National statutory surveillance scheme for veterinary residues in animals and animal products: 2020

Residues detected above the reference point to date: 31 December 2020

Sample	Analysed for	No. of analyses	No. of Non-compliant samples	Reference Point µg/kg/l	Concentrations above the Reference Point µg/kg/l
Calves kidney	Antimicrobials screen 1	133	5–2 substances in 1 sample	600	700, 750 chlortetracycline
				100	910 gamithromycin
				600	4400, 7000 oxytetracycline
				3000	27000 Tulathromycin
Calves kidney	Antimicrobials screen 4	108	2	1000	6600, 100000 dihydrostreptomycin
Calves kidney	Florfenicol	370	1	300	410 florfenicol
Calves liver	Coccidiostats	18	1	30	210 halofuginone
Cattle kidney	Antimicrobials screen 4	135	1	1000	29000 dihydrostreptomycin
Cattle kidney	Metals	82	3	1000	1100 cadmium
				500	520, 800 lead
Cattle kidney	NSAIDs	425	1	10	47 diclofenac
Cattle liver	Anthelmintics	742	1	20	23 nitroxynil
Cattle liver	Avermectins	483	1	100	140 ivermectin
Cattle milk	Anthelmintics	406	1	10	47 triclabendazole sulfone
Cattle milk	Avermectins	413	1	Presence	3.2 ivermectin
Cattle serum	Testosterone	331	4	Presence	0.44, 1,2, 8.3, 25 beta-testosterone
Cattle urine	Steroid screen 1	1096	9-2 substances in 2 samples	Presence	4.1, 5.7 alpha-boldenone
				0.7 (male) 5 (female)	0.43, 5.4, 6.5, 19 alpha-nortestosterone
				Presence	1.4 beta-nortestosterone
				12	13, 13, 88 testosterone
				Presence	22 alpha-estradiol
Cattle urine	Zeranol	396	8–2 substances in 7 samples	Presence in all samples	0.57, 1.0, 1.0, 1.3, 1.4, 2.7, 2.8, 22 taleranol 0.28, 0.38, 0.49, 0.86, 0.98, 0.98, 5.3 zeranol
Fattening cattle serum	Testosterone	365	2	Presence	0.35, 11 beta-testosterone
Fattening cattle urine	Steroid screen 1	1219	20-2 substances in 1 sample	Presence	2.5, 2.9, 3.1, 3.3 alpha-boldenone
				5	5.2, 5.8, 5.8, 9.1, 9.5, 9.6, 11, 10, 14, 14, 19, 23, 24 a-nortestosterone
				Presence	580/120, 680/33 αlpha/beta-estradiol
				12	27 testosterone
Fattening cattle urine	Zeranol	380	14–2 substances in 13 samples	Presence in all samples	0.39, 1.0, 1.1, 1.2, 1.3, 1.5, 1.6, 1.6, 1.6, 1.9, 2.0, 2.7, 2.9, 3.3 taleranol 0.46, 0.68, 0.68, 0.53, 0.72, 0.79, 0.93, 0.94, 0.99, 1.0, 1.2, 1.4, 1.6 zeranol
Horse kidney	Metals	1	1	1000	13000 cadmium
Pig kidney	Antimicrobials screen 1	1399	1	600	750 oxytetracycline
Sheep kidney	Antimicrobials screen 1	2025	2	200	290 gamithromycin
				1800	3800 tulathromycin
Sheep kidney	Metals	55	1	500	1200 lead

Sample	Analysed for	No. of analyses	No. of Non-compliant samples	Reference Point µg/kg/l	Concentrations above the Reference Point µg/kg/l
Sheep liver	Anthelmintics	1450	12 several substances in 1 sample	1500	1700, 2300, 2500, 2500, 4500, 4600, 8800 closantel
				1000	4200 albendazole
				1000	23 albendazole amino sulfone
				1000	890 albendazole sulfone
				1000	900 albendazole sulfoxide
				500	90 fenbendazole
				500	550 oxfendazole
				500	19 oxfendazole sulfone
				100	216, 230 levamisole
				500	1346 oxyclozanide
Sheep liver	Avermectins	568	2	100	127 ivermectin
				100	250 moxidectin
Sheep urine	Steroid screen 1	483	26	Presence in all samples	0,2/19, 0.4/3.8, 4, 0.54/1.8, 4.1/5.4, 2.0, 2.1, 2.1, 2.2, 2.2, 2.3, 2.4, 2.5, 2.6, 2.9, 2.9, 3.6, 3.6, 3.8,.7, 5.0, 5.1, 6.2, 6.4, 7.3, 8.0, 26 a-boldenone
Broiler liver	Coccidiostats	1463	1	600	960 toltrazuril sulfone
Hen eggs	Coccidiostats	661	4	150	310 lasalocid
				2	2.3 monensin
				2	2.9 narasin
				3	9.5 salinomycin
Hen eggs	Nitrofurans	174	1	Presence	0.18 amino-oxazolodinone-AOZ
Honey	Naphthalene	12	1	Presence	24 dichlorobenzene
Farmed salmon muscle and skin	Avermectins	86	1	100	130 emamectin
Farmed trout muscle and skin	Dyes	59	1	2	3.3 leucomalachite green
Partridge muscle	Coccidiostats	7	2	5	60, 260 lasalocid

Results of follow-up investigations: 31 December 2020

Medicinal products can be found on the Product Information Database.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Calves kidney	Chlortetracycline 700 µg/kg 2029857	Great Britain	This is a large farm comprised of approximately 500 pedigree dairy cattle. Four locations are used for farming, cattle are on the main farm (milking cows and young), heifers are at grass in two different locations. This is a closed herd, rearing own replacement using AI only, no bulls. Calving period is all year. The calves are with cows for 3-4 days suckling, they are then fed milk powder. No whole milk is used. Cattle are not additionally fed when grazing, except young stock. Up to 10 beef cattle are kept, normally sold as stores. Dairy cattle are milked twice a day, males or beef calves are sold less than 42 days old at market. Vaccination is for BVD, IBR, Lepto and there is regular use of anthelmintics. The farmer is responsible for administering medication, completing medicine records and for medicine storage. Medicines found were Cepravin, Tylan 200, Ubrolexin. There were no expired products. The farmer stated that he never injected young calves with antibiotics and is certain he did not inject the calf with the residue. Raw milk is not given to the calves and medications are used in milk replacer. There are entries in the medicine records showing different antibiotics were used. A copy of the invoice from the vet practice did not show the supply of chlortetracycline products at the premises. There was no evidence to suggest that that the antibiotic was given to the calf, the source of residue was unestablished. Due to Covid-19 restrictions, the investigation was carried out over the telephone (medicine and movement records, including invoices from the vet practice were provided).
Calves kidney	Chlortetracycline 750 µg/kg 2008659	Great Britain	This is a closed dairy farm of 421 cattle and around 600 sheep. A few beef cattle are kept. Calves are fed mainly milk replacer and pasteurised milk. Bull calves are sold for either slaughter or rearing. The farmer admitted treating both calves and his sheep with Chlorsol 50% Powder for Oral Solution which is approved only for treating pigs and poultry. The calf in question had not been treated with it, however medicated foodstuff was not recorded in the medicine records. Medicated foodstuff is mixed on the farm (not VMD approved) and it is possible chlortetracycline residue from the mixer was ingested by the calf. Veterinary medicine records showed poor recording of withdrawal periods. The farmer was advised not to treat calves or sheep with Chlorsol as this is intended for use in pigs and poultry only. He was reminded of the requirements to record the correct withdrawal period for all medicines used, use of medicated foodstuff, vaccinations, and wormers and to refrain from using his own medicated feed mixer. The likely cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period. The investigation was conducted via telephone due to Covid-19 lockdown restrictions.
Calves kidney	Dihydrostreptomycin 6600 µg/kg 2016073	Great Britain	A large farm accredited by the Red Tractor Assurance Scheme, with a dairy herd of approximately 200 milking cows and 100 young stock used for replacement. Holstein Friesian make up most breeds. Bull calves are not kept but sold direct for slaughter and are not treated as there is no financial benefit from it. The positive animal was transported directly from the farm to abattoir. Heifer calves receive treatment if needed but from the evidence provided information is not recorded in the medicine records. The farmer had purchased Pen & Strep Suspension for Injection (active substance dihydrostreptomycin). from the veterinary practice. Veterinary medicines are kept in a locked cabinet, expired medicines are usually taken back to the practice for disposal, however the farmer could not remember the last time that was done. The farmer suspects that an employee made a mistake. Medicine records for April, May, June 2020 showed missing treatment records for calves. Treatments for adult animals were recorded. The farmer was advised to record all treatments to avoid cross-contamination of feed with medication, to develop and maintain a system of recording animal treatments, ensure all staff are trained and supervised and to consult to consult with the PVS to avoid residues in the future. The likely cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period. The inspection was completed remotely due to Covid-19 restrictions.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Calves kidney	Dihydrostreptomycin 100000 µg/kg 2036529	Great Britain	The positive calf had been bought from market in November 2020, it was transported to the abattoir two days later and slaughtered the same day. This is a medium sized farm of calves and sheep. No veterinary medicines are stored on the premises and there is no medicines cabinet. The owner confirmed he did not keep any medicines on site. All medicines used for cattle on the farm are administered by the vet. The only recorded instance was injection of Pen & Strep and Loxicom in January 2018 for an eye infection. No other entry was recorded, the owner was advised on record keeping requirements. The PVS confirmed that no veterinary medicines containing oxytetracycline were purchased in the last three years and no other practices had sold any to the owner. The owner observes withdrawal periods if he is aware of them as deals mostly in calves for slaughter. He is not always aware of treatments administered at previous farms. The FCI was not submitted either from the owner, or with the previous keeper's details. The withdrawal period for dihydrostreptomycin (21 days for meat) is very long and therapeutic levels are high, achieved after 24-28 hours after treatment is applied. Medicines eliminate slower from young animals; this calf was slaughtered at the age of 21 days. The residue level in this case is very high and it is one hundred times higher than the MRL, which suggests that medicines have been administered before slaughter. The calf spent time between the two days at the owner's premises. The owner may not have been aware of veterinary medicines administered at the farm of origin. However, he does apply procedures and checks as advised during previous investigations though, in this instance, checks applied were not sufficient. The investigation was conducted via telephone due to Covid-19 restrictions.
Calves kidney	Florfenicol 410 µg/kg 2029961	Great Britain	This is a large farm accredited with the Red Tractor Assurance Scheme. Livestock on the farm includes 710 cattle, of which 350 are milking cows, 100 calf heifers (6months-old) and 160 youngstock. Cattle are fed with silage, whole crop, and beetroot. No medicine is used in feed. Calves are given colostrum in the first 24 hours, then milk provider with pallets and straw, no hay is given. The calves are weaned at 8 weeks of age. Medicines are kept in a locked cupboard and were within expiry dates. Medicine records for calves showed use of Metacam, Synulox and Draxxin, all details were recorded, however withdrawal periods were not. The product Zeleris was observed in a cupboard (active ingredient florfenicol), which has a withdrawal period of 56 days in meat and offal. The farmer declared that he did not remember using this product or recording it. At the time of inspection, the medicine records from June to September 2020 showed no use of products with this substance. Medicines records are mainly focused on treatment of mastitis in dairy cattle. Storage of veterinary medicines were found satisfactory. Recommendation was made to seek advice from the PVS on measures to be taken to achieve compliance and as required by the Veterinary Medicines Regulations 2013. The farmer was advised to update medicine records, and correctly enter withdrawal periods for all products, guidance was provided. The investigation established that the likely cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period.
Calves kidney	Gamithromycin 910 µg/kg 2016018	Great Britain	This large farm is accredited as part of the Red Tractor Assurance Scheme. The farm has a suckler, fattening herd of 394 cattle which are mainly Aberdeen Angus. There is a traditional grazing system in place. The owner is notified by the herdsman when an animal requires veterinary attention, or a treatment. He receives a text with the ID of the animal(s) needing treatment and copies the information onto a computer. Medicines are kept in locked storage in the office. The owner believed the calf was injected before it arrived on the farm, however it is likely it had been treated in error before it was slaughtered. The probability and the evidence of treatment elsewhere resulting in a residue at this level is considered highly unlikely. In conclusion the cause of this residue was likely due to an unrecorded treatment and subsequent slaughter whilst within a withdrawal period.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Calves kidney	Oxytetracycline 4400 µg/kg & Tulathromycin 27000 µg/kg 2016031	Great Britain	A large farm accredited with the Red Tractor Assurance Scheme. This is a dairy herd and currently all the replacements are bought from different EU countries. All new-born calves are separated from their mothers after they receive colostrum. At 4-5 weeks, they are sold to different local farms, some are sold to the abattoir. A paper system is used for the recording of medicine use, together with the use of software. Staff use the systems daily for registering the use of medicines and know where to look for withdrawal period information on the system. Discrepancies were found between paper records and system records. Staff had recently attended a course on avoiding residues in milk. Some medicines were used in a way which looked like they were required to be approved under the Cascade, but there was no written justification for their use. Although the weight of an animal can vary within the same breed of cattle, it was noted that some medicines were underdosed and others overdosed. Some were used without justification for the condition treated or for a prolonged period aside from the indications on the medicine data sheets. The positive animal was a male born on farm and sold at 24 days old. The oxytetracycline substance (product Alamycin LA) was found in the positive sample. Records show the meat withdrawal period stated at 31 days (10 days less than the 41 days on the product data sheet). During January-March 2020 five bottles of Draxxin were purchased, this should not be used in lactating cattle producing milk for human consumption. The farm had experienced past cases of pneumonia, these cases have been attributed to mycoplasma bovis infection, one of the risk pathways considered for the introduction of the above bacteria is thought to be through the sourcing of cattle from Europe. No evidence of treatment administered to the calf was found and the FCI stated that withdrawal periods were observed for treatments the animal may have received. Guidance and information on record keeping requirements were provided to the farm staff responsible for medicines and the content was discussed. The likely cause of this residue was an unrecorded treatment and subsequent slaughter whilst within a withdrawal period.
Calves kidney	Oxytetracycline 7000 µg/kg 2008652	Great Britain	This farm is accredited as part of the Red Tractor Assurance and Organic Farmers and Grocers Scheme. The positive animal was a Holstein Friesian male calf. There were 137 animals on farm (99 dairy cows, Hex bull and 37 bullying heifers). Cattle were mainly homebred but some replacements were also bought in. AI is used (dairy only) and calving is all year round. Bull calves are sent to a local abattoir. Medicine record entries showed that Alamycin was used on calves (identities were not recorded), three records showed an altered entry on the quantity box. An open bottle of Alamycin LA 200mg/ml was found in the veterinary medicine storage cupboard. The farmer admitted injecting Alamycin into the animal due to illness (possibly pneumonia), not having recorded it in the medicine book and sent the animal to slaughter. The farmer was aware of the requirements for keeping medicine records updated, recording use and disposal of veterinary medicines. He was advised to seek further guidance from the PVS, medicine records must be in line with the data sheet/production label, particularly in respect to the dosage rate and withdrawal period. The identity of treated animals must be entered in a way that they can be identified at a later date. The likely cause of residue is due to unrecorded treatment and subsequent slaughter whilst within a withdrawal period.
Calves liver	Halofuginine 210 µg/kg 2008747	Great Britain	This is a high biosecurity, high standard dairy farm. Calves are routinely separated from cows after they have taken colostrum (up to 6 hours after birth). Separation is in sex groups as heifers remain on farm as replacement animals to the main herd. Bull calves are sold for rearing or directly to slaughter. The farm uses a health plan prepared by the veterinary practice who routinely attend the premises. There may have been staff fluctuations before last summer and this may have led to mistakes. The positive calf was treated, as evidenced by the residue and came from holding of birth to slaughter. No welfare issues or FCI anomalies were reported. The medicine is in use on the holding, the animal was probably treated in error and sent to slaughter as soon as it could go, but no check was made or it was assumed to be untreated. Proper adherence to procedure and retraining of staff would be the key to remedial action and additional monitoring would be required. Medicine records were not entirely compliant, more than one dose being recorded against one animal record. The likely cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period. The investigation was completed remotely due to Covid-19 restrictions.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle kidney	Cadmium 1100 µg/kg 2015979	Great Britain	The farm is accredited by the Red Tractor Assurance Scheme. The herd is made up of Holstein British Friesian and Jersey, dairy herd (120 milkers and followers) a total of 280 cattle. The cows graze on fields surrounding the cattle buildings. Male Holstein and Jersey calves fatten as steers for beef production and are sent directly to slaughter. The farmer keeps his own heifer replacements and uses AI. There are 2 young bulls on the farm, occasionally the farmer sells heifers in milk. Animal movement records and medicine storage facilities were satisfactory. Buildings are open barns with wooded walls and yarded areas, straw bedding is provided. Main water is provided, so no water analysis is carried out. There was a 2-year-old galvanised water tank which was recently replaced with plastic tanks due to a hole in the base. The positive animal was born on farm in June 2012 and sent directly to slaughter in May 2020. The dairy cow spent all its life at the holding and produced 2 calves during her productive life. No fertilizers are used on the land, and no products, feed or medicines are used containing cadmium. The inspector did not observe any items such as batteries, alloys, solar cells, plastic stabilisers, paint, or any other possible contaminants containing cadmium. The investigation could not establish any potential sources of environmental contamination of the soil and water, locally. The farmer was advised to discuss the findings with the PVS. Heavy metals can accumulate in the kidney of animals subject to low level exposure over time through diet.
Cattle kidney	Diclofenac 47 µg/kg 2008454	Great Britain	This is a small farm enterprise (16 heifers, 1 cow and 1 calf). The farmer buys in calves from the market and rears them as store cattle for beef. The majority of these animals are used for fattening and then go direct to slaughter. Medicine and movement records were provided and reflected good practice (showing dates, withdrawal periods and batch numbers). There were no signs of Diclofenac products being administered, only antibiotics for pneumonias and fluke drench products. The vet confirmed that not many medicines were used due to the low number of animals on the farm. One possibility for the result is a potential cross-contamination when collecting the sample at the abattoir. This investigation could not find any reliable causes for the positive result. The farmer was advised to continue with good medicine record keeping, and to continue respecting withdrawal periods of the applied medicines. The investigation established that the likely cause of this residue was contamination of the sample at the time of collection. The investigation was carried out over the telephone due to Covid-19 restrictions.
Cattle kidney	Dihydrostreptomycin 29000 µg/kg 2026448	Great Britain	There is a total of 615 cattle on the farm and in addition there are 300 store lambs. The positive animal was a homebred animal born in February 2017 on farm. It was transported with another three cattle from the farm to the abattoir. In the same consignment, there were another two cattle from two different holdings. The owner confirmed that all medicines were provided by the PVS and they carry out a weekly visit. A photograph of the medicine cabinet, medicine book and animal movement records were presented as evidence. These were found to be tidy and records were kept updated. It is possible that the wrong animal was injected and sent for slaughter. Ubrolexin had been administered to the animal and there was a record for Pen and Strep used in August 2020. There was also a clerical error on the withdrawal period recorded. The farmer was advised to be more careful when administering medicines to the animals, to check eartag numbers to avoid any confusion and to ensure all withdrawal periods are respected and recorded. The investigation established that the likely cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period.
Cattle kidney	Lead 520 2015978	Great Britain	A large cattle farm, with 680 cattle. There are about 330 milking cows and 350 young stock. Male calves are reared until about 12 months of age, sold as stores normally through local auctions, female calves are usually kept as replacements. Animals are fed with a feeder wagon that mixes concentrate and silage, when housed. No medicated feeding stuffs are used and there is no mixer at the premises. The water supply is from the mains both in the fields and in housing facilities. The medicines are stored in a lockable case in the farm office. No expired medicines are kept, but if identified they are put aside to avoid use. The medicine book and movement records were satisfactory. The specific animal was sold as a store as it would not breed and was a healthy animal. The farmer confirmed the animals did not have access to batteries, old machinery, paint or other known sources of lead. The owner was given a leaflet on lead prevention, information on record keeping requirements and advised to discuss any potential sources of lead with the PVS. The investigation could not establish any potential sources of environmental contamination of the soil and water locally, however research has shown that heavy metals can accumulate in the kidney of animals subject to low level exposure over time and this is likely to be the cause in this case This investigation was completed via telephone due to Covid-19 restrictions.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle kidney	Lead 800 µg/kg 2026837	Great Britain	This is a large farm approved by the Red Tractor Assurance Scheme and meets high welfare and biosecurity standards. These premises operate as finishing unit of approximately 1100 cattle. 50-60 cattle go for slaughter each week; 60 animals are bought in every 5 days mainly through the local livestock markets. Cattle are brought in 22-24 months old and sold around 30 months, depending on breed and growth. Medicine records are up to date and none of the products listed or kept in the medicine storage facilities contained lead. All records are recorded electronically, and the management number is used due to the number of cattle. Barley feed is produced by the farmer, but machinery and feed are stored at a different site. Premises are wildlife proof; no grazing takes place. There are around 7 sheds within the unit where animals are housed. The inspection did not find any indication of animals' exposure to lead. The owner has been in the food industry for many years and is fully aware of the legal requirements when using medicinal products and prevention measures to avoid animal exposure to heavy metals or other potentially dangerous substances. The investigation could not establish any potential sources of environmental contamination of the soil and water, locally. Heavy metals can accumulate in the kidney of animals subject to low level exposure over time and this is likely to be the cause in this case.
Cattle liver	Ivermectin 140 µg/kg 2003297	Great Britain	This large farm is a mix of dairy, beef cattle and breeding ewes. All animals were in good condition and health. There were no concerns in relation to the welfare of the animals. There are two sites, dairy cows are kept on one, beef cattle on the other farm. Sheep are kept most of the year on the fields. The medicine books appeared to be up to date and complete. Medicine cabinets were kept in good order and locked. The positive animal was taken to the market and sold to the abattoir in January 2020. The FCI was presented stating that all withdrawal periods had been met. Two bottles of Calciject were 6 months expired. The bottles were almost full and had not been used for some time. There was no entry in the medicine book for the animal in question, which would confirm that this animal was dosed with any product containing ivermectin. One entry in the medicine book showed a wrongly calculated withdrawal period. According to the records, 8 heifers were treated in December 2019. A withdrawal period for milk was calculated correctly. The owner believed the animal in question must have been dosed by mistake, it calved early December but had no milk and presented with mastitis. It was treated and moved from one farm to the other, where it may have been treated with Bimectin in error with other heifers. He was advised to keep all labels provided by the PVS and to mark any bottles re-used to ensure correct medicine withdrawal dates are being used, to clearly mark expired medicines or dispose of them, to double check medicine entries and IDs. The cause of this residue is likely due to the animal being dosed in error and subsequently sent for slaughter within a withdrawal period.
Cattle liver	Nitroxynil 23 µg/kg 2034269	Great Britain	This is a large non-grazing farm and is a member of the accredited Red Tractor Assurance Scheme. There are approximately 500 beef cattle mainly Aberdeen Angus cattle. The farmer purchases animals at age 20 months and fattens them for 2-3 months or longer if needed. All animals go direct for slaughter. Medicated feeds are not used, grass and maize silage is used, together with concentrate and bread. Medicines are obtained from a veterinary practice, wormers from an agricultural merchant. The positive animal a 26-month-old male had arrived at the abattoir in November 2020 and was slaughtered the next day. It had received 15 ml of Trodax, the withdrawal period ended in October and had been observed. The animal was also treated with Autoworm (active ingredient oxfendazole) at the previous farm. The most likely reason for the marginal excess of residue is the combination of 2 products used application of Trodax whilst still within the withdrawal period for Autoworm. The invoice for the product was provided and medicine records were attached. The owner was advised to thoroughly check invoices of purchased animals for outstanding withdrawal periods, advised not to mix different wormers, and to check with the PVS. Although the withdrawal period was observed on farm, the likely cause of this residue was that unbeknown to the farmer, the animal was purchased whilst still within an existing withdrawal period.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle milk	Ivermectin 3.2 µg/kg 2036881	Great Britain	A member of the Red Tractor Assurance Scheme, this is a dairy farm with calves reared either as heifer replacements or for beef. The residue occurred when Bimectin Plus (containing ivermectin (10mg/ml) and Clorulon was given to 4 dry cows believed to be at least 60 days away from calving. This included a cow which had given birth prematurely to a dead calf, the cow then contributed to the bulk tank shortly after calving. The use of ivermectin in dry cows was an unusual practice by the farmer, as this product is usually used only for his beef cattle. He was aware that it should not be used on lactating cows or those within 60 days prior to calving. There was no system in place for people carrying out the milking to be aware of the cows treated with ivermectin. The system in place ensuring that milk from any dairy cows treated with antibiotics does not enter the bulk tank seemed to be effective. The farmer accepted his mistake; agreeing to limit the use of ivermectin only to his beef cattle. It was not possible to examine the medicine records fully without a visit or carry out any farm inspection of the medicine store. The medicine records were generally well kept, however there were some omissions in recording the vaccines given and in feed medicines given to calves. The farmer was advised of the requirements for record keeping and guidance was provided. The investigation established that the likely cause of this residue was that milk from a cow that had calved early was supplied to the bulk tank by mistake.
Cattle milk	Triclabendazole sulfone 47 µg/kg 2001405	Great Britain	The farm has a large dairy herd of approximately 1220 animals. Mostly pedigree animals: Holstein Friesian make up 90% of the livestock, no other livestock or pets are present. Animals bought in are mainly from Denmark, Ireland, or Germany. Fresh calvers are isolated for 3 weeks or a visual inspection of milk is carried out on lactating cows. AI is used. The calving period is year-round, and animals are housed all year. Bedding depends on the group of animals, sand for cows, straw for calves and the maternity group. Minerals, concentrate, and silage are fed. Cows are on cow milk one day and fed pooled milk until weaning. The farmer bought in animals within 45 days before the sampling date. The movement records were satisfactory. The farmer declared that he had not used any anthelmintic treatment and only buys medicines from the local vet practice. The PVS confirmed medicines were purchased from the practice and there is excellent management with many procedures in place. Medicines are kept in a locked room and medicine records are stored electronically. Medicines recorded (evidence was provided) are the common ones for this type of farming, no anthelmintic treatment was found. There was a mistake in the recording of treatments, the manufacture date had been recorded instead of the expiry date on occasion. The farmer was advised to speak with the PVS when introducing new animals to avoid the contribution of treated animals in the tank, and to ensure animals purchased have FCI documents or documentation proving they have not received treatment/are not within a withdrawal period. The cause of this residue likely occurred before purchase of the animal. Due to Covid-19 restrictions, the investigation was conducted remotely.
Cattle serum	Beta-testosterone 0.44 µg/kg 2025906	Great Britain	This is a medium sized enterprise, accredited by the FAWL Farm Assurance Scheme and has a herd health plan. It is a mixed beef business, partly suckler and fattening herd. Cattle are housed in winter and on pasture during summer. Fattening cattle are not vaccinated, sheep are vaccinated with Heptavac P, and wormers as appropriate. The affected cow was a 6-year-old female limousine x animal, bought as a barren cow from market in December 2019. It was kept in a group of female animals until fattened then sent to slaughter. According to the farmer, there was no opportunity for the cow to be mated. This residue was at a very low level and such increases can be seen in animals which have recently been pregnant or aborted. Stress has been cited as a cause of increase in natural levels of beta-testosterone. The animal was laired overnight prior to slaughter and this may have been a factor. Withdrawal period details and animal ID were found to be inadequate and were not recorded, so it was difficult to identify animals treated. The farmer was advised on record keeping requirements and is to include withdrawal periods of medications in the medicine records. There was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered a natural level.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle serum	Beta-testosterone 1.2 µg/kg 2033866	Great Britain	This is a large farm comprised of 695 cattle, which are mainly Holstein Friesians. The farmer manages with help from his herdsman, stockman and 6 additional workers. Three people have access to the medicine cabinet and this is always locked. On inspection, the medicine records appeared satisfactory, the medicine cabinets and labelling of medicine were not inspected. The medicines used are Cyclix and Prid Delta Griptail. Cows are wormed once a year, heifers twice a year, and vaccinated for BVD, leptospirosis and IBR. The PVS visits frequently for routine fertility work and all treatments were supervised by the PVS. The cow had a calving history and was pregnant at the time of sampling. High levels of testosterone can appear in pregnant animals, although the level of testosterone detected was higher than the usual level described on a pregnant cow. There was a human error at the time of the collection of the sample, as a steer was slaughtered immediately after this animal and this male could have been sampled by mistake instead of the cow. The positive result for testosterone is related with natural levels present in the steer. There was no evidence of the use of banned substances, therefore the presence of this hormone is considered to be a natural level. This investigation was conducted over the telephone due to Covid-19 restrictions.
Cattle serum	Beta-testosterone 8.3 µg/kg 2015053	Great Britain	This is a medium sized suckler herd with approximately 280 cattle, 110 cows, plus calves and some purchased fatteners. The farm is a member of the Red Tractor Assurance Scheme. Movement and medicine records were up to date and were provided for inspection. All veterinary medicines are purchased directly from the farm's veterinary surgeon. The only exception are the wormers purchased for the single horse on farm, from the local saddlery. Photographs of the lockable cabinet for veterinary medicines storage were provided. Details for veterinary medicines used were all recorded including product name, batch number, amount used, date of first and last treatment, withdrawal period and ID of the animals treated. The farmer was aware of the importance of adhering to withdrawal periods. The positive animal had not received any medication in at least 6 months prior to slaughter. There was no evidence to suggest any misuse of veterinary medicines on farm. The cow had recently calved, therefore the cause of residue is likely to be from natural levels. Due to Covid-19 restrictions, the investigation was conducted by telephone.
Cattle serum	Beta-testosterone 25 µg/kg 2015059	Great Britain	This is a medium sized predominantly dairy farm accredited at SAI Global Assurance Services. The farm has approximately 200 milking Holstein Frisian animals on site where replacement animals are reared. The farmer regularly buys mature cull animals of both dairy and beef breeds from various markets before selling them to slaughter. There is also a flock of 150 sheep and 2 pet pigs on the holding. The medicines records and storage facilities were found to be satisfactory, however the farmer was advised to keep a record of the FCI documentation provided with the animals purchased. The investigation established that there was no evidence of the use of banned substances on the farm. The presence of this hormone is therefore considered to be from natural levels.
Cattle urine	Alpha-boldenone 5.7 µg/kg 2007237	Great Britain	This is a large cattle beef farm that is an accredited member of the Red Tractor Assurance Scheme. The positive animal was born on farm and went straight to slaughter from the farm. Due to Covid-19 restrictions no visit was carried out, therefore limited data was available and no stock were inspected. The owner records the use of all vet medicines according to the regulations (including adequate animal ID and withdrawal period details). All medicines are stored appropriately. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered to be natural due to accidental faecal contamination of the urine at the time of sampling. It is also recognised that certain plant sterols can be metabolised to produce boldenone in the urine.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle urine	Alpha-boldenone & Alpha-nortestosterone 4.1/6.5 µg/kg 2025730	Great Britain	The farm is accredited as part of the Red Tractor Assurance and CHeCS Schemes. This large farm comprises of 600 dairy cattle, sheep, and some house chickens. Most of the replacements appear to be of purchased origin. AI is used, and culling cows are sent routinely to abattoir. Young calves are sold routinely for rearing, no fattening animals are on the farm. The positive cow was purchased in 2016 and sent for slaughter in August 2020 with a group of 9 culling cows. It was positive for Johne's and was one of the reasons for culling. The farmer advised that it was possibly in calf when it was sent for slaughter. The cow last calved in March 2020 and was injected with Prellim twice in May 2020 on separate days. It was also treated with Kelaprofen for pain relief. Medicine records and storage facilities were satisfactory. All medicines are purchased from the PVS, no expired medicines were found. Nortestosterone can occur naturally in pregnant cattle and the journey time to the abattoir may have had an impact, the cow was possibly in calf, therefore the cause of these residues is likely to be a combination of faecal contamination and natural levels.
Cattle urine	Alpha-nortestosterone 0.43 µg/kg 2022937	Great Britain	A large farm comprised of cattle and sheep. There is good management and the farm is kept clean and tidy. Record keeping appeared to be satisfactory and the medicines were appropriately stored. All the inspected animals appeared in good condition. Fattening stock are kept in the sheds, growing cattle (cows and calves) are kept in the field. Three animals were separated in a sick pen. The positive animal was a steer, potentially testosterone producing tissue can cause higher levels of a residue in an animal sent for slaughter. Also, transit stress (over 50 miles) and a new environment in the lairage can cause this positive result. The group of animals were brought into the lairage (stated by the owner) and stayed there overnight before slaughter the next morning. The investigation established that there was no evidence of the use of banned substances on this farm, therefore the presence of this hormone is considered to be a natural level.
Cattle urine	Alpha-nortestosterone 5.4 µg/kg 2014849	Great Britain	Animal in-calf at the time of sampling.
Cattle urine	Alpha-nortestosterone 19 µg/kg 2025705	Great Britain	A medium sized farm accredited as part of the SAI Global Assurance Scheme. The farmer runs an Aberdeen Angus beef close herd and occasionally buys replacement heifers. There are 333 cattle and 400 sheep. The cattle herd are housed during the winter and fed own-produced silage; they graze in the summer. No medicated feedstuff is used. Routine medication used is Rotavirus vaccine, fluke wormers, Baycox for coccidiosis in calves. Antibiotics are provided by the PVS. Medicines records and storage facilities were found to be satisfactory. The positive animal was a female in calf at the time of slaughter. There was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered a natural level.
Cattle urine	Beta-nortestosterone 1.4 µg/kg 2014723	Great Britain	This large cattle farm is an accredited member of the Red Tractor Assurance Scheme. A suckler herd of 80 cows with offspring are taken through to fatten and are either sold at market or directly to slaughter. The suckler herd are outside over summer and fed own silage, barley with bought in protein. The farmer also buys in steers and heifers which are housed in indoor yards all year round. Medicine records and storage facilities were found to be satisfactory, however one bottle of antibiotic had expired. The positive residue was from a bovine that had been castrated prior to arrival at the premises. It is possible the residue was because of poor castration technique or due to stress from the journey to the abattoir. The investigation established that there was no evidence of the use of banned substances on farm therefore the presence of this hormone is considered to be a natural level.
Cattle urine	Testosterone 13 µg/l	Northern Ireland	An investigation was undertaken in February 2020. This is a farm comprised of 700 beef finishing herd and there are also sheep on the farm. The 2-year-old animal was purchased 3 days prior to slaughter. It was bought as a steer but looked more bullish. It is possible, the animal had not been correctly castrated. The animal had not been treated with any medication. The movement and medicine records were kept in accordance with legislation. All follow up samples were compliant.
Cattle urine	Testosterone 13 µg/l	Northern Ireland	No investigating visit was undertaken as animal concerned was a bull and bull animals can produce high physiological levels of this hormone.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle urine	Testosterone & Estradiol 88/22µg/l	Northern Ireland	An investigation was undertaken in January 2021. The positive animal was 2 years old and had been purchased a month prior to slaughter. The movement and medicine records are kept in accordance with legislation. The animal had been castrated before arrival on the farm, no castration occurs on the farm. The animal is from a herd of 61 beef cattle. All follow up samples were compliant.
Cattle urine	Taleranol 0.57 µg/kg 2007520	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Cattle urine	Taleranol & Zeranol 1.0/0.86 µg/l	Northern Ireland	No investigation visit undertaken as levels indicative of fusarium toxin contamination.
Cattle urine	Taleranol & Zeranol 1.0/0.38 µg/l 2012911	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Cattle urine	Taleranol & Zeranol 1.3/0.49 µg/kg 2007493	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Cattle urine	Taleranol & Zeranol 1.4/0.28 µg/kg 2007483	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Cattle urine	Taleranol & Zeranol 2.7/0.98 µg/kg 2033904	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Cattle urine	Taleranol & Zeranol 2.8 µg/kg 2033909	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Cattle urine	Taleranol & Zeranol 22/5.3µg/kg	Northern Ireland	No Investigating visit was undertaken as levels indicative of fusarium toxin contamination.
Fattening cattle serum	Beta-testosterone 0.35 µg/kg 2000623	Great Britain	A small sized farm with a total of 34 bovines. The farmer confirmed that no treatment had been given to the positive animal in the past year. Animals were fed silage when housed and grass during summer grazing. The cow had been running with the bull in November 2019 and was in calf at the date of sampling. The farmer was asked to send medicine records and photographs of the medicine storage facilities kept and used on the farm. These were inspected and found to be satisfactory. Some de-wormers were used on the herd in 2019 but had not been recorded by the farmer and the most recent medicine used was calcium for treatment of a cow for milk fever in April 2020. There was no evidence of the use of banned substances on this farm. Advice was given to keep accurate records with details of animals' gestation to avoid sampling these animals for testosterone in future. The likely cause of residue would be from natural levels due to gestation at the time of sampling. This investigation was carried out by telephone due to Covid-19 restrictions.
Fattening cattle serum	Beta-testosterone 11 µg/kg 2021063	Great Britain	The animal was a female approximately 8 years old. The serum was sampled in September 2020 and tested positive for beta-testosterone. The cow was 19 days post calving. The most likely cause of the residue is due to cystic ovaries, which occurs in the 2 months after calving and pushes up endogenous levels of testosterone, therefore the presence of this hormone is considered from natural levels.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Fattening cattle urine	Alpha-boldenone 2.5 µg/kg 2000049	Great Britain	This is a medium sized farm and is an accredited member of the Red Tractor Assurance scheme. At the time of the investigation, there were 750 lambing ewes, 163 South Devon pedigree suckler cattle and 3 pet pigs kept on farm. The positive animal (a heifer) was housed with the rest of the herd, grazing inside. The medicine records and storage facilities were found to be satisfactory. Advice was provided to the farmer via a fact sheet, which included possible causes of positive results where this substance can be found. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered to be natural due to accidental faecal contamination of the urine at the time of sampling.
Fattening cattle urine	Alpha-boldenone 2.9 µg/kg & Alpha-nortestosterone 5.8 µg/kg 2000308	Great Britain	Animal in calf at the time of sampling.
Fattening cattle urine	Alpha-boldenone 3.1 µg/kg 2020968	Great Britain	This farm is an accredited member for the Red Tractor Assurance Scheme. A medium sized farm comprised of cattle, sheep, and horses. There is a livery yard on the farm with 14 horses which are kept separately to the cattle. Cattle are housed inside open barns, divided into groups based on weight and size. The farm produces its own grass (meadow grass, mixed plants), whole crop and maize silage. The farm follows a health plan and vaccinates against IBR. The medicine cabinet contained medication for all three species on farm. All medicines come directly from the PVS, with the PVS label on them. Medicine records were found to be satisfactory on inspection and medicines were stored appropriately. There was no evidence of the use of banned substances on the farm, therefore the presence of this hormone is considered to be from natural sources/possible faecal contamination of the urine at the time of sampling.
Fattening cattle urine	Alpha-boldenone 3.3 µg/kg 2020629	Great Britain	The farm is an accredited member of the Red Tractor Assurance Scheme. There is a medium beef herd comprised of approximately 159 beef cattle. There are also 1100 sheep (500 breeding ewes and 600 lambs). Approximately 60 lambs are kept for breeding and the rest are sold through the local market. The farmer buys cattle at around 8-14 months, fattens them and at around 24-28 months the animals go directly to the abattoir. During the summer half of the cattle are kept housed and the rest are at grazing, from October all cattle are housed. The positive animal had been housed throughout its time on the farm. All cattle arriving on the farm are treated with Noromectin (worming treatment). Sheep are given fluke and worming treatment in October and Heptavac in May-July. Medicines are kept in a lockable cupboard. The medicine records are completed by the farmer. All medicines are acquired from the PVS, and there were no expired medicines seen. Any expired medicines are handed back to the PVS. The investigation established that there was no evidence of the use of banned substances on the farm, therefore the presence of this hormone is considered to be natural, due to accidental faecal contamination of the urine at the time of sampling.
Fattening cattle urine	Alpha -nortestosterone 5.2 µg/l	Northern Ireland	Pregnant female. No investigation required.
Fattening cattle urine	Alpha-nortestosterone 5.8 µg/kg	Northern Ireland	Pregnant female. No investigation required.
Fattening cattle urine	Alpha -nortestosterone 9.1 µg/l	Northern Ireland	Pregnant female. No investigation required.
Fattening cattle urine	Alpha-nortestosterone 9.5 µg/kg	Northern Ireland	Pregnant female. No investigation required.
Fattening cattle urine	Alpha-nortestosterone 9.6 µg/kg	Northern Ireland	Pregnant female. No investigation required.
Fattening cattle urine	Alpha-nortestosterone 10 µg/kg	Northern Ireland	Pregnant female. No investigation required.
Fattening cattle urine	Alpha -nortestosterone 11 µg/kg 2020374	Great Britain	Animal had recently calved. No investigation required.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Fattening cattle urine	Alpha -nortestosterone 14 µg/l	Northern Ireland	Pregnant female. No investigation required.
Fattening cattle urine	Alpha-nortestosterone 14 µg/kg	Northern Ireland	Pregnant female. No investigation required.
Fattening cattle urine	Alpha-nortestosterone 19 µg/kg	Northern Ireland	No firm pregnancy status, animal is flagged, and a follow up sample has been requested for one year post last calf.
Fattening cattle urine	Alpha -nortestosterone 23 µg/kg 2020612	Great Britain	Animal in calf at the time of sampling.
Fattening cattle urine	Alpha -nortestosterone 24 µg/kg 2020922	Great Britain	Animal was in-calf at the time of sampling.
Fattening cattle urine	**α/β-Estradiol 580/120**	Northern Ireland	Follow up sample taken on farm and was compliant-no further investigation required.
Fattening cattle urine	α/β-Estradiol 680/33	Northern Ireland	Follow up sample taken on farm and was compliant-no further investigation required.
Fattening cattle urine	Testosterone 27 µg/l	Northern Ireland	No investigating visit was undertaken as animal concerned was a bull and bull animals can produce high physiological levels of this hormone.
Fattening cattle urine	Taleranol 0.39 µg/kg 2000664	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 1.0/0.53 µg/kg 2021280	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 1.1/0.46µg/kg 2021299	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 1.2/0.68 µg/kg 2021267	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 1.3/0.68 µg/kg 2000658	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 1.5/0.99 µg/kg 2021266	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 1.6/0.7.2 µg/kg 2030952	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Fattening cattle urine	Taleranol & Zeranol 1.6/0.79 µg/kg 2021310	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 1.6/0.93 µg/kg 2021338	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 1.9/1.0 µg/kg 2021325	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 2.0/0.94 µg/kg 2021323	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 2.7/1.4 µg/kg 2021309	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 2.9 & 1.2 µg/kg 2000666	Great Britain	Low levels of zeranol and fungal metabolites may be present in the urine of animals that have ingested feeding-stuffs contaminated with the fusarium fungus. At this level of residue, a statistical model based on research has confirmed this to be the case. No further investigation was required.
Fattening cattle urine	Taleranol & Zeranol 3.3/1.6µg/kg	Northern Ireland	No Investigating visit was undertaken as levels indicative of fusarium toxin contamination.
Pig kidney	Oxytetracycline 750 µg/kg 2006293	Great Britain	Awaiting investigation report.
Sheep kidney	Gamithromycin 290 µg/l	Northern Ireland	An investigation was undertaken in September 2020. The animal was a 6-month-old lamb which had been born on the farm and was from a breeding and production flock. The lamb was kept separate during its transport to slaughter. Movement and medicine records are kept in accordance with legislation. Zactran (29 days withdrawal) was administered to ewes in the flock on 17 July 2020. The lamb was slaughtered on 21 July 2020. There is suggestion of passive transfer of the drug to this lamb through the milk from the ewe which had been treated. All follow up samples were compliant.
Sheep kidney	Lead 1200 µg/kg 2005750	Great Britain	A medium sized farm accredited by the Farm Assured Scheme. The positive lamb was not bred by the farmer, he does not have a breeding flock of ewes, but from August-April he buys many batches of lambs from various markets. 50,000 lambs were sent for slaughter the previous year. The lamb was one of a batch of 57 sent to the abattoir in February 2020. It did not have an individual ID tag, only the flock mark as per sheep intended for slaughter. It would have had an EID put in by the original breeder, but apparently, they did not keep a record of these. The farmer is unable to pinpoint which batch of purchased lambs this animal came from; therefore, the lamb is untraceable back to its original holding. The farm is well run with attention paid to biosecurity, there is regular cleaning out of feed equipment and clean bedding for housed animals. Feed and water troughs are thoroughly cleaned on a weekly basis. Veterinary medicines records were provided, and these were all satisfactory. All medicines are disposed of safely using a sharp-safe box supplied by the vet practice, when full the practice replaces it with a new one. The farmer was able to rule out contact with lead batteries, paint tins, old machinery, so it would appear the cause of the high levels relate to the lamb's time on the previous holding. There are no lead mines, active or otherwise in the vicinity. The investigation could not establish any potential sources of environmental contamination of the soil and water, locally. Heavy metals can accumulate in the kidney of animals subject to low level exposure over time and this is likely to be the cause in this case.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep kidney	Tulathromycin 3800 µg/kg 2003962	Great Britain	The positive lamb was a homebred lamb that was less than 12 months old. It was transported directly from the farm to the abattoir, along with 17 other lambs. The farmer keeps approximately 42 breeding ewes and 240 orphan lambs, in addition to 280 goats. Medicines are supplied by vets and stored securely in a locked cabinet. Medicine records were up to date, although some information including batch numbers were not recorded. There was an entry in the medicine records of a single sheep being injected with Draxxin in January 2020 for the treatment of pneumonia. This was not the lamb with the positive residue. The farmer admitted it is likely he gave the lamb a single injection of 2.5mls of Draxxin intramuscularly, in the weeks prior to slaughter but forgot to record this in the medicine records or mark the lamb's fleece which is his normal procedure for identifying treated lambs. The data sheet was checked for the dose and route of administration, and no other veterinary medicines were given to the lamb at the same time. Advice was given on the requirements for maintaining accurate medicine records and on having a suitable method for identifying treated animals. The farmer was reminded of his legal requirement to ensure all veterinary medicines used are recorded and withdrawal periods adhered to. He was advised to consult his PVS on the measures needed to avoid residues in future. The investigation established that the likely cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period. Due to Covid-19 restrictions, the investigation was completed by telephone.
Sheep liver	Albendazole amino sulfone 23 µg/kg Albendazole 4200 µg/kg Albendazole sulfoxide 900 µg/kg Albendazole sulfone 890 µg/kg 2023358	Great Britain	The farm is 1770 acres, ring-fenced and has approximately 1000 breeding ewes. Approximately 1200 lambs are born every year. Lambing takes place from December-May. Lambs are sold at the age of 3-12 months. Replacement rams are mainly homebred, but 1-2 replacement rams are bought in once a year from private sources or markets. There are about 400 beef cattle present on the farm. Documentation for the acquisition/purchase of veterinary medicinal products is kept by the farmer in the form of invoices. The farmer was advised to start recording this information in the medicine records. Animal identification is not always recorded. The inspector advised that identification of treated animals must be recorded at all times e.g. colour spray marking if recording of individual animal IDs proves to be unpractical. Guidance has been sent to the farmer on record keeping requirements for medicines to ensure compliance. The investigation established that the likely cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period.
Sheep liver	Closantel 1700 µg/kg 2004606	Great Britain	The management of this medium sized farm is very well organised, running a flock of 100 south country Cheviots and retaining some females for stock replacements. Shearling rams for breeding are sold at the annual ram sale. The farm also has 30 Texel ewes. The positive residue was found in a homebred Cheviot tup (6-12 months), used for breeding. Medicine records were accurate and well maintained. Veterinary medicines were kept in a locked shed, others were placed in a fridge if required. Proof of purchased medicines, veterinary records and detailed information were provided by the farmer, withdrawal periods were observed. The sheep had a regular dosing regimen, the product Flukiver 5% Oral Suspension was administered in November 2019. A sample batch of the group is weighed to establish the correct dose. The farmer is well versed in dosing practicalities via oral route. Methods of establishing a suitable and accurate dosing regimen were discussed with the farmer. The cause of residue was not established. Due to Covid-19 restrictions this investigation was conducted remotely.
Sheep liver	Closantel 2300 µg/kg 2005130	Great Britain	A medium sized farm, of 107 sheep, 148 beef cattle and 2 pet pigs kept separately. Most of the animals are homebred and some are purchased from the local market. Most animals are sold to the slaughterhouse. Cattle are fed grass silage and concentrates on passages, grazing is May-October and the herd is kept in one group until July. They are then split into two groups and housed in the same building located on the main farm. Cattle housing facilities are not wildlife proof and are difficult to make bio secure if needed. Cattle are vaccinated for BVD, Lepto and IBR. The positive sheep was given Closamectin in February 2020. Medicines were stored appropriately and medicine records were found to be satisfactory (photographic evidence was provided). All withdrawal periods had been observed. The investigation concluded that the likely cause of residue was that the animal was double dosed in error. The investigation was completed over the telephone due to Covid-19 restrictions.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep liver	Closantel 2500 µg/kg 2004961	Great Britain	The farm is an accredited member of the Red Tractor Scheme. It is a large cattle and sheep farm. The 97 beef cattle are mainly homebred and sold as stores. The cattle are kept inside, but from April-October they are kept outside grazing. There are around 1000-1100 sheep. Lambs are sold at auction market. The only product used with closantel is Flukiver 5% Oral Suspension, closantel is present in 50 mg/ml. Sheep had been wormed in February 2020. It is possible that the positive lamb was mixed with the sheep and treated by mistake. As over 1000 sheep had been wormed in February 2020 it is hard to determine when the lamb was mistakenly treated. No other medicines were administered to the sheep at the same time. The owner was advised to improve the separation between sheep and lambs whilst sheep are being treated, mark them with a different spray and improve fencing. The investigation established that the likely cause of this residue was the failure to differentiate sheep batches, leading to the animal being slaughtered whilst within a withdrawal period. Due to the Covid-19 restrictions, the investigation was carried out by telephone.
Sheep liver	Closantel 2500 µg/kg 2029105	Great Britain	This is a medium sized farming enterprise consisting of 200 Grey Face mules, crossed to Suffolk tups and 30 Blue Grey cattle. The farm is QMS accredited. Replacement sheep are purchased through market and quarantined in a separate field for 4-5 weeks. Replacements are bought from the same farm each year. All lambs are sold fat or as stores with the first average 150 lambs leaving as fat lambs and the remaining as store lambs later in the year. The farm produces its own hay, only breeding stock is fed in January-April. Lambs receive no supplementary feeding and are finished off grass. Boundary fences are in good repair and it is not possible that animals strayed onto neighbouring farms where treatments may have been in advertently administered. Medicines are sourced from an animal practice and they confirmed supply of Supaverm (closantel) to the farmer. All medicines were appropriately stored. The medicine records were up to date and complete. Supaverm was administered to all ewes in October 2019 and 2020 and in early November 2020. There was no record of its use on the group in question. 17 Suffold lambs had left the holding in August 2020, were sold and slaughtered the same month. No treatment had been recorded in the withdrawal period prior to slaughter, other than the previous year. However, it is probable that an animal or group must have been treated and this was not recorded.
Sheep liver	Closantel 4500 µg/kg	Northern Ireland	An investigation was undertaken in March 2020. The animal 6-12 months old and had been purchased just over 3 months previously in November 2019. It was taken to slaughter in the farm's own transport and was not mixed with any other animals. Movement records are kept in accordance with legislation; however, no medicine records are kept. The animal is one of 100 animals on the farm. The herd keeper mixes his homebred animals with bought lambs and stated that they may have been injected with Closamectin or some other fluke dosage in the middle of December. All but one animal was slaughtered on the same day. Products used unknown.
Sheep liver	Closantel 4600 µg/kg	Northern Ireland	This animal is from a flock of 845 sheep; there are also some cattle present on the farm. An investigation was undertaken in April 2020. The animal was 1 year old and had been purchased 5 months previously. It was taken to slaughter in the farmer's own transport. Movement and medicine records are kept in accordance with legislation. The animal was treated with Closamectin (58 days withdrawal period) in January 2020, along with 500 other animals. It was slaughtered in April.
Sheep liver	Closantel 8800 µg/kg 2004885	Great Britain	The farmer is a sheep and cattle dealer, the farm is accredited as a member of the FAWL Scheme. High numbers of cattle and sheep (mixed breeds of both species) are moved through premises to abattoir regularly. The farm rears its own sheep and cattle and runs a collection centre. The standard of management is generally good. Movement records are thorough, and all sheep are scanned. Medicine records were inspected and were satisfactory. Expired medicines are returned to the PVS. The most recent use of a closantel based product was Fasinex Oral Suspension used in December 2019. There was no use of anthelmintics in any species for the period the animal was on farm. The minimum meat withdrawal period for most products containing closantel is 56 days. The sheep was only present on the holding for 16 days meaning 40 days were unaccounted for, within the trace period for closantel residues. There was no evidence of the use or storage of closantel based products on farm, however it is considered likely that the cause of residue is a result of accidental unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep liver	Fenbendazole 90 µg/kg Oxfendazole 550 µg/kg Oxfendazole Sulfone 19 µg/kg 2004709	Great Britain	The farm is comprised of a beef suckler herd with 355 cattle which has a mixture of cattle breeds, crosses with 2 Charolais bulls and 1 stabilizer bull. There are also 1000 ewes on site. The farmer purchases medicines from the PVS and farm supplies and confirmed that no medicated feedstuffs are used on the farm. Withdrawal periods are checked on the datasheet. Medicines that need refrigerating, are kept in a fridge in the house, others are kept in a disconnected fridge in a shed. According to the medicine records, 240 ewe lambs were drenched with Parafend Oral Suspension (oxfendazole based product) in February 2020. Fattened lambs were slaughtered 8 days after, there is a 10-day withdrawal period on the medicine. In this case there would be a failure to identify animals treated in the farm records (a copy of medicine records and movement records were provided by the farmer). The farmer was advised to maintain appropriate medicine records where the inspection indicated inadequacies. The likely cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period. The investigation was carried out over the telephone due to Covid-19.
Sheep liver	Ivermectin 127 µg/kg	Northern Ireland	An investigation was undertaken in December 2020. The animal had been purchased less than 24 hours prior to slaughter. It was taken to slaughter by the farm's own transport. Movement and medicine records are kept in accordance with legislation. The flock owner confirmed that the animal had not been treated with any form of medication on the farm. The animal is from a 400-size flock; some cattle are also present. All follow up samples were compliant.
Sheep liver	Levamisole 216 µg/kg & Oxycozanide 1346 µg/kg	Northern Ireland	An investigation was undertaken in December 2020. The positive animal was a 7/8-month-old lamb born on farm. The lamb was taken to slaughter in the farm's own transport and was kept separate. Movement records are kept in accordance with legislation; it was not possible to check the medicine records during the time of the investigation as they were with the vet. The lamb is from a flock of 250 and there are cattle on the farm. The animal had been treated with Levafas (which contains Levamisole & Oxyclozanide) and was slaughtered on the fifth day. The withdrawal period for the product is detailed as after 5 days. All follow up samples were compliant.
Sheep liver	Levamisole 230 µg/kg 2023380	Great Britain	Awaiting investigation report.
Sheep liver	Moxidectin 250 µg/kg 2014157	Great Britain	The farm is accredited with the Red Tractor Assurance Scheme and has 432 cattle, 813 sheep, 456 breeding ewes and 45 lambs. Cattle are fed silage, hay, and some corn in November when housed and only grass during summer. The farmer confirmed that he usually deworms sheep in June, August followed by a treatment. Groups are then isolated on different fields, buildings and marked. Vaccination with Heptavac P takes place in January on all ewes. Medicines records, together with photographs were sent electronically to the inspector, however these were not very clear therefore a visit was carried out in February 2021. No expired medicines were found, batch numbers, proof of purchase, withdrawal periods were all recorded. There was one used product Engemycin Spray which was not recorded, the animals treated had been entered in the medicine records by groups not individually. Wormers were used before December 2019 and May 2020 for cattle and sheep. The farmer declared he did not remember treating any sheep with Moxidectin and no products containing this substance were found in the medicine records or medicines cupboard. Recommendation was given to seek advice from the PVS on measures to achieve future compliance with legislation, to update medicine records for medicines and to observe withdrawal periods, guidance was provided on record keeping requirements. The likely cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period.
Sheep urine	Alpha-Boldenone 0.2/1.9 µg/kg	Northern Ireland	β - Boldenone is indicative of abuse and α- Boldenone indicative of faecal contamination. No investigation required as no presence of conjugated β -Boldenone.
Sheep urine	Alpha-Boldenone 0.4/3.8 µg/kg	Northern Ireland	Boldenone is indicative of abuse and α- Boldenone indicative of faecal contamination. No investigation required as no presence of conjugated β- Boldenone.
Sheep urine	Alpha-Boldenone 0.54/1.8 µg/kg	Northern Ireland	β - Boldenone is indicative of abuse and α- Boldenone indicative of faecal contamination. No investigation required as no presence of conjugated β -Boldenone.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-Boldenone 2.0 µg/kg 2028288	Great Britain	A medium sized farm accredited farm by OF & G Organic and FABBL Assurance Scheme. It is comprised mainly of sheep and beef cattle. High standards of management are observed at this farm, which is audited regularly by contractors. The batch of sheep sent for slaughter had not been medicated. The positive sheep was a Texel x,108 days old. White clover grazing mix is given. Medicine records are kept electronically of all treatments given to individual animals on the farm. Purchase dates, batch numbers, medicine names were all compliant and the information was satisfactory. No expired medicines were found, and medicines were stored appropriately. Adequate animal ID and withdrawal periods were recorded. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling.
Sheep urine	Alpha-Boldenone 2.1 µg/kg 2028088	Great Britain	A small farm comprised of mainly sheep and some poultry. Animals are kept outside and can be sheltered if necessary. They eat grass in the field and do not need any further supplementation for finishing. The herd is composed of different breeds, the males are mainly Beltex. The females are a cross between Suffolk and Texel and the number of ewes is around 25. Finished lambs are sent to the abattoir, ewes are sent to the local market. The inspector spoke to the veterinary practice and they confirmed that the owners keep satisfactory medicine records. All the medicines are stored appropriately. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling.
Sheep urine	Alpha-Boldenone 2.1 µg/kg 2028246	Great Britain	This organic farm is accredited with the Red Tractor Assurance Scheme. A batch of 17 lambs (6-12 months old) was sent to the dealers. All the lambs were homebred born on farm. The main species consists of 522 sheep and 92 cattle. They were medicated with Paramectin for sheep scab (active substance ivermectin) and were still within the withdrawal period for meat, being organic the withdrawal period is double. The medicine records and medicine storage facilities appeared satisfactory. The cattle herd is a closed organic herd, 43 suckler cows and heifers with Hereford bull. All cattle are finished to slaughter. No other cattle are bought in except for the bull. Sheep are fed grass in summer, hay, silage and salt licks, solid molasses for energy offered in buckets. Lambing season starts March-April and lambs are sent to slaughter between July-January. Sheep are not vaccinated but are dewormed with treatment prevention for flystrike. The vet is called out occasionally and there is a health plan for the sheep. Animals are weighed and dosed as per instruction for that weight. Medicines used are for the correct target species. Antibiotics are prescribed by the veterinary practice; proof of purchase receipts are kept. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling.
Sheep urine	Alpha-Boldenone 2.2 µg/kg 2028237	Great Britain	This farm is an accredited member of the FAWL and Red Tractor Assurance Scheme. The dairy farm consists of 172 pregnant cows, 11 bulls, 68 1-year old calves, and 52 bulling heifers. Sheep are also kept outside on grass, there is no treatment or worming. There are 263 breeding ewes, 11 rams, 26 replacement lambs. Sheep get selenium drench before lambing in January. Sheep go straight to slaughter. No mixing of any medicated products takes place or is used to feed the livestock at this holding. Medicine records were inspected and found to be satisfactory. Veterinary medicines are stored in a designated area with limited access, sourced from the vet practice. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. Due to Covid-19 restrictions, no physical inspection was carried out.
Sheep urine	Alpha-Boldenone 2.2 µg/kg 2035404	Great Britain	A medium sized farm comprised of mainly sheep, and some fattening cattle. There are about 1000 ewes to be lambed in April and 46 young cattle for fattening. Sheep are grazed and fed with complementary feed for growing and finishing lambs. Thirty homebred lambs (6-month-old males) were sent to the abattoir in September 2020, they had been grazed and fed pellets in feeders. Sheep are regularly wormed; receipts are kept and their usage including withdrawal periods recorded in the medicine records. Medicines are stored in an old chest freezer. There were new packages of wormers, no other medicines were present at the time of the inspection. The farmer was advised to continue good practice with record keeping, storage of medicines and to dispose of medicines in the appropriate manner. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural, due to accidental faecal contamination of the urine at the time of sampling.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-Boldenone 2.3 µg/kg 2028207	Great Britain	An accredited member of FAWL (Farm Assured Welsh Livestock Beef and Lamb Scheme). The farm has 300-400 ewes that are kept on grazing land all year and are kept in house for lambing. Lambs are fed with creep feed so they are finished quite fast. The flock grazed on fields that due to the exceptional good weather last spring had abundant pasture. The farmer also explained that the fields contained a lot of clover, which has been found to be related with the natural production of alpha-boldenone. The positive animal was a male lamb that had been grazing on the clover pasture. There were no abnormal appearances in the batch of sheep where the residue occurred. The medicine records were satisfactory and medicines were appropriately stored. The farmer was advised to discuss the findings further with the PVS. There was no evidence of the use of banned substances on the farm, therefore the presence of this hormone is considered to be natural due to accidental faecal contamination of the urine at the time of sampling. The investigation was carried out on the telephone, due to Covid-19 restrictions.
Sheep urine	Alpha-Boldenone 2.4 µg/kg 2028149	Great Britain	A medium sized farm comprised mainly of beef fattening cattle. The stock consisted of 98 fattening cattle, bought as calves or stores, and finished to slaughter weight. There were 96 sheep in lamb ewes (Lleyn x and Suffolk x), 3 tups, 43 ewe lambs. There were no ongoing health issues, the usual reasons for cull were due to prolapse or teeth. Also present on the farm, were 4 horses and these were fed overnight in the stable with dedicated feeding equipment, therefore there was no possibility of sheep contacting any horse feed or supplement. The farm manager appeared very knowledgeable and complied with all requests for information during the investigation. Copies of medicine records, photographs and descriptions of medicines storage were provided, these were found satisfactory. Animal ID and withdrawal period details were adequately recorded. No expired medicines were found. The positive animal was a cull Lleyn x ewe over 36 months old and was transported with 6 other cull ewes to the market in September 2020, then to the abattoir for slaughter). It had received no treatments and was apparently in normal condition when it left the farm. There was no evidence of the use of banned substances, therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. The investigation was conducted remotely due to Covid-19 restrictions.
Sheep urine	Alpha-Boldenone 2.5 µg/kg 2013207	Great Britain	The farm has a 500 strong lambing flock and a small suckler herd. The sheep tested was one of a group of 35 transported to market in May 2020. The animal was bought and transported to the abattoir where it was sampled. The fat lamb was born on the holding inside, then within a week of birth was placed on grazing close to the farm. It is possible, but unlikely that a small number of cattle were grazing the field at the same time. There is a bridleway through the field. Concentrates for the cattle is supplied in bags and for the sheep a combination of bags blown to silo. There is no in-feed medication. The land is very old pasture with a huge variety of grass types and plants accessible. There was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. Due to Covid-19 restrictions, the investigation was carried out remotely.
Sheep urine	Alpha-Boldenone 2.6 µg/kg 2003641	Great Britain	The sample was taken from a sheep purchased at the local market in July 2019. The sheep only left the farm to go directly to abattoir in February 2020. A small farm, where livestock are kept in six-acre fields, fed with grass in summer and hay over winter. They spend most of the year at the grass fields, or if it is wet, they go into a small shed. Ewes get fed before lambing, sugar beet and champion ewe pellets mixed. Medicines records and movement records were unsatisfactory. Licence movements are kept together in a folder, but there is no movement records book. In March 2020, the farmer purchased 2 boxes of Alamycin, the invoice was provided. The medicine cabinet contained Alamycin, Tribex 5% and Engemycin Spray. The farmer used a diary to write notes (lambing time, feet treatments), but these records were very poor. Alamycin was injected in April 2020, it was not clear which sheep had been treated as no ID was detailed and withdrawal periods had not been recorded. The farmer was advised to obtain a movement and medicine book and the inspector explained how the records needed to be organised noting treatment dates, withdrawal periods and eartag IDs, further guidance was provided. There was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. Due to Covid-19 restrictions, the investigation was completed remotely.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-Boldenone 2.9 µg/kg 2003569	Great Britain	This medium sized farm is an accredited member of the Red Tractor Assurance Scheme. It is comprised of a small herd of 15 breeding cattle kept on the premises; their offspring are sold as stores at approximately 15-18 months of age. There is also a flock of sheep (210 ewes, plus lambs) and 30 hens. The flock is vaccinated with Cevac and Heptavac, wormed with Combinex and dipped using Gold Fleece Dip. Medicines are mainly obtained from the PVS. Medicine records and medicines storage were satisfactory. The positive lamb was part of a group of 7 tups that were sent to slaughter (no ID was provided for this animal). It was treated with Combinex in December 2019. This was the last batch of animals from this group to go to the abattoir. There were no animals left from the same group on the farm and the premises appeared to be well managed. The owner was reminded that individual animal identification should be recorded. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered to be natural due to accidental faecal contamination of the urine at the time of sampling. Due to Covid-19 restrictions, the investigation was carried out remotely.
Sheep urine	Alpha-Boldenone 2.9 µg/kg 2028176	Great Britain	This is a small farm of sheep and turkeys. Turkeys are seasonally farmed between July-December. Lambing usually starts end of April. Due to numerous dog attacks and the keeper winding down the sheep enterprise, approximately 35 ewes are now kept. Sheep are permanently kept on grass; no supplementary feed is given prior to slaughter and no fertiliser is used on grazing land. No treatments were given to the sheep in the 3-4 months prior to slaughter. The last medicines used were Alamycin in one ewe for mastitis in May 2020 and Crovect to 50 lambs for blowfly prevention. The keeper had a problem with coccidiosis the previous year in turkeys and lost around 50 of them. Treatment given in July was Baycox, Chlorsol 50%. Chlorsol is not licenced for use in turkeys but was prescribed by the PVS, the statutory withdrawal period was advised. Issues in the medicine records were noted. The withdrawal period for Alamycin was recorded as 9 days for meat, offal in sheep but the SPC records this as 24 days. The PVS confirmed they had mistakenly put the old withdrawal period on the bottle label, the keepers were notified. The vet was confident that sheep were not slaughtered during the new withdrawal period. There were no movements off the farm during the 24-day period. The vet reported that worming tablets were prescribed to the farm dogs and pet dogs in May 2020. The keeper was advised to clearly mark expired bottles, exceeded broach periods and to dispose of expired medicines appropriately. The presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. Due to Covid-19 restrictions, the inspection was completed remotely via telephone.
Sheep urine	Alpha-Boldenone 3.6 µg/kg 2028251	Great Britain	This is a medium farm accredited by the Red Tractor Assurance Scheme. The farm has 2200 sheep (1700 ewes, 50 tups, 350 gimmers, 100 fat lambs) and 88 cattle suckler herd. The positive male sheep was sent to abattoir in September 2020. Movement records were provided and checked to confirm that the sheep sampled came from the holding to slaughter indirectly via auction. Medicine disposal and purchase records were checked and found to be satisfactory. Treatments recorded were for routine clostridial disease vaccinations, wormers, and mineral deficiencies. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling.
Sheep urine	Alpha-Boldenone 3.6 µg/kg 2035406	Great Britain	This is a large farm used for grazing sheep and cattle, several blocks of land are used for forage fodder bet. The use of fertiliser is kept at minimum, the farmer uses cow and chicken manure. No mixing of any medicated products takes place or is used to feed the livestock at this holding. There is a suckler herd (350 cows), young stock for fattening, a total of 900 cattle and five poultry sheds with laying hens (140,000 birds). Sheep are kept outside and fed with pellets. Medicine records were up to date and correctly completed in compliance with legal requirements. All individually treated animals are marked with paint spray and are separated from the rest in a specific fields or pens. The veterinary medicines are stored in a designated area with limited access. All of them are sourced from the vet practice and local merchants. The PVS confirmed that medicines are purchsed from the practice. There was no evidence of the use of banned substances on the farm, therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. The investigation was carried out remotely due to Covid-19 restrictions.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-Boldenone 3.8 µg/kg 2035356	Great Britain	The farmer has a small flock of ewes which lamb on an area of common grazing. There are approximately 10 livery horses on site belonging to other people. The farmer would be unaware of what treatments the horses received prior to arrival, but any treatments received on his holding will have been dispensed by his own PVS. Lambs that are born stay on the common before returning to the farm to graze paddocks. The sheep graze with horses or graze on grassland that previously held equines. The animal in question was born and reared on the farm. The medicine records were not complete and were somewhat patchy on the recording of sheep treatments and dates. The inspector reminded the farmer of his obligations for record keeping requirements. Processes have now been amended and put in place at the farm. Apart from penicillin derivate antibiotics, wormers and vaccinations, nothing had been administered to the sheep. Close to lambing the farmer obtains Pen and Strep from his PVS. The investigation established that there was no evidence of the use of banned substances, therefore the presence of this hormone is considered to be natural due to accidental faecal contamination of the urine at the time of sampling.
Sheep urine	Alpha-Boldenone 4.1/5.4 µg/kg	Northern Ireland	β- Boldenone is indicative of abuse and α- Boldenone indicative of faecal contamination. No investigation required as no presence of conjugated β- Boldenone.
Sheep urine	Alpha-Boldenone 4.7 µg/kg 2028141	Great Britain	This is a medium scale beef and breeding sheep enterprise and accredited with the SAI Global Services Scheme. There are 24 suckler cows and 200 breeding sheep. At the time of inspection, the cattle and sheep were housed as lambing was underway. The general standard of management and record keeping was satisfactory. The positive animal was a homebred adult female over 36 months old. Attempts were made to contact the abattoir/OV who collected the samples to confirm the full eartag, but contact was not successful. From the movement records provided on farm, and the FCI, there were several homebred females with this herd mark sold as a part of a group in July 2020. Confirmation of the full eartag would have been beneficial. The medicine records and medicine storage facilities were found to be satisfactory. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling.
Sheep urine	Alpha-Boldenone 5.0 µg/kg 2035362	Great Britain	This is small farm is part of the Red Tractor Assurance and FABBL Scheme. A flock of approximately 300 ewes is maintained and there is a herd of 30 suckler cows. Sometimes the farm breeds its own replacements, and some are purchased. Additional calves are bought in, cattle are sold as stores. There is also a pheasant shoot on the land. The farmer confirmed that he does very little in terms of routine medication other than worming the ewes at tupping, when tailed (April/May), white drench Rycoben Oral Suspension and at weaning. Endofluke is purchased from the PVS. All lambs are treated with Betamox LA as a prevention for watery mouth. No vaccinations are used, treatments are occasionally required for pneumonia, usually during March and April. The farmer recalled that one ewe was treated for pneumonia in early summer but subsequently died. The farmer was advised to record some form of ID (e.g. spray mark) in the medicine book for groups of sheep. The presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. The investigation was completed remotely due to Covid-19 restrictions.
Sheep urine	Alpha-Boldenone 5.1 µg/kg 2028285	Great Britain	This is a medium sized farm, there are about 350 ewes which were lambing, 100 cattle (suckler herd) and 6 breeding pigs. Sheep are fed with grass, minerals, and oats. No other complementary food is given. 107 animals were sold to the livestock market in July 2020. These lambs were born in February/March 2020 and the only feed provided was grass and oats. They were treated with Scavibax in April 2020 (withdrawal period is zero days). All medicines are prescribed by a veterinary practice, all invoices and treatments are kept up to date, well recorded, and medicines are stored in a locker. A bottle of Alamycin was found, there were more empty bottles and the farmer was advised to dispose of them in an appropriate manner. The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-Boldenone 6.2 µg/kg 2028112	Great Britain	This farm is mainly comprised of cattle, together with sheep and pigs. Sheep are transported from the farm to the abattoir. The sample was taken from the urine of a male. The inspection found that some of the entries were missing for the withdrawal periods on the medicine records. The farmer in charge of the sheep explained that animals individually treated are spray marked before sending to the abattoir. Ear tags are verified against records to ensure the animals are not in a withdrawal period when sent to slaughter. A bottle of expired Ketosaid and a Calciject medicine were found in the medicine cabinet. The farmer was advised to take out of date medicines to the vet and request a receipt for records. Clover consumption can cause high levels of this residue (red and white clover was found at the fields.) The investigation established that there was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered to be natural due to accidental faecal contamination of the urine at the time of sampling.
Sheep urine	Alpha-Boldenone 6.4 µg/kg 2013284	Great Britain	This is a small sheep enterprise, current numbers are around 180 ewes, but in 2020 there were 300. All animals and replacements are homebred and feed on grass. They are supplemented with hay and feed nuts to finish them for the last 4 months. The positive animal was sent directly to the abattoir in April 2020 as part of a group of 9 animals (7 yearlings and 2 ewes) destined for wholesale. The owner transported the animals himself. The yearlings were only wormed at 6-7 weeks old and then again in autumn 2019. No other treatments or medicines were administered. The inspector was satisfied with the procedures in place for medicine record keeping and medicine storage. The presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. The investigation was carried out via telephone due to Covid-19 restrictions.
Sheep urine	Alpha-Boldenone 7.3 µg/kg 2028206	Great Britain	The holding is an accredited member of the FAWL Scheme and is comprised of 137 acres of land used mainly for sheep and cattle grazing, small blocks of land around 4 acres are used for forage rape crops and swedes. The farmer has an organic suckler herd of 60 cattle and organic sheep flock of 160 ewes. Only cow manure is used as a fertiliser, no mixing of medicated products takes place or is used to feed the livestock at the holding. Before lambing, the ewes are fed with an organic cake, sheep are kept outside grazing most of the year, except during lambing time when they are kept indoors for a month. Medicine records were up to date and correctly completed in compliance with the legal requirements for farmers. Treated animals are marked with a red spray on their heads. Medicine records indicated the use of standard treatments for livestock. Veterinary medicines were stored in a designated area, with limited access to a locked fridge. The presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. Due to Covid-19 restrictions the investigation was completed remotely via telephone.
Sheep urine	Alpha-Boldenone 8.0 µg/kg 2028146	Great Britain	The farm is a medium sized farm of sheep and cattle accredited by the FAWL scheme. The cattle herd is a closed herd of 30 suckler cows, 10 heifers and 1 bull, youngstock of 9 calves. No cattle had moved over the past 6 months. Feed and cattle pellets were bought in, the animals fed with grass, grass silage or hay. There had been problems in previous years with calves single suckling that were born looking well, but unable to suckle. The farmer has started to administer boluses to the cows before calving to prevent the iodine deficiency diagnosed by the vet. The calves also received supplements in calf creep units. Sheep are not vaccinated, they are usually dewormed and treated for flystrike. A vet is called out occasionally and there is a health plan for the sheep. Medicines used are for the correct target species. Antibiotics and anti-inflammatories (steroids) are prescribed by the veterinary practice. The farmer confirmed that he had not administered steroids to his sheep, only to cattle (Dexafort) which was to induce calving in cows and part of treatment for calves which did not suckle. No medicines containing steroids were found in the medicine storage facility, a locked fridge. Medicine stock consisted of Clik, Crovect and Calicject. The farmer was advised to continue recording veterinary medicines administered to the livestock, medicine disposals were also discussed, no expired medicines were found during the inspection. The presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-Boldenone 26 µg/kg 2028270	Great Britain	This is a small sized sheep farm accredited as part of the QMS Assurance Scheme. It has 200 breeding ewes, Texel x, Hampshire x, mules, lambs are produced for the market. The full ID of the positive animal was not available, but the farmer was able to ascertain that the sheep were moved from the farm to the mart in June 2020 by his own means of transport (in a batch of 7 cast ewes). The animal was slaughtered a month later. It is considered very unusual for a sheep to be kept on the market for so long before being sold. No banned substances were found in the medicine storage facilities, photographs were provided. All medicines are purchased from the veterinary practice. The medicine records were compliant, withdrawal periods had been observed and the medicine usage details and purchases from Jan 2019 were provided. Around 40 ewes were inspected and found to be in good condition, without abnormal, muscular conformity. The farmer was directed to information and guidance on veterinary residues. The presence of this hormone is considered natural due to accidental faecal contamination
Broilers liver	Toltrazuril sulfone 960 µg/kg 2019165	Great Britain	This is a privately owned broiler unit, accredited by the Red Tractor Assurance Scheme. They operate 5 houses with approximately 30000 birds per house. The birds in houses 4-5 had droppings checked for coccidiosis around day 11 and these were detected in house 5. A prescription for water medication Zorabel was given. This was recorded in the medicines record, dosage rates against the data sheet were correct. The positive sample came from a bird in house 4, although the owners had recorded house 5 for birds treated. Zorabel has a withdrawal period of 18 days, the medicine was given 22-23 days before slaughter well within the withdrawal limits. IB vaccines were given by sprayer to the birds, the same day. The water system used was inspected, water consumption is metered. Each house has a drug delivery system called Dosatron where drugs can be added to water and sucked into the system, mixed, and delivered to the birds through a pipeline and cup drinkers. The owner admitted he never flushed the system through, so some residual medicines may be present in the pipes and holder of the Dosatron. D78 Gumboro vaccine was subsequently administered by Dosatron at day 25, so it is possible that residual Zorabel was administered with the vaccine which would have been within 10 days of slaughter. The investigation established that the likely cause of this residue was a failure to thoroughly flush the medicine delivery system between drug administrations.
Eggs	Aminooxazolodinone (AOZ) 0.18 µg/kg	Northern Ireland	An investigation was undertaken in July 2020. The commercial egg laying poultry farm has been in production since February 2020 with the pullets being placed on the farm in early February prior to commencement of lay. This farm had initially been a parent broiler breeder for 26 years and ceased in January 2016. The two houses lay empty until the egg laying farm commenced. Water, feed, eggs and tissue samples were analysed. The analysis determined the presence of Furazolidone (22mg/ml) in the water tank in house. Two eggs also displayed AOZ concentrations ranging from 0.18 to 0.22 µg/kg. Muscle samples taken from birds in house 2 gave AOZ concentrations ranging from 0.17 to 0.43 µg/kg. It is assumed the drug has been present from a time of legal use and was released into the water when the tanks were cleaned preproduction in February 2020. Up to that point the tanks had not been in use for 4 years and they had not been drained out. The flock keeper intends to replace the tank at the end of this production cycle and has bypassed the tank in the meantime. Since bypassing the water tank in house 2, all follow up egg samples have been compliant.
Eggs	Lasalocid 310 µg/kg 2022683	Great Britain	The farm has 9 laying houses with approximately 200 birds/shed. The egg samples had been taken from house 6/7/8. The owner also keeps cattle, but at a different site. The source of contamination could not be identified at the farm. A mill inspection was carried out, there were no issues noted during this inspection and the results were inconclusive. However, there were trace samples of Lasalocid in the retained samples that were analysed. It is recommended that the mill carry out random sampling for Lasalocid Sodium within the production lines, or if there are more serious equipment failures that are allowing build-up of returns, dust to contaminate feed. In conclusion, it is likely the residue was caused by possible feed contamination off farm.
Eggs	Monensin 2.3 µg/kg 2001706	Great Britain	The farm is new to the large-scale production of eggs and does not have any broilers or birds that would require monensin. It is highly unlikely that the contamination occurred at the farm. The egg was collected from a brand-new shed with young birds in early lay. There are no broilers on the farm. There did not appear to be any issues with procedures at the farm. The investigation was inconclusive; however, feed contamination may have occurred at the mill. Due to Covid-19 restrictions, an on-site inspection was unable to take place.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Eggs	Narasin 2.9 µg/kg 2036678	Great Britain	The source of residue was not established.
Eggs	Salinomycin 9.5 µg/kg 2022684	Great Britain	The inspector identified no issues at the farm and believes it is unlikely that the residue came from there. For the mill inspection, the findings were inconclusive, however, there were some issues identified during the mill visit that caused concern (discrepancies in quality checks, handwritten records not matching computer records) and these will need to be addressed through refresher training in accuracy, and for the purposes of traceability to reduce the risk of reoccurrence. In conclusion, the source of residue could not be established.
Farmed salmon muscle and skin	Emamectin 130 µg/kg 2001976	Great Britain	Evidence suggests that a section of the SPC may not have been followed. The product was not administered in accordance with the Marketing Authorisation, which is a breach of the Veterinary Medicines Regulations 2013. A warning letter was sent, and the content was acknowledged and understood. Emamectin is a bio accumulative compound which accumulates in the flesh of salmon, and this will have contributed to the high MRL.
Farmed trout muscle and skin	Leucomalachite green 3.3 µg/kg 2001782	Great Britain	The investigation established that the cause of residue is likely to be from environmental contamination.
Honey	Dichlorobenzene 24 µg/kg 2008823	Great Britain	A follow up advisory visit was undertaken in December 2020. A previous honey sample had tested positive for Napthalene. The inspector explained the reason for the visit and the beekeeper confirmed that he had never used Napthalene. The honey sample originated from and was extracted from the beekeeper's own colonies (harvested in 2020). It was taken from a bottling tank. A second sample was taken from a jar of honey that was not for sale. An inspection of the extracting room and storage area (including the teaching apiary) was carried out. However, no obvious source of the contamination could be found. The medicine records were not in accordance with the regulations. Advice and information on record keeping requirements were provided to the beekeeper. The investigation was unable to establish a source for this residue.
Horse kidney	Cadmium 13000 µg/kg 2016147	Great Britain	Awaiting investigation report.
Partridge muscle	Lasalocid 60 µg/kg 2036825	Great Britain	Awaiting investigation report.
Partridge muscle	Lasalocid 260 µg/kg 2036826	Great Britain	The birds in question were shot several days before collection from a chiller cabinet. They had been released onto open ground soon before slaughter and were approximately 18-19 weeks of age. The owner stated that the birds were last medicated in September with Vetmulin, however he was not aware that his game grower order contained a coccidiostat or that the product had a withdrawal period on it. He had believed until checking, that his birds were eating the next delivery (poult release plus spice) at the time of shooting. On examining his records, he explained that he had failed to withdraw the game grower Avatec. His actions were a result of lack of knowledge of the product purchased. There was no reason to suspect an issue occurred at the mill or that there was an issue with the premix. The investigation established that the cause of residue was probable feed contamination on farm.

Sampling of animals suspected of containing a residue at the time of slaughter: 31 December 2020

Residues detected above the reference point to date: 31 December 2020

Medicinal products can be found on the Product Information Database.

Sample	Analysed for	No. of Analyses	No. of Non-compliant samples	Reference Point µg/kg/l	Concentrations above the Reference Point µg/kg/l
Calves kidney	Antimicrobial screen 1	1	1	600	2100 oxytetracycline
Cattle kidney	Antimicrobial screen 1	927	8	1000	1800, 2700, 3900,6100, 27000 dihydrostreptomycin
				150	250, 270 marbofloxacin
				600	2800 oxytetracycline
Cattle kidney	Florfenicol	927	1	300	1300 florfenicol
Cattle liver	Anthelmintics	65	1	1000	1160 closantel
Cattle liver	Corticosteroids	4	1	Presence	4.4 cortisol
Sheep liver	Anthelmintics	50	1	20	1100 nitroxynil

Results of follow-up investigations: 31 December 2020

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Calves kidney	Oxytetracycline 2100 µg/kg 2097000	Great Britain	Awaiting investigation report.
Cattle kidney	Dihydrostreptomycin 1800 µg/kg	Northern Ireland	An investigation was undertaken in March 2020. The animal was 11 years old and was born on farm. It was taken to slaughter in the farm's own transport and was not mixed with any other animals. Movement and medicine records are kept in accordance with legislation. The animal is from a 276-dairy herd. The animal had a twisted stomach and was operated on by the vet who administered Pen & Strep (23 days withdrawal period) internally during the operation. It was also given Vetrimox (18 days withdrawal period) for 3 days after the operation. The farmer had forgotten about the treatment given for Pen & Strep. The animal was not getting any better and was sent for slaughter. All follow up samples were compliant.
Cattle kidney	Dihydrostreptomycin 2700 µg/kg	Northern Ireland	An investigation was undertaken in August 2020. The animal was 5 years, 5 months old and was born on farm. It was transported to slaughter by the farm's own transport. Movement and medicine records are kept in accordance with legislation. The animal is from a dairy herd of 700. Sheep are also present on farm. The animal was administered Pen and Strep (23 days withdrawal) on giving it exactly 23 days of withdrawal time. The medicine was administered correctly. The animal was condemned at the abattoir; It is probable that due to the animal being unwell its metabolism effected the elimination of the drug.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle kidney	Dihydrostreptomycin 3900 µg/kg	Northern Ireland	An investigation was undertaken on 22 July 2020. The animal was from a herd of 100 beef fattening animals and was just over 2 years old. Sheep were also present on the farm. It had been purchased 20 months prior to slaughter in August 2018. Movement and medicine records are kept in accordance with legislation. The animal was sold to another herd keeper the day previous to slaughter, however it was a different herd keeper who presented the animal for slaughter. The original herd keeper stated that no Dihydrostreptomycin was administered to this animal while on his farm. The buyer had been informed of previous treatments. It had been treated with Nuflor which has a 44-day withdrawal-period. The animal received 21 days withdrawal and had a low concentration of florfenicol (76ug/kg). It was condemned at the post mortem stage. Follow up samples have been compliant.
Cattle kidney	Dihydrostreptomycin 6100 µg/kg	Northern Ireland	An investigation was undertaken in July 2020. The animal was 6 years old (from a herd of 25) and had been purchased 4 months prior to slaughter. It was transported to slaughter by the farmer's own mode of transport. Movement and medicine records were kept in accordance with legislation. The animal was administered Pen and Strep on 11 May 2020 which has a 23-day withdrawal period; the medicine was administered correctly. The animal had been examined by a vet on 22 June and no other medication was prescribed.
Cattle kidney	Dihydrostreptomycin 27000 µg/kg	Northern Ireland	An investigation was undertaken in August 2020. The positive animal was 5 years, 5 months old and was born on the farm. The animal was from a dairy herd of 700 sheep also present at the farm. The animal was administered Pen & Strep Suspension for Injection in June 2020 with a withdrawal period of 23 days and the medicine had been administered correctly. It was transported to slaughter in the farm's own transport. On inspection, the movement and medicine records were found to be satisfactory and kept in accordance with legislation. The animal was condemned at the abattoir; suggestion is that due to the animal being unwell its metabolism affected the elimination of the drug. All follow up samples were compliant.
Cattle kidney	Florfenicol 1300 µg/kg	Northern Ireland	An investigation was undertaken in October 2020. The animal was 3 years, 10 months old and had been purchased 7 weeks previously. The animal was from a beef finishing herd of 166. Movement records were kept in accordance with legislation. The medicine records did not contain full details of the administration route of treatments. The animal was administered Nuflor in September (this medicine has 30 days withdrawal for intramuscular and 44 days withdrawal for subcutaneous). The animal received 32 days of withdrawal time. It was examined by a vet on 9 October and due to a suspected fractured pelvis, the animal was slaughtered on-farm. The stockman confirmed the animal had not received any treatment. Another vet examined the animal but was not aware of the previous treatment. It was later confirmed that the animal had received the Nuflor by subcutaneous injection and therefore would have required the longer withdrawal time period.
Cattle kidney	Marbofloxacin 250 µg/kg	Northern Ireland	An investigation was undertaken in October 2020. The animal was 6 years old and had been purchased less than 24 hours prior to slaughter. The animal was from a 463-beef finishing farm, there were also some sheep present. It was taken to slaughter by the farmer's own transport. Movement and medicine records were kept in accordance with legislation. The herdkeeper confirmed that the animal had not been treated with any form of medication on his farm. All follow up samples were compliant.
Cattle kidney	Marbofloxacin 270 µg/kg	Northern Ireland	An investigation was undertaken in January 2020. This is a 195-beef finishing farm, there are also sheep present on the holding. The animal was 4 and half years old and had been purchased 1 month prior to slaughter. It was taken to slaughter in the farm's own transport. Movement and medicine records were kept in accordance with legislation. The animal had been treated with 20mls of Marbocyl 10% (6-day withdrawal period) in January 2020. The animal was slaughtered 7 days after medication. The manufacturer's instructions were followed for administration of the medicine. Depending on the weight of the animal the dosage is 1ml/50kg. All follow up samples were compliant.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle kidney	Oxytetracycline 2800 µg/kg	Northern Ireland	An investigation was undertaken in March 2020. The animal was 1 year old and had been purchased 7 weeks previously. It was taken to slaughter and was not mixed with any other animals. Movement records were kept in accordance with legislation. However, the medicine records were not, as no individual animal was identified for any treatments given. The animal is one of 32 cattle on the farm. The animal was treated for pneumonia in December 2019 and was given a single injection of Synulox RTU which contains Amoxicillin (has 42-day withdrawal period). It is possible that the animal was treated with a medicine containing oxytetracycline by a previous owner however meat withdrawal for oxytetracycline is usually 35 days which would still not explain the high residue concentration detected unless it was administered incorrectly. This animal also had traces of non violative levels of other medicines (Florfenicol, Amoxicillin, PenG).
Cattle liver	Closantel 1160 µg/kg	Northern Ireland	This is one of two follow up samples taken in January 2020 which were from a producer who previously had a non-compliant sample for closantel in 2016; the cause of the 2016 non-compliant was not determined as the animal had been dosed correctly with Closamectin.
Cattle liver	Cortisol 4.4 µg/kg	Northern Ireland	No on-farm investigation was undertaken as it was determined that this animal was condemned at abattoir for fever, oedema and emaciation. Therefore, the cause of the cortisol levels is most likely to be attributed to the animal being under stress.
Sheep liver	Nitroxynil 1100 µg/kg	Northern Ireland	This animal was a follow up sample taken for risk samples (Closantel 3600 & 3200 µg/kg). The animal was taken to slaughter by the farm's own transport and mixed with other animals. Movement and medicine records were not checked due to Covid-19 restrictions. The animal is from a fattening flock; there are cattle present on the farm also. There is a high turnover of animals on the farm as the flock owner buys and takes them straight to slaughter; he claims that he does not administer any medication as the sheep are going for slaughter. All further follow up samples were compliant.

Details of 2020 UK statutory surveillance programme by sector

Cattle

Group	Analyte	Species	Matrix	Number of non-compliants / analyses (% non-compliant)
A2	Thyrostats	Cattle	Urine	0/170
		Fattening cattle	Urine	0/251
A3 Hormones	Gestagens	Cattle	Kidney fat	0/296
		Fattening cattle	Serum	0/291
	Oestradiol	Cattle (male)	Serum	0/213
		Fattening cattle (male)	Serum	0/358
	Steroid screen 1	Cattle	Urine	9/1096 (0.82%)
		Fattening cattle	Urine	20/1219 (1.64%)
	Testosterone	Cattle (female)	Serum	4/332 (1.20%)
		Fattening cattle (female)	Serum	2/365 (0.55%)
A4 Hormones	Zeranol	Cattle	Urine	8/396 (2.02%)
		Fattening cattle	Urine	14/380 (3.68%)
A5	Beta-agonists	Calves < 6 months	Liver	0/8
		Cattle	Liver	0/589
		Fattening cattle	Feed	0/229
		Fattening cattle	Urine	0/254

Group	Analyte	Species	Matrix	Number of non-compliants / analyses (% non-compliant)
A6 Annex IV	Chloramphenicol	Calves < 6 months	Kidney	0/8
		Cattle	Kidney	0/301
		Fattening cattle	Feed	0/317
		Fattening cattle	Urine	0/61
	Nitrofurans	Calves < 6 months	Kidney	0/4
		Cattle	Kidney	0/170
		Fattening cattle	Feed	0/221
	Nitroimidazoles	Calves < 6 months	Kidney	0/4
		Cattle	Kidney	0/177
B1 Antimicrobials	AMS1	Calves < 6 months	Kidney	5/133 (3.76%)
		Cattle	Kidney	0/1279
	AMS2	Cattle	Kidney	0/137
	AMS4	Calves < 6 months	Kidney	2/108 (1.85%)
		Cattle	Kidney	1/135 (0.74%)
	Florfenicol	Calves < 6 months	Kidney	1/370 (0.27%)
B2A	Anthelmintics	Cattle	Liver	1/742 (0.13%)
	Avermectins	Cattle	Liver	1/483 (0.21%)
B2B	Coccidiostats	Calves < 6 months	Liver	1/18 (5.56%)

Group	Analyte	Species	Matrix	Number of non-compliants / analyses (% non-compliant)
B2C Pesticide screen	Pyrethroids	Calves < 6 months	Kidney fat	0/29
		Cattle	Kidney fat	0/8
B2D	Sedatives	Cattle	Liver	0/38
B2E	NSAIDs	Cattle	Kidney	1/425 (0.24%)
	PBZ	Cattle	Plasma	0/69
B2F	Glucocorticoids	Cattle	Liver	0/344
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Cattle	Kidney fat	0/84
B3B Pesticide screen	Organophosphorus compounds	Cattle	Kidney fat	0/233
B3C Heavy metals	Metals	Cattle	Kidney	3/82 (3.66%)
		Cattle	Muscle	0/22
B3D	Mycotoxins	Cattle	Liver	0/31

Horses

Group	Analyte	Matrix	Number of non-compliants / analyses (% non-compliant)
A2	Thyrostats	Urine	0/1
A3 Hormones	Steroid screen 1	Urine	0/2
A4 Hormones	Zeranol	Urine	0/1
A5	Beta-agonists	Liver	0/18
A6 Annex IV	Chloramphenicol	Kidney	0/3
	Nitrofurans	Kidney	0/2
	Nitroimidazoles	Kidney	0/2
B1 Antimicrobials	AMS1	Kidney	0/7
B2A Anthelmintics	Avermectins	Liver	0/7
B2B	Coccidiostats	Liver	0/2
B2C Pesticide screen	Pyrethroids	Kidney fat	0/2
B2D	Sedatives	Liver	0/7
B2E	NSAIDs	Kidney	0/36
B2F	Glucocorticoids	Liver	0/6
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Kidney fat	0/1
B3B Pesticide screen	Organophosphorus compounds	Kidney fat	0/1
B3C Heavy metals	Metals	Kidney	1/1 (100%)
B3D	Mycotoxins	Liver	0/1

Pigs

Group	Analyte	Matrix	Number of non-compliants / analyses (% non-compliant)
A2	Thyrostats	Urine	0/105
A3 Hormones	Gestagens	Kidney fat	0/106
	Methyltestosterone	Feed	0/29
	Steroid screen 1	Urine	0/362
A4 Hormones	Zeranol	Urine	0/244
A5	Beta-agonists	Feed	0/49
		Liver	0/400
A6 Annex IV	Chloramphenicol	Kidney	0/267
	Nitrofurans	Feed	0/9
		Kidney	0/329
	Nitroimidazoles	Feed	0/18
		Kidney	0/247
B1 Antimicrobials	AMS1	Kidney	1/1399 (0.07%)
	AMS2	Kidney	0/379
	Ceftiofur	Kidney	0/108
	Florfenicol	Kidney	0/128
B2A	Anthelmintics	Liver	0/332
	Avermectins	Liver	0/190

Group	Analyte	Matrix	Number of non-compliants / analyses (% non-compliant)
B2B	Coccidiostats	Liver	0/113
B2C Pesticide screen	Pyrethroids	Kidney fat	0/76
B2D	Sedatives	Kidney	0/24
		Liver	0/125
B2E	NSAIDs	Kidney	0/42
B2F	Glucocorticoids	Liver	0/47
	Carbadox	Liver	0/7
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Kidney fat	0/75
B3B Pesticide screen	Organophosphorus compounds	Kidney fat	0/149
B3C Heavy metals	Metals	Kidney	0/16
		Muscle	0/4
B3D	Mycotoxins	Liver	0/74

Sheep

Group	Analyte	Matrix	Number of non-compliants / analyses (% non-compliant)
A2	Thyrostats	Urine	0/74
A3 Hormones	Gestagens	Kidney fat	0/80
	Steroid screen 1	Urine	26/483 (5.38%)
A4 Hormones	Zeranol	Urine	0/99
A5	Beta-agonists	Liver	0/276
A6 Annex IV	Chloramphenicol	Kidney	0/148
	Nitrofurans	Kidney	0/235
	Nitroimidazoles	Kidney	0/111
B1 Antimicrobials	AMS1	Kidney	2/2025 (0.10%)
	AMS2	Kidney	0/7
	AMS4	Kidney	0/100
	Florfenicol	Kidney	0/216
B2A	Anthelmintics	Liver	12/1450 (0.83%)
	Avermectins	Liver	2/568 (0.35%)
B2B	Coccidiostats	Liver	0/317
B2C Pesticide screen	Pyrethroids	Kidney fat	0/541
B2D	Sedatives	Liver	0/87
		Kidney	0/7

Group	Analyte	Matrix	Number of non-compliants / analyses (% non-compliant)
B2E	NSAIDs	Kidney	0/48
B2F	Glucocorticoids	Liver	0/23
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Kidney fat	0/124
B3B Pesticide screen	Organophosphorus compounds	Kidney fat	0/557
B3C Heavy metals	Metals	Kidney	1/55 (1.82%)
		Muscle	0/8
B3D	Mycotoxins	Liver	0/16

Eggs

Group	Analyte	Species	Number of non-compliants / analyses (% non-compliant)
A6 Annex IV	Chloramphenicol	Barn hen	0/10
		Caged hen	0/7
		Free range hen	0/164
		Organic hen	0/11
		Quail hen	0/1
	Nitrofurans	Barn hen	0/8
		Caged hen	0/7
		Free range hen	1/149 (0.67%)
		Organic hen	0/10
	Nitroimidazoles	Barn hen	0/10
		Caged hen	0/11
		Free range hen	0/130
		Organic hen	0/15
		Quail	0/1
B1 Antimicrobials	AMS1	Barn hen	0/6
		Caged hen	0/4
		Free range hen	0/169
		Organic hen	0/7
		Quail	0/1

Group	Analyte	Species	Number of non-compliants / analyses (% non-compliant)
B1 Antimicrobials	AMS2	Barn hen	0/8
		Caged hen	0/9
		Free range hen	0/101
		Organic hen	0/10
		Quail	0/1
	AMS3	Barn hen	0/14
		Caged hen	0/12
		Free range	0/158
		Organic hen	0/19
	Florfenicol	Free range	0/78
	Tiamulin	Barn hen	0/4
		Caged hen	0/4
		Free range	0/25
		Organic	0/3
B2A	Anthelmintics	Free range	0/112
	Fipronil	Free range	0/112
B2B	Coccidiostats	Barn hen	0/37
		Caged hen	1/37 (2.70%)
		Free range hen	3/540 (0.56%)
		Organic hen	0/45
		Quail	0/2
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Barn hen	0/6
		Caged hen	0/4
		Free range hen	0/58
		Organic hen	0/3

Poultry

Group	Analyte	Species	Matrix	Number of non-compliants / analyses (% non-compliant)
A3 Hormones	Steroid screen 1	Broilers	Serum	0/086
	Steroid screen 2	Broilers	Liver	0/566
		Ducks	Liver	0/8
		Hens	Liver	0/29
		Turkeys	Liver	0/74
A4	Zeranol	Broilers	Serum	0/86
A5	Beta-agonists	Broilers	Feed	0/220
		Broilers	Liver	0/458
		Ducks	Feed	0/4
		Ducks	Liver	0/10
		Hens	Feed	0/10
		Hens	Liver	0/22
		Turkeys	Feed	0/20
		Turkeys	Liver	0/63
A6 Annex IV	Chloramphenicol	Broilers	Muscle	0/721
		Ducks	Muscle	0/16
		Hens	Muscle	0/30
		Turkeys	Muscle	0/46
	Nitrofurans	Broilers	Feed	0/305
		Broilers	Muscle	0/602
		Ducks	Feed	0/5
		Ducks	Muscle	0/10
		Hens	Feed	0/14
		Hens	Muscle	0/32
		Turkeys	Feed	0/28
		Turkeys	Muscle	0/50
	Nitroimidazoles	Broilers	Feed	0/308
		Broilers	Serum	0/1003
		Ducks	Feed	0/6
		Ducks	Serum	0/15
		Hens	Feed	0/14
		Hens	Serum	0/35
		Turkeys	Feed	0/29
		Turkeys	Serum	0/65

Group	Analyte	Species	Matrix	Number of non-compliants / analyses (% non-compliant)
B1 Antimicrobials	AMS1	Broilers	Muscle	0/1272
		Ducks	Muscle	0/26
		Hens	Muscle	0/75
		Turkeys	Muscle	0/108
	Florfenicol	Broilers	Muscle	0/199
	AMS2	Broilers	Muscle	0/573
		Ducks	Muscle	0/10
		Hens	Muscle	0/28
		Turkeys	Muscle	0/74
	Tiamulin	Broilers	Muscle	0/12
B2A	Anthelmintics	Broilers	Liver	0/323
		Ducks	Liver	0/9
		Hens	Liver	0/29
		Turkeys	Liver	0/70
B2B	Coccidiostats	Broilers	Liver	1/1463 (0.07%)
		Hens	Liver	0/22
		Turkeys	Liver	0/90
B2C Pesticide screen	Pyrethroids + Carbamates	Broilers	Fat	0/11
		Broilers	Liver	0/96
		Ducks	Liver	0/7
		Hens	Liver	0/8
		Turkeys	Liver	0/15
B2E	NSAIDs	Broilers	Liver	0/8
		Ducks	Liver	0/6
		Hens	Liver	0/5
		Turkey	Liver	0/6
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Broilers	Fat	0/41
		Broilers	Liver	0/280
		Ducks	Liver	0/6
		Hens	Liver	0/9
		Turkeys	Liver	0/12

Group	Analyte	Species	Matrix	Number of non-compliants / analyses (% non-compliant)
B3C Heavy metals	Metals	Broilers	Liver	0/13
		Broilers	Muscle	0/90
		Ducks	Muscle	0/4
		Hens	Muscle	0/3
		Turkeys	Muscle	0/8
B3D	Mycotoxins	Broilers	Liver	0/16
		Hens	Liver	0/1
		Turkeys	Liver	0/1

Fish muscle & skin

Group	Analyte	Species	Number of non-compliants / analyses (% non-compliant)
A3 Hormones	Methyltestosterone	Trout	0/4
A6 Annex IV	Chloramphenicol	Salmon	0/151
		Trout	0/17
	Nitrofurans	Salmon	0/161
		Trout	0/3
	Nitroimidazoles	Salmon	0/155
		Trout	0/7
B1 Antimicrobials	AMS1	Salmon	0/94
		Trout	0/4
	AMS2	Salmon	0/31
		Trout	0/4
	AMS3	Salmon	0/160
		Trout	0/4
	Florfenicol	Salmon	0/81
B2A	Anthelmintics	Salmon	0/99
		Trout	0/2
	Avermectins	Salmon	1/86 (1.16%)
		Trout	0/1
B2C Pesticide screen	Pyrethroids	Salmon	0/115
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Salmon	0/10
		Trout	0/3
B3B Pesticide screen	Organophosphorus compounds	Salmon	0/37
B3C Heavy metals	Metals	Salmon	0/20
		Trout	0/2
B3D	Mycotoxins	Salmon	0/9
		Trout	0/3
B3E	Dyes	Salmon	0/198
		Trout	1/59 (1.69%)

Milk

Group	Analyte	Species	Number of non-compliants / analyses (% non-compliant)
A6 Annex IV	Chloramphenicol	Cattle	0/875
		Goats	0/10
		Sheep	0/2
	Dapsone	Cattle	0/26
		Goats	0/3
B1 Antimicrobials	AMS1	Cattle	0/506
		Goats	0/6
		Sheep	0/2
	Florfenicol	Cattle	0/141
		Goats	0/3
		Sheep	0/1
	AMS2	Cattle	0/276
		Goats	0/5
		Sheep	0/1
	AMS3	Cattle	0/372
		Goats	0/5
	AMS4	Cattle	0/223
		Goats	0/2
	Cefquinome	Cattle	0/155
		Goats	0/4
	Ceftiofur	Cattle	0/110
		Goats	0/2
B2A	Anthelmintics	Cattle	1/406 (0.25%)
		Goats	0/9
		Sheep	0/1
	Avermectins	Cattle	1/413 (0.24%)
		Goats	0/3
		Sheep	0/2
B2E	NSAIDs	Cattle	0/174
		Goats	0/4
		Sheep	0/1

Group	Analyte	Species	Number of non-compliants / analyses (% non-compliant)
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Cattle	0/34
		Goats	0/2
		Sheep	0/1
B3B Pesticide screen	Organophosphorus compounds	Cattle	0/39
		Sheep	0/1
B3C Heavy metals	Metals	Cattle	0/44
B3D	Mycotoxins	Cattle	0/39

Game

Group	Analyte	Species	Matrix	Number of non-compliants / analyses (% non-compliant)
A2	Thyrostats	Deer	Liver	0/3
A3 Hormones	Steroid screen 2	Deer	Liver	0/7
A5	Beta-agonists	Deer	Liver	0/10
A6 Annex IV	Nitroimidazoles	Deer	Muscle	0/4
B1 Antimicrobials	AMS1	Deer	Kidney	0/21
B2A	Anthelmintics	Deer	Liver	0/10
		Partridge	Liver	0/2
		Pheasant	Liver	0/5
B2B	Coccidiostats	Partridge	Muscle	2/7 (28.6%)
		Pheasant	Muscle	0/7
B2C Pesticide screen	Pyrethroids	Deer	Kidney fat	0/4
B2D	Sedatives	Deer	Liver	0/2
B2E	NSAIDs	Deer	Kidney	0/3
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Deer	Kidney fat	0/6
B3C Heavy metals	Metals	Deer	Muscle	0/5
		Partridge	Muscle	0/8
		Pheasant	Muscle	0/5
		Wild deer	Muscle	0/100

Bees honey

Group	Analyte	Number of non-compliants / analyses (% non-compliant)
A6 Annex IV	Chloramphenicol	0/11
	Nitrofurans	0/11
B1 Antimicrobials	AMS1	0/23
	AMS3	0/23
	AMS4	0/22
	AMS5	0/22
B2C Pesticide screen	Pyrethroids	0/12
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	0/14
B3B	Organophosphorus compounds	0/16
B3C Heavy metals	Metals	0/15
B3F	Amitraz	0/12
	Naphthalene	1/12 (8.33%)