Results: residues testing programmes - 2005

Results of the residues testing programmes for banned and veterinary medicines for 2005 are listed below. Shellfish testing results for marine biotoxins are held by the Food Standards Agency, Northern Ireland.

National Surveillance Scheme 2005 results:

- Cattle
- Pigs
- Sheep
- Horses
- Poultry
- Eggs
- Milk
- Fish
- Additional Testing
- Bovine QA
- Meat Inspection Scheme
- Pigs scheme phases 1 and 2
- Short term targeted surveys
- Follow-up sampling to non-compliant results

National Surveillance Scheme Northern Ireland - 2005 - Cattle Results

SAMPLING PLAN	Production forecast (nos)	% sampled	Group A substances	Group B substances
Cattle	395,500	0.40%	0.25% (0.125% on farm)	0.15%

Group A = hormones and banned substances. Group B = veterinary medicines and contaminants
See Council Directive 96/23/EC for information on the allocation of samples to subgroups

On Farm

Group	Species	Material to be analysed	Substances	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A1	Cattle (y.b.)	Urine	Stilbenes	26	23	0.5	23	-	-	
A2	Cattle (y.b.)	Serum	Thyrostats	26	25	40	25	-	-	
A3	Cattle (all)	Urine	Trenbolone	51	49	0.6	49	-	-	
A3	Cattle (m)	Serum	Progesterone	26	23	0.35	23	-	-	
A3	Cattle (m)	Serum	Oestradiol	40	38	0.02	38	-	-	
A3	Cattle(f)	Serum	Testosterone	41	41	0.4	41	-	-	
A3	Cattle (all)	Urine	Nortestosterone	50	48	0.5	46	1.3, < 5.0	-	1
A3	Cattle (y.b.)	Serum	Gestagens	40	39	Various	39	-	-	
A4	Cattle (y.b.)	Urine	Zeranol	26	29	0.2	29	-	-	
A5	Cattle (y.b.)	Feed	Beta agonists	36	65	10-20	65	-	-	
A5	Cattle (y.b.)	Urine	Beta agonists	36	55	0.4-10	55	-	-	
A6	Cattle(all)	Feed/Urine	Chloramphenicol	59	53	0.3	53	-	-	
A6	Cattle(all)	Feed	Nitrofurans	59	60	10	60	-	-	

Slaughterhouse

Group	Species	Material to be analysed	Substances	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A1	Cattle (y.b)	Urine	Stilbenes	26	30	0.5	30	-	-	
A2	Cattle (y.b.)	Thyroid	Thyrostats	26	26	5	26	-	-	
A3	Cattle (all)	Urine	Trenbolone	48	52	0.6	52	-	-	
A3	Cattle (m)	Serum	Progesterone	26	18	0.35	17	-	**1.1**	2
A3	Cattle (m)	Serum	Oestradiol	36	35	0.02	35	-	-	
A3	Cattle(f)	Serum	Testosterone	38	33	0.4	33	-	-	
A3	Cattle (all)	Urine	Nortestosterone	46	48	0.5	48	-	-	
A3	Cattle (y.b.)	Kidney fat	Gestagens	36	38	Various	38	-	-	
A4	Cattle (y.b)	Urine	Zeranol	31	31	0.2	31	-	-	
A5	Cattle (y.b)	Liver/retina	Beta agonists	115	119	0.2-5	119	-	-	
A6	Cattle(all)	Kidney	Chloramphenicol	31	32	0.15	32	-	-	
A6	Cattle (y.b)	Kidney	Dimetridazole	16	17	5	17	-	-	
A6	Cattle	Kidney	Nitrofurans	28	29	0.3-1	29	-	-	
B1	Cattle	Kidney	Antimicrobial Screen	212	212	Various	212	-	-	
B1	Cattle	Kidney	Sulphonamides	30	30	75	30	-	-	
B2a	Cattle (all)	Liver	Benzimidazoles	56	55	50-300	55	-	-	
B2a	Cattle (all)	Liver	Avermectins	56	57	15-100	57	-	-	
B2a	Cattle (all)	Liver	Levamisole	56	57	50	57	-	-	
B2c	Cattle	Liver	Pyrethroids	5	5	100	5	-	-	
B2d	Cattle	Liver/kidney	Sedatives/ betablockers	8	8	20	8	-	-	
B2e	Cattle	Kidney/Liver	Carprofen/Vedaprofen	13	14	500	14	-	-	
B2e	Cattle	Plasma	Phenylbutazone	24	23	0.5	23	-	-	
B2e	Cattle	Liver	Flunixin	20	31	300	31	-	-	
B2f	Cattle	Liver/Urine	Dexamethasone Betamethasone	17	19	0.5	19	-	-	

Group	Species	Material to be analysed	Substances	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
B3a	Cattle	Kidney fat	OCs/PCBs	13	13	10/10	13	-	-	
B3b	Cattle	Kidney fat	Organophosphorus	31	29	50	29	-	-	
B3c	Cattle	Kidney	Lead	9	8	70	6	90, 90	-	
B3c	Cattle	Kidney	Cadmium	9	8	10	0	132, 162, 224, 124, 178, 180, 129, 442	-	
B3c	Cattle	Muscle	Lead	9	7	70	7	-	-	
B3c	Cattle	Muscle	Cadmium	9	7	10	7	-	-	
B3d	Cattle	Liver	Aflatoxins	9	7	5	7	-	-	

NOTES:

1	α-nortestosterone was detected in the urine of 2 female bovines. In both samples the concentration was below the agreed VMD action level of 5 µg/kg for female cattle. Female ruminants can produce α-nortestosterone under normal physiological conditions.
2	Progesterone in serum was confrimed at 1.1 µg/kg. The sample was collected from a steer imported from ROI, which was notified and investigated the farm of origin, and reported that additonal samples tested negative

KEY:

LOQ	Limit of quantification
MRL	Maximum residue limit (see explanatory text)
MRPL	Minimum required performance limit (see explanatory text)
gestagens	Medroxy progesterone acetate Chlormadinone acetate, Megestrol acetate, Melengestrol acetate, Flurogesterone acetate.
pyrethroids	Tetramethrin cis & trans; Lambda-cyhalothrin; Permethrin cis & trans; Cyfluthrin cis & trans; Cypermethrin cis & trans; Fenvalerate 1 & 2; Deltamethrin; Resmethrin.
OCs/PCBs	Organochlorines, polychlorinated biphenyls

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National Surveillance Scheme Northern Ireland - 2005 - Pig Results

SAMPLING PLAN	Production forecast (nos)	% sampled	Group A substances	Group B substances
Pigs	931,000	0.05%	0.02% (1 on farm per 100,000slaughtered)	0.03%

Group A = hormones and banned substances. Group B = veterinary medicines and contaminants
See Council Directive 96/23/EC for information on the allocation of samples to subgroups

On Farm

Group	Species	Material to be analysed	Substances	Planned Samples	Number analysed	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A3	Pigs	Feed	Methyltestosterone	3	3	3	-	-	
A5	Pigs	Feed	Beta agonists	4	4	4	-	-	
A6	Pigs	Feed	Nitofurans	1	1	1	-	-	
A6	Pigs	Feed	Dimetridazole	2	2	2	-	-	
A6	Pigs	Feed	Carbadox Olaquindox	23	20	20	-	-	

Slaughterhouse

Group	Species	Material to be analysed	Substances	Planned Samples	Number analysed	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A1	Pigs (all)	Urine	Stilbenes	9	10	10	-	-	
A2	Pigs (all)	Thyroid	Thyrostats	9	10	10	-	-	
A3	Pigs (all)	Kidney fat	Altrenogest	9	10	10	-	-	
A3	Pigs (all)	Urine	Methyltestosterone	9	9	9	-	-	
A3	Pigs (all)	Urine	Trenbolone	9	9	9	-	-	
A4	Pigs (all)	Urine	Zeranol	19	18	18	-	-	
A5	Pigs (all)	Liver	Beta agonists	42	41	41	-	-	
A6	Pigs (all)	Kidney	Chloramphenicol	24	24	24	-	-	
A6	Pigs (all)	Kidney	Dimetridazole	24	23	23	-	-	
A6	Pigs (all)	Kidney	Nitrofurans	30	30	30	-	-	
B1	Pigs(all)	Kidney	Antimicrobial screen	81	81	81	-	-	
B1	Pigs(all)	Kidney	Sulphonamides	81	81	81	-	-	
B2a	Pigs	Liver	Benzimidazoles	20	20	20	-	-	
B2a	Pigs	Liver	Avermectins	20	20	20	-	-	
B2b	Pigs	Liver	Ionophores	11	11	11	-	-	
B2c	Pigs	Liver	Pyrethroids	7	7	7	-	-	
B2d	Pigs	Kkidney	Sedatives/ betablockers	19	18	18	-	-	
B2d	Pigs	Liver	Carazolol	19	18	18	-	-	
B2e	Pigs	Liver	Carprofen/Vedaprofen	3	3	3	-	-	
B2f	Pigs	Liver/Urine	Dexamethasone/B-methasone	4	3	3	-	-	
B3a	Pigs	Kidney fat	OCs/PCBs	5	4	4	-	-	
B3b	Pigs	Kidney fat	Organophosphorus	12	12	12	-	-	
B3c	Pigs	Kidney	Lead	1	1	1	-	-	
B3c	Pigs	Muscle	Lead	1	1	1	-		
B3c	Pigs	Kidney	Cadmium	1	1	0	328	-	1

Group	Species	Material to be analysed	Substances	Planned Samples	Number analysed	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
B3c	Pigs	Muscle	Cadmium	1	1	1	44	-	1
B3d	Pigs	Liver	Aflatoxins	5	3	3	-	-	
B3f	Pigs	Liver	Carbadox as QCA Olaquindox as MeQCA	45	45	45	-	-	

Notes:

1 The cadmium results are from the same animal but different tissues.

Key:

LOQ	Limit of quantification
MRL	Maximum residue limit (see explanatory text)
MRPL	Minimum required performance limit (see explanatory text)
gestagens	Medroxy progesterone acetate Chlormadinone acetate, Megestrol acetate, Melengestrol acetate, Flurogesterone acetate.
pyrethroids	Tetramethrin cis & trans; Lambda-cyhalothrin; Permethrin cis & trans; Cyfluthrin cis & trans; Cypermethrin cis & trans; Fenvalerate 1 & 2; Deltamethrin; Resmethrin.
OCs/PCBs	Organochlorines, polychlorinated biphenyls

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National Surveillance Scheme Northern Ireland - 2005 - Sheep Results

SAMPLING PLAN	Production forecast (nos)	% sampled	Group A substances	Group B substances
Sheep & goats	498,000	0.05%	0.01%	0.04%

Group A = hormones and banned substances. Group B = veterinary medicines and contaminants
See Council Directive 96/23/EC for information on the allocation of samples to subgroups

Group	Species	Material to be analysed	Substances	Planned Samples	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A1	Sheep	Urine	Stilbenes	2	1	0.5	1			
A2	Sheep	Thyroid	Thyrostats	2	1	5	1			
A3	Sheep	Urine	Nortestosterone	6	5	0.5	5			
A3	Sheep	Urine	Methyltestosterone	3	3	0.5	3			
A3	Sheep	Urine	Trenbolone	6	7	0.6	7			
A3	Sheep	Kidney fat	Gestagens	3	3	Various	3			
A4	Sheep	Urine	Zeranol	3	3	0.2	3			
A5	Sheep	Liver	Beta agonists	10	13	0.2-5	13			
A6	Sheep	Kidney	Chloramphenicol	10	10	0.15	10			
A6	Sheep	Kidney	Dimetridazole	10	10	5	10	-	-	
A6	Sheep	Kidney	Nitrofurans	10	10	0.3-1	10	-	-	
B1	Sheep	Kidney	Antimicrobial Screen	87	87	Various	87	-	-	
B1	Sheep	Kidney	Sulphonamides	4	4	75	4	-	-	
B2a	Sheep	Liver	Benzimidazoles	19	20	50-300	20	-	-	
B2a	Sheep	Liver	Avermectins	19	19	15-100	19	-	-	
B2a	Sheep	Liver	Levamisole	9	8	50	8	-	-	
B2b	Sheep	Liver	Ionophores	11	11	20	11	-	-	
B2c	Sheep	Liver	Pyrethroids	18	19	100	19	-	-	
B2d	Sheep	Kidney	Sedatives/ betablockers	3	5	20	5	-	-	

Group	Species	Material to be analysed	Substances	Planned Samples	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
B2e	Sheep	Liver	Carprofen/vedaprofen	2	2	500	2	-	-	
B2f	Sheep	Urine	Dexamethasone/ Betamethasone	3	3	0.5	3	-	-	
B3a	Sheep	Kidney fat	OCs/PCBs	4	4	10/10	4	-	-	
B3b	Sheep	Kidney fat	Organophosphorus	18	19	50	17	144, 106, 107, 144,	-	
B3c	Sheep	Kidney	Lead	2	3	70	1	150	-	
B3c	Sheep	Kidney	Cadmium	2	3	10	2	20, 19	-	
B3c	Sheep	Muscle	Cadmium		3	10	2	47	-	
B3c	Sheep	Muscle	Lead		3	70	3	-	-	
B3d	Sheep	Liver	Aflatoxins	2	0			-	-	

KEY:

LOQ	Limit of quantification
MRL	Maximum residue limit (see explanatory text)
MRPL	Minimum required performance limit (see explanatory text)
gestagens	Medroxy progesterone acetate Chlormadinone acetate, Megestrol acetate, Melengestrol acetate, Flurogesterone acetate.
pyrethroids	Tetramethrin cis & trans; Lambda-cyhalothrin; Permethrin cis & trans; Cyfluthrin cis & trans; Cypermethrin cis & trans; Fenvalerate 1 & 2; Deltamethrin; Resmethrin.
OCs/PCBs	Organochlorines, polychlorinated biphenyls

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National Surveillance Scheme Northern Ireland - 2005 - Horse Results

Group	Species	Material to be analysed	Substances	Plan Samples	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A5	Horses	Liver	Beta agonists	3	0			-	-	
A6	Horses	Kidney	Dimetridazole	3	0			-	-	
B1	Horses	Kidney	Antimicrobial Screen	3	0			-	-	
B2a	Horses	Liver	Benzimendazoles	3	0			-	-	
B2a	Horses	Liver	Avermectins	3	0			-	-	
B2a	Horses	Liver	Levamisole	3	0			-	-	
B2e	Horses	Plasma	Phenylbutazone	10	21	0.5	21	-	-	

KEY:
LOQ Limit of quantification

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National Surveillance Scheme Northern Ireland - 2005 - Poultry Results

SAMPLING PLAN	Broilers	Spent hens	Turkeys
Production forecast (tonnes)	124,000	700	8,100

1 sample per 200 tonnes of production, with a minimum of 200 samples.
50% are allocated to Group A (hormones and banned substances), of which 20% are taken on farm.
50% are allocated to Group B (veterinary medicines and contaminants)
See Council Directive 96/23/EC for information on the allocation of samples to subgroups of substances

On Farm

Group of substances	Species	Material	Substances	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A5	Broilers	Feed	Beta-agonists	21	19	10-20	19			
A5	Turkeys	Feed	Beta-agonists	5	2	10-20	2			
A6	Broilers	Feed	Dimetridazole	21	24	20	24			
A6	Turkeys	Feed	Dimetridazole	5	1	20	1			
A6	Broilers	Feed	Nitrofurans	30	25	10	25			
A6	Turkeys	Feed	Nitrofurans	5	4	10	4			

KEY:

LOQ	Limit of quantification
MRL	Maximum residue limit (see explanatory text)
MRPL	Minimum required performance limit (see explanatory text)
gestagens	Medroxy progesterone acetate Chlormadinone acetate, Megestrol acetate, Melengestrol acetate, Flurogesterone acetate.
pyrethroids	Tetramethrin cis & trans; Lambda-cyhalothrin; Permethrin cis & trans; Cyfluthrin cis & trans; Cypermethrin cis & trans; Fenvalerate 1 & 2; Deltamethrin; Resmethrin.
OCs/PCBs	Organochlorines, polychlorinated biphenyls

Slaughterhouse

Group of substances	Species	Material	Substances	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A1	Broilers	Liver/serum	Stilbenes	16	16	0.5	16	-	-	
A1	Turkeys	Liver/serum	Stilbenes	1	1	0.5	1	-	-	
A3	Broilers	Liver/serum	Trenbolone	16	16	0.6	16	-	-	
A3	Turkeys	Liver/serum	Trenbolone	1	1	0.6	1	-	-	
A4	Broilers	Liver/serum	Zeranol	16	18	0.2	18	-	-	
A4	Turkeys	Liver/serum	Zeranol	3	1	0.2	1	-	-	
A5	Broilers	Liver	B-agonists	45	47	0.2-5	47	-	-	
A5	Turkeys	Liver	B-agonists	3	2	0.2-5	2	-	-	
A6	Broilers	Muscle	Chloramphenicol	100	100	0.15	100	-	-	
A6	Turkeys	Muscle	Chloramphenicol	5	3	0.15	3	-	-	
A6	Broilers	Liver	Dimetridazole	75	77	5	77	-	-	
A6	Turkeys	Liver	Dimetridazole	4	2	5	2	-	-	
A6	Broilers	Muscle	Nitrofurans	100	100	0.3-1	100	-	-	3

Group of substances	Species	Material	Substances	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A6	Turkeys	Muscle	Nitrofurans	5	4	0.3-1	4	-	-	
B1	Broilers	Muscle	Antimicrobial Screen	107	112	Various	112	-	-	
B1	Turkeys	Muscle	Antimicrobial Screen	10	6	Various	6	-	-	
B1	Broilers	Muscle	Sulphonamides	30	35	75	35	-	-	
B1	Turkeys	Muscle	Sulphonamides	5	2	75	2	-	-	
B1	Broilers	Muscle	Quinolones	49	53	10	53	-	-	
B1	Turkeys	Muscle	Quinolones	5	5	10	5	-	-	
B2a	Broilers	Liver	Benzimidazoles	13	13	50-300	13	-	-	
B2a	Turkeys	Liver	Benzimidazoles	1	1	50-30	1	-	-	
B2a	Broilers	Liver	Levamisole	13	16	50	16	-	-	
B2a	Turkeys	Liver	Levamisole	1	1	50	1	-	-	
B2b	Broilers	Liver/muscle	Nicarbazin	30	29	100	17	11, 18, 19, 21, 32, 38, 53, 85, 166, 193	**301, 2472.5**	1
B2b	Broilers	Liver	Ionophores	30	32	20	31	2.3	-	2
B2b	Turkeys	Liver	Ionophores	2	1	20	1	-	-	
B2c	Broilers	Liver	Carbamates Pyrethroids	7	8	50/100	8	-	-	
B2c	Turkeys	Liver	Carbamates Pyrethroids	5	5	50/100	5	-	-	
B3a	Broilers	Liver	OC/PCBs	14	15	10	15	-	-	
B3a	Turkeys	Liver	OC/PCBs	1	1	10	1	-	-	
B3d	Broilers	Liver	Aflatoxins	14	13	5	13	-	-	

Group of substances	Species	Material	Substances	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
B3d	Turkeys	Liver	Aflatoxins	1	1	5	1	-	-	
B3c	Broilers	Liver	Lead	3	3	70	3	55,51,14	-	
B3c	Broilers	Liver	Cadmium	3	3	10	0	-	-	
B3c	Turkeys	Liver	Lead	1	1	70	1	529	-	
B3c	Turkeys	Liver	Cadmium	1	1	10	0	-	-	

Notes

1	Two broiler livers contained nicarbazin in excess of the JEFCA MRL of 200 µg/kg. Muscle was available for the liver at 2472.5 µg/kg The concentration in the muscle sample at 116 µg/kg was below the JEFCA MRL. The other muscle sample was not available for analysis.
2	Monensin was detected at 2.3 µg/kg in the liver of a broiler sample. There is no MRL set yet for monensin. However, the feed additives advisory panel (FEEDAP) of the EFSA has proposed a provisional MRL of 50 µg/kg for monensin.
3	A muscle sample taken for nitrofuran analysis was inadvertently scheduled for nitroimidazole analysis. See A-NSS table, note 10.

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National Surveillance Scheme Northern Ireland - 2005 - Egg Results

SAMPLING PLAN **Production forecast** 48,717 tonnes

1 sample per 1,000 tonnes; including samples from free range, battery and perchery barn production systems

See Council Directive 96/23/EC for information on the allocation of samples to subgroups of substances

Group of substances	Material to be analysed	Substances	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A6	Eggs	Chloramphenicol	9	9	0.15	9	-	-	
A6	Eggs	Dimetridazole	17	17	5	17	-	-	
A6	Eggs	Nitrofurans	9	10	<1	10	-	-	
B1	Eggs	Antimicrobial Screen	26	26	Various	26	-	-	
B1	Eggs	Tetracylines	9	9	50	9	-	-	
B2a	Eggs (free range only)	Benzimidazoles	2	2	25	2	-	-	
B2b	Eggs	Nicarbazin	21	21	50	20	-	**182**	1
B2b	Eggs	Ionophores	24	24	20	24	-	-	
B2c	Eggs	Pyrethroids	2	0		0	-	-	
B3a	Eggs	OCs/PCBs	4	4	10	4	-	-	

Notes

1	One egg sample contained nicarbazin at 182 µg/kg. There is no MRL for nicarbazin in eggs and the concentration exceeded the VRC Differential Action Level of 100 µg/kg. Additional samples were taken and tested negative.

KEY:

LOQ	Limit of quantification
MRL	Maximum residue limit (see explanatory text)
MRPL	Minimum required performance limit (see explanatory text)
gestagens	Medroxy progesterone acetate Chlormadinone acetate, Megestrol acetate, Melengestrol acetate, Flurogesterone acetate.
pyrethroids	Tetramethrin cis & trans; Lambda-cyhalothrin; Permethrin cis & trans; Cyfluthrin cis & trans; Cypermethrin cis & trans; Fenvalerate 1 & 2; Deltamethrin; Resmethrin.
OCs/PCBs	Organochlorines, polychlorinated biphenyls

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National Surveillance Scheme Northern Ireland - 2005 - Milk Results

SAMPLING PLAN **Production forecast** 1,791,000 Litres

1 sample per 15,000 tonnes

See Council Directive 96/23/EC for information on the allocation of samples to subgroups of substances

Group	Compounds	Material	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A6	Chloramphenicol	Milk	44	44	0.15	44	-	-	
A6	Dimetridazole	Milk	44	44	5	44	-	-	
B1	Antimicrobial screen	Milk	88	87	Various	87	-	-	
B1	Cephalosporins	Milk	50	50	Various	50	-	-	
B1	Quinolones	Milk	38	38	15-38	38	-	-	
B1	Sulphonamides	Milk	25	29	Various	29	-	-	
B2a	Avermectins	Milk	41	41	20-40	41	-	-	
B2a	Benzimidazoles	Milk	10	10	Various	10	-	-	
B2a	Levamisole	Milk	10	10	1	10	-	-	
B2e	Phenylbutazone	Milk	27	27	50	27	-	-	
B2e	Flunixin	Milk	9	6	100	6	-	-	
B3a	OCs/PCBs	Milk	5	4	0.4	4	-	-	
B3b	Organophosphates	Milk	4	4	1	4	-	-	
B3c	Lead	Milk	5	6	20	6	-	-	
B3c	Cadmium	Milk	5	6	4	6	-	-	
B3d	Aflatoxins	Milk	13	8	25	8	-	-	

KEY:
LOQ Limit of quantification
MRL Maximum residue limit (see explanatory text)
MRPL Minimum required performance limit (see explanatory text)
OCs/PCBs Organochlorines, polychlorinated biphenyls

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Natonal Surveillance Scheme Northern Ireland - 2005 - Fish Results

SAMPLING PLAN **Production forecast** 1,125 tonnes trout

1 sample per 100 tonnes of production

See Council Directive 96/23/EC for information on the allocation of samples to subgroups of substances

Group	Species	Material to be analysed	Substances	Planned Numbers	Number analysed	LOQ (µg/kg)	Number Less than LOQ	Concentration detected where samples were below the MRL/MRPL/Action Level (µg/kg)	Concentration detected where samples were above the MRL/MRPL/Action Level (µg/kg)	Note
A6	Salmon	skin+muscle	Chloramphenicol	0	0	0.3		-	-	
A6	Trout	skin+muscle	Chloramphenicol	5	4	0.3	4	-	-	
A6	Trout	skin+muscle	Dimetridazole	5	4	5	4	-	-	
A6	Salmon	skin +muscle	Nitrofurans	1	1	0.3-1	1	-	-	
A6	Trout	skin +muscle	Nitrofurans	5	5	0.3-1	5	-	-	
B3e	Salmon	skin+muscle	Malachite green	5	5	2	5	-	-	
B3e	Trout	skin+muscle	Malachite green	7	7	2	7	-	-	

KEY:

LOQ	Limit of quantification
MRL	Maximum residue limit (see explanatory text)
MRPL	Minimum required performance limit (see explanatory text)

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Additional testing of National Surveillance Scheme samples Northern Ireland - 2005

Random sampling scheme; animals or carcases not detained

	Analyte	No of samples analysed	Less than MRL/Action Level	Concentration detected above the MRL/Action Level (µg/kg)	Notes
Cattle urine SH	Hormones (22)	175			1
	Stilbenes	127	127	-	
	Zeranol	144	143	**0.6**	3
	Taleranol	175	173	**1.1, 1.6**	4
	Trenbolone	123	123	-	
	Progesterone	175	173	**5.8, 19.5**	2
	α-Boldenone	175	173	**-**	
	α-Nortestosterone	127	126	**<5 (female)**	5
Cattle urine OF	Hormones	142			1
	Stilbenes	116	116	-	
	Zeranol	113	108	**0.5, 0.7, 1.2(2), 1.5**	3
	Taleranol	142	134	**1.1, 1.4,(3) 1.6, 2.8, 3.4, 3.9**	4
	Trenbolone	93	93	-	
	α-Nortestosterone	96	95	**4.1 (female)**	5
	α-Boldenone	142	142		
Sheep urine SH	Hormones (22)	20			1
	Stilbenes	19	19	-	
	Zeranol	17	17	**0.5**	3
	Taleranol	20	20	-	
	Trenbolone	13	13	-	

	α-Boldenone	20	17	**1.3 free & 4.6 conjugated 1.7 free & 3.6 conjugated, 0 free & 4.4 conjugated**	6
	α-Nortestosterone	15	12	**0.9, 1.5, 3.8**	7
Pig urine SH	Hormones (22)	47			1
	Stilbenes	37	37	-	
	β-Nortestosterone	47	3	Levels not quantified	8
	β-Boldenone	47	13	Levels not quantified	9
	Metyl-testosterone	38	38	-	
	Trenbolone	38	38	-	
	Zeranol	29	29		
Chicken muscle	Nitroimidazoles	1	0	**metronidazole 3.7 µg/kg.**	10

Key:

SH	Slaughterhouse
OF	On farm

Notes:

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	Progesterone was detected in the urine of steers. During the year, a tentative Upper Limit of Normality was established at 4.2 ppb in steer urine. Whilst concentrations above this level does not constitute proof of abuse it does suggest thst progesterone may have been administered. Follow-up samples were requested.
3	Zeranol was detected in 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 $\log_{10}$ of the (zeranol + taleranol) concentrations versus $\log_{10}$ 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	Taleranol was detected in urine. The statistical model to determine whether or not zeranol & taleranol abuse in cattle has occurred, developed at VSD, was applied to these results. It involves a linear regression analysis of the $\log_{10}$ of the (zeranol + taleranol) concentrations versus $\log_{10}$ 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
5	α-Nortestosterone was detected in 2 female cattle below the VMD agreed threshold of 5 µg/kg for female cattle.
6	Free & conjugated α-boldenone but not β-boldenone was detected in 3 sheep from different holdings, one of which also contained α-nortestosterone (see note 7 below). In the absence of EU guidelines relating to sheep, these results were treated as suspicious. The three farms were visited and no evidence of abuse was found. Additional samples were taken at two of these farms, but were insufficient to test from one of these. One out of the four samples taken at the other farm also contained this hormone. Further work to detemine the natural occurrence or otherwise of boldenone in sheep is indicated.
7	α-Nortestosterone was detected in three sheep (sex unknown). The levels were below the agreed action level (5 µg/kg) for females . One of these samples also contained α-boldenone (see note 6 above).
8	ß-Nortestosterone occurs naturally in the male pig. Forty porcine urine samples were found to contain b-nortestosterone.
9	Reports form the CRL/NRL network suggest that b-boldenone can occur naturaly in the male pig. Eight porcine urine samples were found to contain b-boldenone.
10	Metronidazole was detected at 3.7 µg/kg in a chicken muscle sample taken for nitrofuran analysis. This banned drug has never been licensed in the UK for use in food-producing animals. Positive release sampling at the farm site of origin was agreed whereby the flocks and retained feed samples were sampled and tested before further birds were processed. Carcases at the abattoir were also sampled. All tested negative

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Bovine QA sampling scheme Northern Ireland - 2005

Random sampling scheme, carcases not detained

Matrix	Analyte	No of samples analysed	Less than MRL/Action Level	Concentration detected above the MRL/Action Level (µg/kg)	Notes
Cattle liver/retina SH	Beta agonists	565	565	-	
Cattle urine SH	Ractopamine	74	74	-	
Cattle urine SH	Hormones	137			1
	Progesterone	137	135	**6.0, 16.4**	2
	Zeranol	137	132	**0.5, 0.8, 0.9 (2), 1.0**	3
	Taleranol	137	130	**1.4, 1.5, 2.5, 3.2, 4.4, 4.5, 4.6**	4
Cattle kidney SH	Antimicrobials	564		N/A Qualitative test	
	Tetracyclines	564	564	-	
	Penicillins	564	564	-	
	Streptomycin	564	564	-	
	Sulphonamides	564	564	-	
	Macrolides	564	564	-	
	Quinolones	564	564	-	

Key:

SH Slaughterhouse

Notes:

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	Progesterone was detected in the urine of steers. During the year, a tentative Upper Limit of Normality was established at 4.2 ppb in steer urine. Whilst concentrations above this level does not constitute proof of abuse it does suggest thst progesterone may have been administered. Follow-up samples were requested.
3	Zeranol was detected in 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 $\log_{10}$ of the (zeranol + taleranol) concentrations versus $\log_{10}$ 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	Taleranol was detected in urine. The statistical model to determine whether or not zeranol & taleranol abuse in cattle has occurred, developed at VSD, was applied to these results. It involves a linear regression analysis of the $\log_{10}$ of the (zeranol + taleranol) concentrations versus $\log_{10}$ 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

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Meat Inspection Scheme Northern Ireland - 2005

Targeted sampling scheme; carcases detained pending results.

Matrix	Analyte	Number of samples analysed	Less than MRL/Action level	Concentration detected above the MRL/Action Level (µg/kg)	Note
Cattle retina SH	Beta agonists	223	223	-	
Cattle liver SH	Beta agonists	2	2	-	
Cattle urine SH	Hormones (22)	195			1
	Zeranol	195	190	**0.5 (2), 1.4, 1.8, 2.0**	2
	Taleranol	195	189	**1.1, 1.8, 3.3, 4.0, 5.3, 5.6**	3
	α-Nortestosterone	195	193	**1.2, 1.7**	4
	α-Boldenone	195	194	**3.76 (conjugated)**	5
	Progesterone			**8.3, 19.9**	6
Catle Injection Site	Hormone esters	17	17	-	
Cattle muscle SH	Nitroxynil	5	5	-	
Cattle liver SH	Avermectins	2	2	-	
Cattle liver SH	NSAIDS	1	1	-	
Poultry liver SH	Nicarbazin	10	10	-	
Cattle muscle SH	Antimicrobials	1673		**N/A Qualitative test**	
	Tetracyclines	1673	1665	**OTC 116, 118, 753, 852, 881, 1648 CTC 1384**	7
	Penicillins	1673	1673		
	Aminoglycosides	1673	1673	-	
	Sulphonamides	1673	1673		
	Macrolides	1673	1673		
	Quinolones	1673	1673	-	
Sheep muscle SH	Antimicrobials: -	5	5	**N/A Qualitative test**	
	Tetracyclines	5	5	**528**	7
	Penicillins	5	5	-	
	Aminoglycosides	5	5	-	
	Sulphonamides	5	5	-	

Key:

SH	Slaughterhouse
OF	On farm

(n)	Number of samples with same concentration of analyte
Bold	Samples declared positive in excess of MRL or action level
CTC	Chlortetracycline (a tetracycline)
OTC	Oxytetracycline (a tetracycline)
SDZ	Sulphadiazine (a sulphonamide)

Notes

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 was detected in the urine of 5 animals. 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 $\log_{10}$ of the (zeranol + taleranol) concentrations versus $\log_{10}$ 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.
3	Taleranol was detected in the urine of 6 animals. The statistical model to determine whether or not zeranol & taleranol abuse in cattle has occurred, developed at VSD, was applied to these results. It involves a linear regression analysis of the $\log_{10}$ of the (zeranol + taleranol) concentrations versus $\log_{10}$ 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	α-Nortestosterone (1.2 µg/kg) was detected in the urine of one steer at a meat plant. As a consequence, the group of animals were seized and destroyed. This hormone was also detected in the urine of a female (1.7 µg/kg). Female ruminants can produce α-nortestosterone under norman physiological conditions and the concentration was below the agreed VMD action level.
5	α-Boldenone was detected together with α-nortestosterone at 1.2 µg/kg in the same animal. Conjugated α-boldenone but no β-boldenone detected is regarded as suspicious. The producer was scheduled for further sampling

6	Progesterone was detected in the urine of two steers. During the year, a tentative Upper Limit of Normality was established at 4.2 µg/kg in steer urine. Whilst a concentration above this level does not constitute proof of abuse, it does suggest thst progesterone may have been administered. In the first case, six follow-up samples were tested and were within normal limits. In the second case, two out of 7 samples exceeded the tentative normal limits. The latter producer was targetted for further sampling.
7	Tetracyclines detected >MRL. These carcases were excluded from the food chain

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Pigs Scheme phases 1 and 2 Northern Ireland - 2005

Random stratified targeted sampling scheme. Phase 2 carcases detained pending results

Matrix	Analyte	Number of samples analysed	Less than MRL/Action level	Concentration detected above the MRL/Action Level (µg/kg)	Note
P1 Pig kidney SH	Antimicrobials: -	1354			
	Tetracyclines	1354	1354		
	Penicillins	1354	1354		
	Streptomycin	1354	1354		
	Sulphonamides	1354	1352	**SDZ 131, 158**	**1**
	Macrolides	1354	1354		
	Quinolones	1354	1354		
P2 Pig muscle SH	Antimicrobials	99	99		
	Tetracyclines	99	99		
	Penicillins	99	99		
	Aminoglycosides	99	99		
	Sulphonamides	99	99		

Key:

SH	Slaughterhouse
SDZ	Sulphadiazine (a sulphonamide)

Notes

1	Sulfadiazine was detected > MRL in 2 pigs from different producers under Phase 1 sampling. These producers were assigned to Phase 2 sampling

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Short term targeted surveys Northern Ireland - 2005

Carcases usually detained pending results

Matrix	Analyte	No of samples analysed	Less than MRL/Action Level	Concentration detected above the MRL/Action Level (µg/kg)	Note
Cattle kidney SH	Nitrofurans	204	204	-	
Cattle OTMS urine SH	Hormones (22)	60	60		1
plasma SH	Phenylbutazone	60	60		
liver SH	Beta agonists	60	60		
kidney SH	Chloramphenicol	60	60		

Key:

SH	Slaughterhouse
OTMS	Over Thirty Months Scheme

Notes

1	Samples are tested by an LC-MS/MS procedure which covers some 22 unauthorised hormonal growth promoters.

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Follow-up sampling to non-compliant results Northern Ireland - 2005

Animals or carcases usually detained pending results

Matrix	Analyte	No of samples analysed	Less than MRL/Action Level	Concentration detected above the MRL/Action Level (µg/kg)	Note
Cattle feed/liquid OF	Beta agonists	1	1		
Cattle urine OF	Hormones (22)	93		**-**	1
	α-Boldenone	12	10	**1.7, 4.1**	2
	α-Nortestosterone	102	102	**-**	
	Progesterone	13	11	**4.8, 5.0**	3
Syringe OF	Nortestosterone ester	1		**NT decanoate identified**	4
Sheep urine OF	α-Boldenone	4	3	**16.4**	5
Poultry muscle SH	Nitrofurans	113	113	**-**	
Poultry muscle SH	Nitroimidazoles	40	40	-	
Poultry muscle and liver OF	Nitroimidazoles	4	4	-	
Poultry feed OF	Nitroimidazoles	14	14		
Eggs (composite sample)	Nicarbazin	1	1		
Poultry liver SH	Nicarbazin	10	10		
Poulty feed	Nicarbazin	3	3		

Key:

SH	Slaughterhouse
OF	On farm

Notes

1	Samples are tested by an LC-MS/MS procedure which covers some 22 unauthorised hormonal growth promoters.
2	α-boldenone was detected in two animals from a single producer, which had had a "suspicious" result in the 2004 plan: Conjugated α-boldenone detected without β-boldenone is regarded as suspicious. The producer was targeted for further sampling. Six samples were taken at a further visit, all of which tested compliant.
3	After progesterone was detected in two Meat Inspection steer urine samples above VSD's proposed statistical upper limit of normality for steers, 4.2 ppb, the farms of origin were visited and 13 steers were sampled in January 2006. No evidence of abuse was found. Two of the follow-up samples taken taken at one of the farms tested slightly above the VSD's proposed upper limit; this farm was scheduled for further sampling at slaughter.
4	β-nortestosterone decanoate was detected on the outside of a syringe recovered from the farm which produced the 19-NT positive result in a steer detected a meat plant. (See Meat Inspection Scheme results, note 4). Nortestosterone decanoate is not licensed for use in any species in the UK
5	Conjugated α-boldenone was detected in 1 of 4 samples taken on-farm after this was detected in a NSS abattoir sample.Conjugated α-boldenone detected without β-boldenone is regarded as suspicious No evidence of abuse was found at the farm. Further work to determine the natural occurrence or otherwise of this hormone in sheep is indicated.

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