set	20	20		
A4	Zeranol	Turkeys	Liver/serum	Not set	2	2		
A5	ß-agonists	Broilers	Liver	Not set	47	47		
A5	ß-agonists	Turkeys	Liver	Not set	2	2		
A6	Chloramphenicol	Broilers	Muscle	Not Set	91	91		
A6	Chloramphenicol	Hens	Muscle	Not Set	1	1		
A6	Chloramphenicol	Turkeys	Muscle	Not Set	4	4		
A6	Dimetridazole	Broilers	Liver	Not Set	59	59		
A6	Dimetridazole	Hens	Liver	Not Set	1	1		
A6	Dimetridazole	Turkeys	Liver	Not Set	2	2		
A6	Nitrofurans	Broilers	Muscle	Not Set	95	95		
A6	Nitrofurans	Hens	Muscle	Not Set	1	1		
A6	Nitrofurans	Turkeys	Muscle	Not Set	3	3		
B1	Antimicrobial Screen	Broilers	Muscle	Various	118	118		
B1	Antimicrobial Screen	Turkeys	Muscle	Various	7	7		

Group of substances	Compounds	Species	Matrix	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
B1	Sulphonamides	Broilers	Muscle	100	34	34		
B1	Quinolones	Broilers	Muscle	Various	53	53		
B1	Quinolones	Turkeys	m	Various	2	2		
B2a	Benzimidazoles	Broilers	Liver	400*	13	11	13, 15	1
B2a	Benzimidazoles	Turkeys			1	1		
B2a	Levamisole	Broilers	Liver	100	12	12		
B2a	Levamisole	Turkeys			1	1		
B2b	Nicarbazin	Broilers	Muscle/Liver	Not Set	35	15	224	2
B2b	Ionophores	Broilers	Liver	Not Set	31	31		
B2b	Ionophores	Hens	Liver	Not Set	1	1		
B2b	Ionophores	Turkeys	Liver	Not Set	2	2		
B2c	Carbamates/Pyrethroids	Broilers	Liver	Not Set	7/8	7/8		
B2c	Carbamates/Pyrethroids	Turkeys	Liver	Not Set	1	1		
B3a	Organochlorines/PCBs	Broilers	Liver	Various	26	26		
B3a	Organochlorines/PCBs	Hens	Liver	Not set	1	1		
B3a	Organochlorines/PCBs	Turkeys	Liver	Not set	1	1		
B3c	Cadmium	Broilers	Liver	500	3	0		
	Lead				3	3		
B3c	Cadmium	Turkeys	Liver	500	1	1		
	Lead				1	1		
B3d	Aflatoxins	Broilers	Liver	Various	3	3		

Notes

1 Oxfendazole detected at low levels in two broiler livers, one of which was a standard flock and the other, free range

2 Nicarbazin detected in the liver of one sample above the MRL. The corresponding muscle sample contained 1.7ppb

2006 National Surveillance Scheme, Northern Ireland: Cattle

On farm

Group of Substances	Compounds	Matrix	Species	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A1	Stilbenes	Urine	Cattle (y.b.) Cows OTMS	Not set Not set	55 10	55 10		
A2	Thyrostats	Serum/Urine	Cattle (y.b.) Cows OTMS	Not set Not set	21 5	21 5		
A3	Trenbolone	Urine	Cattle (all) Cows OTMS	Not set Not set	49 11	49 11		
A3	Progesterone	Serum	Cattle (m)	Not set	26	26		
A3	Oestradiol	Serum	Cattle (m)	Not set	54	54		
A3	Testosterone	Serum	Cattle(f) Cows OTMS	Not set Not set	7 6	7 5	1.91	1
A3	Nortestosterone	Urine	Cattle (m)	Not set	57	56	5.75	2
A3	Gestagens	Serum	Cattle (y.b.) Cows OTMS	Not set Not set	40 13	40 13		
A3	Boldenone	Urine	Cattle (y.b.) Cows OTMS	Not set Not set	26 16	26 16		
A4	Zeranol	Urine	Cattle (y.b.) Cows OTMS	Not set Not set	23 5	22 5	3.6	3
A5	Beta agonists	Feed	Cattle (y.b.) Cows OTMS	Not set Not set	57 9	57 9		
A5	Beta agonists	Urine	Cattle (y.b.) Cows OTMS	Not set Not set	49 20	49 20		
A6	Chloramphenicol	Feed/Urine	Cattle(all) Cows OTMS	Not set Not set	15 24	15 24		
A6	Nitrofurans	Feed	Cattle(all) Cows OTMS	Not set Not set	24 2	24 2		

Slaughterhouse

Group of substances	Compounds	Species	Matrix	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A1	Stilbenes	Urine	Cattle (y.b) Cows OTMS	Not Set Not Set	27 4	27 4		
A2	Thyrostats	Urine	Cattle (y.b.) Cows OTMS	Not Set Not Set	23 3	23 3		
A3	Trenbolone	Urine	Cattle (all) Cows OTMS	Not set Not Set	50 13	50 13		
A3	Progesterone	Serum	Cattle (m)	Not set	25	22	0.64, 1.24, 2.13	4
A3	Oestradiol	Serum	Cattle (m)	Not set	38	38		
A3	Testosterone	Serum	Cattle(f) Cows OTMS	Not set Not Set	38 11	38 11		
A3	Nortestosterone	Urine	Cattle (all)	Not set	50	50		
A3	Gestagens	Kidney fat	Cattle (y.b.) Cows OTMS	Not set Not Set	43 8	43 8		
A3	Boldenone	Urine	Cattle (y.b) Cows OTMS	Not set Not Set	31 10	31 10		
A4	Zeranol	Urine	Cattle (y.b) Cows OTMS	Not Set Not Set	28 2	28 2		
A5	Beta agonists	Liver/retina	Cattle (y.b) Cows OTMS	Not Set Not Set	92 11	92 11		
A6	Chloramphenicol	Kidney	Cattle (y.b) Cows OTMS	Not set Not set	32 10	32 10		
A6	Dimetridazole	Kidney	Cattle (y.b)	Not set	16	16		
A6	Nitrofurans	Kidney	Cattle Cows OTMS	Not set Not set	28 3	28 3		
B1	Antibacterial substances	Kidney	Cattle Cows OTMS	Various Various	184 31	184 31		
B2a	Benzimidazoles	Liver	Cattle (all)	Various	50	50		
B2a	Avermectins	Liver	Cattle (all)	Various	50	50		
B2a	Levamisole	Liver	Cattle (all)	100	50	50		
B2c	Pyrethroids	Kidney fat	Cattle	Various	5	5		
B2d	Sedatives/ betablockers	Liver/kidney	Cattle	Not Set	5	5		
B2e	Carprofen vedaprofen	Kidney/Liver	Cattle Cows OTMS	Not set Not Set	29 9	29 9		

Group of substances	Compounds	Species	Matrix	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
B2e	Phenylbutazone	Plasma	Cattle Cows OTMS	Not set Not Set	32 11	31 11	1.25	5
B2e	Flunixin	Liver	Cattle	300	29	29		
B2f	Dexamethazone betamethazone	Liver/Urine	Cattle Cows OTMS	2 2	19 26	19 26		
B3a	Organochlorines PCBs	Kidney fat	Cattle	Various	13	13		
B3b	Organophos-phorus compounds	Kidney fat	Cattle Cows OTMS	Various Various	31 5	31 5		
B3c	Cadmium Lead	Kidney	Cattle	1000 500	6 6	2 4		
	Cadmium Lead	Muscle	Cattle		5 5			
	Cadmium Lead	Kidney	Cows OTMS	1000 500	7 7	3 7		
B3d	Aflatoxins	Liver	Cattle	Not set	8	8		

Notes

1 Testosterone detected in the serum of a cow above the action level.

2 α-Nortestosterone was detected in the urine of a female bovine above the agreed VMD action level of 5 µg/kg. Female ruminants can produce α-nortestosterone under normal physiological conditions.

3 Zeranol detected in the urine of one animal. The statistical model to determine whether or not zeranol abuse in cattle has occurred, developed at VSD, was applied to these results. It involves a linear regression analysis of the log10 of the (zeranol + taleranol) concentrations versus log10 of the Fusarium spp. toxin concentrations. Comparison is made to a "normal" population derived from the analysis of more than 8,000 field urine samples from 4 EU Member States (including Northern Ireland). The result of the statistical analysis suggests that zeranol abuse has not occurred and that it has arisen from metabolism of dietary Fusarium spp. toxins.

4 Progesterone in serum confirmed above the action level in three males.

5 Phenylbutazone confirmed in the plasma of one sample. No horses or horse medicines were found on the farm. No further action is proposed.

2006 National Surveillance Scheme, Northern Ireland: Pigs

On-farm

Group of Substances	Compounds	Matrix	Species	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A3	Methyltestosterone	Feed	Pigs	Not set	4	4		
A5	Beta agonists	Feed	Pigs	Not set	3	3		
A6	Nitofurans	Feed	Pigs	Not set	1	1		
A6	Dimetridazole	Feed	Pigs	Not set	2	2		
B2f	Carbadox Olaquindox	Feed	Pigs	Not set	14	14		

Slaughterhouse

Group of Substances	Compounds	Matrix	Species	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A1	Stilbenes	Urine	Pigs (all)	Not set	7	7		
A2	Thyrostats	Urine	Pigs (all)	Not set	8	8		
A3	Altrenogest	Kidney fat	Pigs (all)	Not set	8	8		
A3	Methyltestosterone	Urine	Pigs (all)	Not set	8	8		
A3	Trenbolone	Urine	Pigs (all)	Not set	8	8		
A4	Zeranol	Urine	Pigs (all)	Not set	16	16		
A5	Beta agonists	Liver	Pigs (all)	Not set	30	30		
A6	Chloramphenicol	Kidney	Pigs (all)	Not set	20	20		

Group of Substances	Compounds	Matrix	Species	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A6	Dimetridazole	Kidney	Pigs (all)	Not set	19	19		
A6	Nitrofuran metabolites	Kidney	Pigs (all)	Not set	26	26		
B1	Any antimicrobial agent	Kidney	Pigs(all)	Various	72	72		
B1	Sulphonamides	Kidney	Pigs(all)	100	72	72		
B2a	Benzimidazoles	Liver	Pigs	Various	16	16		
B2a	Avermectins	Liver	Pigs	Various	16	16		
B2b	Ionophores	Liver	Pigs	Not Set	9	9		
B2c	Pyrethroids	Kidney fat	Pigs	Not Set				
B2d Sedatives/ betablockers	Azaperone Azaperol Propopnyl Promazine Chlorpromazine	Liver/kidney	Pigs	100 (azaperone)	15	15		
	Carazolol	Liver	Pigs	25	15	15		
B2e NSAIDS	Carprofen Vedaprofen	Kidney/Liver	Pigs	Not Set	3	3		
B2f Glucocorticoids	Dexamethazone B-methazone	Liver/Urine	Pigs	2	4	4		
B2f	Carbadox as 2-QCA Olaquindox	Liver	Pigs	Not set	5	5		
B3a Organochlorines/ PCBs		Kidney fat	Pigs	Various	6	6		
B3b Organophos-phorus compounds		Kidney fat	Pigs	Various	13	13		
B3c Chemical elements	Cadmium	Kidney	Pigs	1000	1	0		
	Lead			500	1	1		
B3d Mycotoxins	Aflatoxins	Liver	Pigs	Not set	6	6		

2006 National Surveillance Scheme, Northern Ireland: Sheep

Slaughterhouse

Group of Substances	Compounds	Matrix	Species	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A1	DES, hexoestrol, dienoestrol	Urine	Sheep	Not set	2	2		
A3	Nortestosterone	Urine	Sheep	Not set	6	3	1.29, 1.35, 1.62	1
	Methyltestosterone	Urine	Sheep	Not set	3	3		
	Trenbolone	Urine	Sheep	Not set	6	6		
	Gestagens	Kidney fat	Sheep	Not set	3	3		
A4	Zeranol	Urine	Sheep	Not set	4	4		
A5	Beta agonists	Liver	Sheep	Not set	10	10		
A6	Chloramphenicol	Kidney	Sheep	0.3	5	5		
	Nitroimidazoles	Kidney	Sheep	Not set	3	3		
	Nitrofuran metabolites	Kidney	Lamb	1	8	8		
B1	Any antimicrobial agent	Kidney	Sheep	Various	85	85		
B1	Sulphonamides	Kidney	Sheep	100	4	4		
B2a	Benzimidazoles	Liver	Sheep	Various	20	20		
	Avermectins	Liver	Sheep	Various	18	18		
	Levamisole	Liver	Sheep	100	9	9		
B2b	Ionophores	Liver	Sheep	Not Set	11	11		
B2c	Pyrethroids	Kidney fat	Sheep	Not Set	21	21		
B2d	Sedatives/ betablockers	Liver/kidney	Sheep	Not Set	3	3		
B2e	NSAIDS	Kidney/Liver	Sheep	Not set	1	1		
B3a	OCs/PCBs	Kidney fat	Sheep	Various	5	5		
B3b	OPcompounds	Kidney fat	Sheep	Various	18	16		
B3c Chemical elements	Cadmium	Kidney	Sheep	1000	4	2		
	Lead			500	4	4		
	Cadmium	Muscle	Sheep	1000	3	3		

2006 National Surveillance Scheme, Northern Ireland: Sheep

Slaughterhouse

Group of Substances	Compounds	Matrix	Species	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
	Lead			500	3	3		
B3d	Aflatoxins	Liver	Sheep	Not set	2	2		

Notes

1 α-Nortestosterone detected in the urine of three animals. One was a male but the sex of the the remaining two was not given.

2006 National Surveillance Scheme, Northern Ireland: Horses

Slaughterhouse

Group of Substances	Compounds	Matrix	Species	MRL/MRPL/ Action Level µg/kg	Number analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/Action Level (µg/kg)	Note
A5	Beta agonists	Liver	Horses	Not set	3	3		
A6	Nitroimidazoles	Kidney	Horses	Not set	3	3		
B1	Any antimicrobial agent	Kidney	Horses	Various	3	3		
B2a	Benzimidazoles	Liver	Horses	Various	3	3		
	Avermectins	Liver	Horses	Various	3	3		
B2e	Phenylbutazone	Plasma	Horses	Not set	10	10		

2006 NSS - Additional Tests

Slaughterhouse

Matrix	Analyte	No of samples analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/ Action Level (µg/kg)	Notes
Cattle urine	Hormones (22)	257		***See below***	1
	Zeranol	227	225	Both due to dietary Fusarium spp. toxins	2
	Taleranol	227	223	Both due to dietary Fusarium spp. toxins	2
	Testosterone	257	250	Male 6.2, 6.6, 8.1, 10.3, 11.1, 33.5, 34.7	3
	Progesterone	257	255	10.4, 11.5	4
	α-Boldenone	216	215	1.0	5
	α-Nortestosterone	207	203	Male 0.45, 0.6, 0.63, 0.85,	6
Sheep urine	Hormones (22)	21		***See below***	1
	Zeranol	18	16	Due to dietary Fusarium spp. toxins	2
	Taleranol	18	16	Due to dietary Fusarium spp. toxins	2
	α-Boldenone	15	14	0.7	5
	α-Nortestosterone	21	19	0.55, 1.6	6
Pig urine	Hormones (22)	44	44		1

On farm

Matrix	Analyte	No of samples analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/ Action Level (µg/kg)	Notes
Cattle urine	Hormones	249		***See below***	1
	Zeranol	221	219	Due to dietary Fusarium spp. toxins	2
	Taleranol	221	219	Due to dietary Fusarium spp. toxins	2
	Testosterone	249	245	Male 6.7, 7.0, 8.2, 12.9	3
	Oestradiol	249	246	4.2, 5.1, 8.1	4
	α-boldenone	207	205	0.4, 1.2	5
	α-nortestosterone	192	183	Female >5 (2), 6.5, 6.7, 8.1, 9.9, 10.6, 29.6, Male 5.23	6

1	Samples are tested by an LC-MS/MS procedure which covers some 22 unauthorised hormonal growth promoters. The results below indicate the specific compounds detected.
2	Zeranol and or taleranol detections urine . The statistical model to determine whether or not zeranol abuse in cattle has occurred, developed at VSD, was applied to these results. It involves a linear regression analysis of the log10 of the (zeranol + taleranol) concentrations versus log10 of the Fusarium spp. toxin concentrations. Comparison is made to a "normal" population derived from the analysis of more than 8,000 field urine samples from 4 EU Member States (including Northern Ireland). The result of the statistical analysis suggests that zeranol abuse has not occurred and that it has arisen from metabolism of dietary Fusarium spp. toxins. No further action is indicated.
3	Testosterone detected in the urine of eleven males. A tentative Upper Limit of Normality has been established at 5.0 ppb in steer urine. Whilst concentrations above this level does not constitute proof of abuse, if the animals were castrated testosterone may have been administered. Wherever possible (subject to staff availability, resulting from pressures associated with nortestosterone) these were followed up on farm. No evidence of misuse was observed. No further action is indicated.
4	Progesterone detected in the urine of steers. During the year, a tentative Upper Limit of Normality was established at 8.4 ppb in steer urine. Whilst concentrations above this level does not constitute proof of abuse it does suggest that progesterone may have been administered. Follow-up samples were requested.
5	α-Boldenone detected below the EU action level.
6	Nortestosterone residues were found in 8 female and 5 male bovine urine samples and two sheep urine samples. Urine from eight female cattle contained α-nortestosterone above the VMD 5 µg/kg action level. All were from breeding cows and all were pregnant at the time of sampling. No evidence of abuse was detected in any of the follow-up investigations carried out on the male cattle and the sheep.

2006 Bovine QA Scheme

Matrix	Analyte	No of samples analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/ Action Level (µg/kg)	Notes
Cattle liver/retina SH	β-agonists	769	768	8.5	1
Cattle urine SH	Ractopamine	48	48	-	
Cattle urine SH	Hormones	202		***See below***	2
	Progesterone	202	201	9.6, 15.1, 17.6	3
	Oestradiol	202	201	5	4
	Testosterone	202	193	Male 5.6, 6.4, 9.4, 11.2, 17.1, 27.3, 28.7, 28.8, 36.5	5
	Zeranol	202	197	All due to dietary Fusarium spp. toxins	6
	Taleranol	202	197	All due to dietary Fusarium spp. toxins	6
	α-Nortestosterone	202	200	Male 0.56, 0.85	7
Cattle kidney SH	Antimicrobials	767	767	N/A Qualitative test	

Notes

1 Retina contained clenbuterol. Analysis of follow-up samples collected on-farm and from subsequent extensive targeted testing showed no evidence of abuse. No further action is indicated.

2 Samples are tested by an LC-MS/MS procedure which covers some 22 unauthorised hormonal growth promoters. The results below indicate the specific compounds detected.

3 Progesterone detected in the urine of a number of steers. During the year, a tentative Upper Limit of Normality was established at 8.4 ppb in steer urine. Whilst the finding of concentrations above this level (which happened in one case) does not constitute proof of abuse it does suggest thst progesterone may have been administered. Four urine samples were collected at follow-up, all negative. No further action is indicated.

4 Oestradiol detected in the urine of one steer. During the year, a tentative Upper Limit of Normality was established at 3.8 ppb in steer urine. Whilst concentrations above this level does not constitute proof of abuse it does suggest thst oestradiol may have been administered. As a result of the Nortestosterone emergency, it was not possible to follow-up this finding.

5 Testosterone detected in the urine of nine males. A tentative Upper Limit of Normality has been established at 5.0 ppb in steer urine. Whilst concentrations above this level does not constitute proof of abuse, if the animals were castrated testosterone may have been administered. Wherever possible (subject to staff availability, resulting from pressures associated with nortestosterone) these were followed up on farm. No evidence of misuse was observed. No further action is indicated.

6 Zeranol and or taleranol detections urine . The statistical model to determine whether or not zeranol abuse in cattle has occurred, developed at VSD, was applied to these results. It involves a linear regression analysis of the log10 of the (zeranol + taleranol) concentrations versus log10 of the Fusarium spp. toxin concentrations. Comparison is made to a "normal" population derived from the analysis of more than 8,000 field urine samples from 4 EU Member States (including Northern Ireland). The result of the statistical analysis suggests that zeranol abuse has not occurred and that it has arisen from metabolism of dietary Fusarium spp. toxins. No further action is indicated.

7 Nortestosterone residues were found in two male bovine urine samples. No evidence of abuse was detected in any of the follow-up investigations carried out on farms of origin.

2006 Meat Inspection

Slaughterhouse

Matrix	Analyte	No of samples analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/ Action Level (µg/kg)	Notes
Cattle retina SH	β-Agonists	639	638	3.8	1
Cattle liver SH	β-Agonists	1	1	-	
Cattle urine SH	Hormones	216		***See below***	2
Cattle urine SH (Male)	α-Nortestosterone	398	279	0.28, 0.34, 0.36, 0.38(2), 0.39(2), 0.42(2), 0.43, 0.46(2), 0.48, 0.49, 0.50, 0.53(2), 0.57, 0.59(2), 0.61, 0.62(3), 0.63(2), 0.69(2), 0.71, 0.72, 0.76(3)0.79, 0.80(3), 0.81(2), 0.82, 0.83, 0.84(3), 0.86, 0.89, 0.90(3), 0.91, 0.92(3), 0.94(2), 1.00(2), 1.02, 1.05, 1.10, 1.11, 1.15, 1.16, 1.20(4), 1.27(2), 1.33, 1.37, 1.42, 1.45, 1.48, 1.5, 1.51(2), 1.53(2), 1.66, 1.70, 1.71(2), 1.73, 1.77, 1.78, 1.83, 1.85, 1.88(2), 1.09, 1.96, 1.99, 2.01, 2.05, 2.12, 2.19, 2.21, 2.29, 2.30, 2.36, 2.44, 2.46, 2.52, 2.64, 2.75, 3.18, 3.26, 3.3, 3.32, 3.41, 3.78, 4.26, 4.32, 4.55, 4.79, 5.21, 6.20, 6.40, 6.62, 8.05, 8.28, 8.71, 17.22	3
	β-Nortestosterone	398	390	0.22(2), 0.26, 0.3, 0.5, 0.6, 0.8, 1.4	3
	Testosterone	216	211	5.2, 5.4, 6.5, 7.4, 14.6	4
	Progesterone	216	213	8.5, 9.8, 13.6	5
	Oestradiol	216	202	3.9, 6.1, 6.7, 6.8, 6.9, 7.1, 7.8, 8.3, 8.8, 9.7, 11.5, 12.6, 25.0, 38.6	6
Cattle urine SH (Female)	α-nortestosterone	8	3	5.4, 9.9, 13.0, 13.6, 22.8	7
Catle Injection Site SH	Hormone esters	26	26	-	
Cattle liver SH	Nitroxynil	1	1	-	
	Avermectins	8	8	-	
	Benzimidazoles	3	3	-	
	Levamisole	3	3	-	
	NSAIDS	1	1	-	
Cattle muscle SH	Antimicrobials	1728		N/A Qualitative test	
	Tetracyclines	14	9	122, 281, 697, 1772, 3363	8
	Sulphonamides	410	410		
Sheep muscle SH	Antimicrobials	9	8	N/A Qualitative test	
	Tetracyclines	1	0	362	8
Pig Muscle SH	Quinolones	1	0	117	9

Horse Kidney SH	Antimicrobials	1	1		
	Sulphonamides	1	1		
Cattle Kidney SH	Cadmium	2	0	1235, 2245	10
	Lead	2	2		
Cattle Muscle SH	Cadmium	2	2		
	Lead	2	2		

Notes

1	Retina contained clenbuterol. Carcase excluded from the food chain. Follow up samples collected.
2	Samples are tested by a LC-MS/MS procedure which covers some 22 unauthorised hormonal growth promoters. The results below indicate the specific compounds detected.
3	α-Nortestosterone was detected in the urine of 119 male bovines at meat plants. Eight of these animals also contained β-Nortestosterone. Of these 116 animals were casulties. Of the remaining three, one was emaciated with multiple abcesses, one was a TB reactor and one did not present with abnormal findings at slaughter. All carcases were excluded from the food chain.
4	Testosterone detected in the urine of males. A tentative Upper Limit of Normality has been established at 5.0 ppb in steer urine. Whilst concentrations above this level does not constitute proof of abuse, if the animals were castrated, testosterone may have been administered. Follow-up samples were requested.
5	Progesterone detected in the urine of steers. During the year, a tentative Upper Limit of Normality was established at 8.4 ppb in steer urine. Whilst concentrations above this level does not constitute proof of abuse it does suggest that progesterone may have been administered. Follow-up samples were requested.
6	Oestradiol detected in the urine of steers. During the year, a tentative Upper Limit of Normality was established at 3.8 ppb in steer urine. Whilst concentrations above this level does not constitute proof of abuse it does suggest thst oestradiol may have been administered. Follow-up samples were requested.
7	Urine samples collected from female cattle contained α-nortestosterone, above the VMD 5 µg/kg action level. All five samples were from breeding cows, where this compound can occur naturally.
8	Oxytetracycline detected above MRL. Carcases excluded from the food chain.
9	Marbofloxacin detected above MRL. Carcase excluded from the food chain.
10	Cadmium and lead tested in the kidney & muscle from two animals. The cadmium levels were above the action level in both kidney samples but none was detected in the muscle form the same animals.

Pigs Testing Scheme 2006

Phase 1

Matrix	Analyte	No of samples analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/ Action Level (µg/kg)	Notes
Pig kidney SH	Antimicrobials	1247		See below	
	Tetracyclines	72	70	1166, 1731	1
	Sulphonamides	1237	1235	156, 1436	2
	Quinolones	1	1	-	
	Chloramphenicol	410	410	-	

Notes

1 Chlortetracycline detected in two pig kidneys above the MRL (600 µg/kg). Producers placed on intensive sampling programme (Phase 2)

2 Sulphadiazine confirmed above the MRL (100 µg/kg) in two kidneys. Producers placed on intensive sampling programme (Phase 2)

Phase 2

Matrix	Analyte	No of samples analysed	Less than MRL/MRPL/ Action Level	Concentration detected above the MRL/MRPL/ Action Level (µg/kg)	Notes
Pig muscle SH	AMs	60	60		
	Sulphonamides	60	60		

2006: Surveys

Matrix	Analyte	No of samples analysed	Less than MRL/Action Level	Concentration detected above the MRL/Action Level (µg/kg)	Notes
Poultry Liver SH	Nicarbazin	197	21	213, 218, 235, 275, 279, 282, 296, 324, 326, 394, 421, 423, 542, 558, 661, 877, 1270, 1271, 1408, 1577, 1722	1
Horse Plasma SH	Phenylbutazone	63	58	0.9, 1.2, 4.6, 4.7, 5.1	2

Notes

1 Nicarbazin confirmed in the livers of 21 broilers >JEFCA MRL (200 µg/kg). Follow-up action taken.

2 Phenylbutazone was detected in the plasma from five horse carcases slaughtered for export to Belgium & France. RASFF's were issued.