

National statutory surveillance scheme for veterinary residues in animals and animal products: 2022

Residues detected above the reference point to date: 31 December 2022

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	129	1	3000	11000 tulathromycin
	Antimicrobials screen 4	103	3	1500	2400, 4400, 32000 paromomycin
Cattle kidney	Metals	72	1	200	900 lead
	NSAIDs	429	1	Presence	24 ibuprofen
Cattle liver	Anthelmintics	742	2	1000	1100 closantel
				100	166 ivermectin
	Glucocorticoids	346	1	2	3.6 dexamethasone
Cattle milk	Anthelmintics	464	1	45	54 closantel
	Antimicrobials screen 1	565	1	Presence - prohibited for use in milk producing animals	5.7 florfenicol
	NSAIDs	178	1	0.1	0.2 diclofenac
Cattle plasma	Phenylbutazone	76	1	Presence - not licensed for use in bovine animals	0.76 phenylbutazone
Cattle serum	Oestradiol	213	1	Presence	0.09 beta-oestradiol
	Testosterone	336	1	Presence	2.3 beta-testosterone
Cattle urine	Steroid screen 1	1079	11-2 substances in 1 sample	Presence	1710 alpha-estradiol
					45 beta-estradiol
					0.73, 6.5, 9.7, 12, 18 alpha-nortestosterone
					0.65 beta-nortestosterone
	12 Tentative upper level for male cattle	14, 19, 22, 25 testosterone			
Zeranol	405	5-2 substances per sample	Presence	1.2, 1.5, 1.7, 1.7, 1.9, taleranol 0.31, 0.36, 0.57, 0.77, 0.86, zeranol	
Fattening cattle serum	Testosterone	325	1	Presence	1.1 beta-testosterone
Fattening cattle urine	Steroid screen 1	1077	23-2 substances in 3 samples	Presence	5.2, 5.4, 5.7, 6.1, 6.3, 7, 7.1, 7.2, 9.1, 9.8, 10, 10, 14, 14, 14, 14.9, 15, 19, 21, 46 alpha-nortestosterone
					9.8, 150, 1240 alpha-estradiol
					0.34, 16, 24 beta-estradiol
Thyrostats	217	2	30	37, 57 thiouracil	

Sample	Analysed for	No. of analyses	No. of non-compliant samples	Reference Point µg/kg/l	Concentrations above the Reference Point µg/kg/l
Fattening cattle urine	Zeranol	371	9-2 substances per sample	Presence	0.92, 1.4, 1.9, 1.9, 2.3, 3.2, 4.8, 8.5, 19 taleranol
					0.55, 0.58, 0.88, 1.4, 1.5, 1.5, 1.5, 3.4, 9.9 zeranol
Pig kidney	Antimicrobials screen 1	1382	1	100	120 sulfadiazine
Pig liver	Anthelmintics	365	2-2 substances in 1 sample	100	610 levamisole
				Presence - not licensed for use in porcine animals	4.5 albendazole
	Mycotoxins	79	1	Presence	0.86 albendazole amino sulphone
Sheep kidney	Antimicrobials screen 1	2013	6	600	2300, 2400, 11000, 24000 oxytetracycline
				Presence - not licensed for use in ovine animals	28.2 tildipirosin
				1800	2700 tulathromycin
	Metals	51	3	1000	1100, 1300 cadmium
Sheep liver	Anthelmintics	1447	4	200	560 lead
				1500	1950, 2200, 4500 closantel
	Avermectins	574	1	100	150 levamisole 160 ivermectin
Sheep urine	Steroid screen 1	482	51-2 substances in 1 sample	2	2.0, 2.0, 2.1, 2.2, 2.2, 2.2, 2.2, 2.3, 2.3, 2.4, 2.5, 2.5, 2.5, 2.5, 2.6, 2.8, 2.8, 2.8, 2.9, 3.0, 3.0, 3.3, 3.5, 3.6, 3.6, 3.8, 4.0, 4.0, 4.1, 4.2, 4.7, 4.7, 4.9, 5.2, 5.8, 5.9, 6.5, 6.5, 6.8, 10, 14, 19 alpha-boldenone
				Presence of free α or β Presence of conj β Presence of conj α at 2	1.4/2.2, 0.89/0.45, 0.4/1.2, 0.43/1.25 1.21/2.09 alpha-boldenone free/conj
				0.37	0.44 beta-boldenone
				Presence	0.42, 0.69, 1.0, 1.1 beta-nortestosterone
				1000	26000 cadmium
Horse kidney	Metals	1	1	1000	26000 cadmium
				Presence	3.6, 4.0 halofuginone
				8	8.8 monensin
Broilers liver	Coccidiostats	1454	4	600	900 toltrazuril sulfone
				150	1400 lasalocid
				3	3.2, 3.2 salinomycin
Eggs	Coccidiostats	728	3	5	210 lasalocid
Partridge muscle	Coccidiostats	7	1	5	50 lasalocid
Pheasant muscle	Coccidiostats	5	1	5	50 lasalocid
Salmon muscle and skin	Antimicrobials screen 3	183	3	100	1100, 2200, 3200 oxytetracycline

Results of follow-up investigations: 31 December 2022

Medicinal products can be found on the [Product Information Database](#).

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Calves kidney	Paromomycin 2400 µg/kg 2231019	Great Britain	This is a large, well-managed, closed pedigree herd of dairy Holsteins. The farm has around 260 milking cows, 45 in calf-heifers, the rest are calves and heifers. There are no bulls. Only AI is used, and beef calves are sold at the age of 4 weeks. All calves are fed pooled milk. Calves are separated from dams close to birth and receive colostrum for the first two days. Pens have been adapted by halving the partition to allow the calves to move between two individual pens and remain as a pair. Depending on the sex and type of calves, it may not always be possible to pair like with like (sex or type). Inevitably there may be a pairing of a heifer with a Friesian bull calf, although the farmer states that all male calves are sprayed on the head with blue marker spray to identify them more easily. Issues may be caused if only one calf needs treatment, it is possible that the other calf could access the medicated milk if not supervised. There are two bays of neonatal calves in the same building. All pens are raised so that effluent can drain freely. Medicines were stored appropriately, and no expired medicines were found. Gabbrovet 140mg/ml (paromomycin sulphate) was in the medicine cupboard in the calf area and had been used for some time as there was a problem with E. coli and cryptosporidium causing scouring and death according to the farmer (evidenced in records). The PVS recommended that all calves intended for rearing are given paromomycin from 24 hours of age as a preventative measure regardless of clinical symptoms due to deaths in slightly older calves because of the cryptosporidium infection. The PVS visits weekly. The positive calf was part of a group transported to the abattoir by the farmer in August 2022. The investigation established that the likely cause of this residue was accidental ingestion due to current farming practices.
Calves kidney	Paromomycin 4400 µg/kg 2231023	Great Britain	This is a large size Red Tractor accredited farm with 1100 dairy cows, 160 calves, dry and in-calf heifers, and broilers. There are 28 sheep grazing all year and 500 winter sheep on the fields from November-February. The farm consists of 2000 acres over 9 locations. Land is used for grazing, silage, and sheep. Milking cows are kept indoors, dry cows are outside for a couple of weeks in summer. Heifers and beef cattle graze April-November. Milking is carried out three times a day. Replacement stock is purchased mainly from local farms. AI is used to rear replacements. Medicines are kept in a locked cabinet inside a secure office. All medicines are in date and recorded correctly (listing products used, batch numbers, expiry dates, withdrawal periods, date of administration, dose and quantity administered, ID of treated group of animals). Medicine records and purchase invoices are kept for more than 5 years. The PVS had no suspicion of medicine misuse at this farm. Good husbandry standards and procedures were observed during the inspection. The use of paromomycin was confirmed by the PVS to control crypto infections in calves and youngstock. The farmer correctly records the use of paromomycin in calves and explained that calves were not due to be slaughtered but sold via market. The farm was under TB restrictions in 2021, during this period calves were not treated due to the withdrawal period of the medicine. They were sent directly to slaughter in under 42 days. During August 2022 a group of heifers were treated with paromomycin and housed together with some calves. It is possible that the treatment may have been administered to the calf by mistake (the positive animal was part of a batch of 7 calves sent to slaughter in August 2022). The investigation established that the likely cause of this residue was human error due to dosing the animal by mistake.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Calves kidney	Paromomycin 32000 µg/kg 2235599	Great Britain	<p>This is a large, well-managed, closed pedigree herd of dairy Holsteins. The farm has around 260 milking cows, 45 in calf-heifers, the rest are calves and heifers. There are no bulls. Only AI is used, and beef calves are sold at the age of 4 weeks. All calves are fed pooled milk. Calves are separated from dams close to birth and receive colostrum for the first two days. Pens have been adapted by halving the partition to allow the calves to move between two individual pens and remain as a pair. Depending on the sex and type of calves, it may not always be possible to pair like with like (sex or type). Inevitably there may be a pairing of a heifer with a Friesian bull calf, although the farmer states that all male calves are sprayed on the head with blue marker spray to identify them more easily. Issues may be caused if only one calf needs treatment, it is possible that the other calf could access the medicated milk if not supervised. There are two bays of neonatal calves in the same building. All pens are raised so that effluent can drain freely. Medicines were stored appropriately, and no expired medicines were found. Gabbrovet 140mg/ml (paromomycin sulphate) was in the medicine cupboard in the calf area and had been used for some time as there was a problem with E. coli and cryptosporidium causing scouring and death according to the farmer (evidenced in records). The PVS recommended that all calves intended for rearing are given paromomycin from 24 hours of age as a preventative measure regardless of clinical symptoms due to deaths in slightly older calves because of the cryptosporidium infection. The PVS visits weekly. The positive calf was part of a group transported to the abattoir by the farmer in August 2022. The investigation established that the likely cause of this residue was accidental ingestion due to current farming practices.</p>
Calves kidney	Tultathromycin 11000 µg/kg 2230980	Great Britain	<p>This is a large cattle dairy farm with a herd of approximately 550 cows and 400 young stock. They have a closed herd policy with all replacement animals reared on farm. Breeding is AI with sexed semen and a sweeper bull. The calving pattern is all year round and the milking herd usually graze from April until October. Calves are permanently housed in a different shed and sold when they are about 3 weeks old. Only the farmer and his wife have access to the medicine cabinet, which is permanently closed. The medicine cabinet was inspected and found satisfactory. All medicines were labelled with the necessary information, including withdrawal periods. The farm had a sample positive for residues in milk a few years ago and since the farmer personally administers the treatments. Draxxin (tulathromycin) is stored in the cabinet and used when calves present with bovine respiratory disease (BRD). Records show the use of Draxxin sporadically in the herd. Bull calves only spend around 3 weeks on the farm and are not treated as a routine unless they are unwell, (Metacam is administered), confirmed by the farmer. Draxxin if used, is given to replacement animals. The positive calf was born in June and sent for slaughter in July in a batch of 8. Medicine records show the use of Metacam in June for the calf, with a withdrawal period of 15 days. The reason recorded for this treatment is 'sick', so it is unclear what the medicine was meant to be used for. If the date recorded for the administration of the Metacam was when Draxxin was given instead, due to human error (withdrawal period of 22 days), then the calf would have been within the unexpired withdrawal window at the time of slaughter, giving rise to this residue. The farmer demonstrated his knowledge with high standards and was aware of withdrawal period requirements. Information was provided on the importance of using the recommended dosage. The farmer was advised to contact his PVS for further advice. The investigation established that the cause of this residue was an unrecorded treatment and subsequent slaughter of the animal whilst within a withdrawal period.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle kidney	Ibuprofen 24 µg/kg 2227455	Great Britain	<p>This is a large-sized Red Tractor accredited farm with approximately 320 cattle. Depending on when cattle are purchased, they may spend April-October in the field or indoors for better growth and weight gaining efficiency. Feed is not medicated, cattle are given concentrate and age specific rations, silage as well as good quality hay-grass. Rations are prepared on farm, (purchased rolled barley, with minerals added). If animals are pasture grazing feed given is to supplement the grass availability. Animals are vaccinated to develop immunisation against respiratory, digestive, other infections and administered with parasiticides before and after pasture grazing periods. The general welfare of the animals bedding, cleanliness as well as management, looked to be of a very high standard. Most of the sick animals seen and treated had diarrhoea or pneumonia (low incidents and mostly occur during the first month of arrival on farm). Medicines are kept in a lockable cabinet in the office buildings of the farm. The farmer and 2 other members of staff have access to medicine products. Medicine records are kept electronically and were found to be satisfactory. Dosage, date, name of medicine administered, type of treatment for individual animals was noted but not the administration route. All medicine purchases are from the PVS. Movement records and licences appeared to be complete within the different holding sites and in good order. The positive animal was transported to the abattoir in July 2022 and slaughtered the next day. The investigation found no evidence of treatment with any product containing ibuprofen to the positive animal. A TB test was performed to the animal 18 days before slaughter. Tuberculin has no withdrawal period but may interact with the laboratory testing for ibuprofen if the animal had a reaction/swelling inflammation to the avian and bovine tuberculin injection sites. Metabolites of such a reaction can give a positive false of ibuprofen. No sampling officers were using ibuprofen products at the time and clear instructions are given to staff on how to handle samples to avoid cross contamination. There is a possibility that the slaughterhouse operatives that handled the carcass had medicated with ibuprofen which resulted in cross-contamination of the sample, however the investigation was unable to confirm this.</p>
Cattle kidney	Lead 900 µg/kg 2219586	Great Britain	<p>The positive female animal was born in August 2020. The animal was taken to market at approximately 1 year, 2 months after birth in October 2021. It was purchased and remained on farm until April 2022 when it was sent to the abattoir. The farm is comprised of beef growing cattle and cattle provide the main source of income. Cattle are housed in group sheds to be fattened until they reach a targeted growth, then sent to slaughter. Facilities were divided into two sheds, one owned by one farmer, the other let out fattening cattle the other farmer owned. Both sheds were inspected, all animals were in good condition. There was adequate provision of food, water, and bedding. No medicated feedstuffs were found, hay sourced was from another local farm. Bulk deliveries of biscuits/bread concentrate are delivered and stored in large feed bins. The farmer reported that no medicine was given to cattle during October-April 2022. One of the holding's was inspected in October 2019 and medicine records were found compliant. None of the animals showed any signs of lead exposure and no previous lead toxicity had been noted. Cattle sheds refurbished back in 2010 were made of concrete and aluminium/steel as were the sheds where food was stored. Feed troughs were made of aluminium. Water sources reported water contamination several years ago. The main water source is a borehole, pipes are made of plastic material. Occasionally, hunting takes places in the area, (bird shoots). There was no evidence of bird poisoning (cattle are kept housed). No dumped batteries or broken-down cars were found during the visit. Material had been dumped on the land previously, some of which could contain lead. As cattle were housed, the risk of ever ingesting anything would be negligible. There were no large factories, or car junkyards in the area. The source of residue could not be established.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle liver	Closantel 1100 µg/kg 2227203	Great Britain	This farm is an accredited member of the Red Tractor Assurance Scheme and is comprised of beef/fattening cattle, sheep, and pigs. The positive animal was purchased in March 2022 and sent for slaughter in July 2022. The farmer recollected that grazing cattle were dosed with Closamectin (topical anthelmintic treatment) in June 2022, noted on the records at the time, together with ear tag numbers of those cattle. The medicine records were adequate, records kept for five years. Medicines were stored in a locked cabinet on site and storage facilities were good. The farmer is responsible for administering medications. The cow with the positive residue was bought for fattening and kept inside one of the sheds for the duration of its time on the farm. Medication to cattle would have been applied in an enclosed part of the yard, outside one of the sheds (although not the same shed as the affected animal was kept in). The farmer was confident that the positive animal would not have been part of the medicated group. There was no proof to show how the animal would have received medication. The inspector was of the opinion that the potential cause of this residue could have been accidental dosing. However, one hypothesis is that the animal may have ingested some of the medication by licking it off one of the medicated animals after it had been applied. An unrecorded treatment cannot be ruled out entirely although this seems less likely. The exact cause of this residue was not established and therefore in-conclusive. Advice was given on medicine recording requirements and copies of template medicine records were provided.
Cattle liver	Dexamethasone 3.6 µg/kg	Northern Ireland	An investigation was undertaken in November 2022. The animal was 26 months old, purchased in June 2022 and was on farm for just over 3 months prior to slaughter. It was transported to abattoir by hauliers with animals from its own herd. Movement records are kept on a computer and the medicine records were kept in accordance with legislation. The animal is part of beef finisher herd of 376 animals with an associated herd of 561 cattle. This animal was treated on two consecutive days for a sore foot with DEXA-jet 2mg/ml (active ingredient dexamethasone), injected intramuscularly in the neck. This medication has a withdrawal period of eight days, and the withdrawal period was complied with. The animal was slaughtered ten days after final injection. The veterinary officer noted that the recommended dose of 1.5ml/50kg was exceeded. The estimated weight of the animal was 700kg, the correct dose should have been 21ml daily. However, this animal was treated with 50ml, more than double the dose on two consecutive days, accounting for the residue detected. Four follow-up samples were non-compliant. All further follow-ups have been compliant.
Cattle liver	Ivermectin 166 µg/kg	Northern Ireland	An investigation took place in September 2022. The animal was around 35 months old, purchased in May 2022, and sent for slaughter 6 days later. It was transported in the herd keeper's own transport and kept separate from other herds. Movement and medicine records are kept in accordance with legislation. This animal was part of a beef fattening herd of 195 animals. The herd keeper stated that he did not administer any medications to this animal. There was no indication given during the sale process that the animal had been treated with any medicines if it had the herd keeper would not have purchased it as the cattle are purchased to fatten and slaughter. All follow up samples were found compliant.
Cattle milk	Closantel 54 µg/kg	Northern Ireland	An investigation was undertaken in January 2023. Milk was taken from a bulk tank in December 2022. Movement and medicine records are kept in accordance with legislation. The herd of 420 cattle are from a low input dairy system. mostly homebred, but the herd keeper buys 6 to 10 animals per year. Approximately 100 cows are milked by robots, and approximately 20 heifers are milked in the parlour, twice a day. Young calves on the farm had cryptosporidium and were treated with Halocur (active ingredient halofuginone). The herd keeper has not used closantel in the past two years and suspects one or more of the purchased cows as the source. Records from June to December 2022 were checked, 8 cows were moved into the herd in 4 lots, and they could have contributed to the bulk milk tank when the sample was taken. The veterinary officer concluded that cows bought in June would have been expected to have very low residue levels by December and that the source of closantel in this case is undetermined. A follow-up milk sample taken in January 2023 (almost 6 weeks after initial sample) contained a compliant concentration of closantel. No tissue follow-up samples were received as the producer does not slaughter regularly.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle milk	Diclofenac 0.20 µg/kg 2201461	Great Britain	This is small sized farm comprising of a closed dairy herd of 31 pedigree Holstein cattle, currently 4 milking cows. This is a non-accredited farm registered to produce wholesale milk. The farm operates an all-year-round calving system using full AI including sexed semen technology use. Cows are traditionally housed in winter and grazed in summer. Milking cows are kept in during the lactation period and turned out when dry. There is good general herd health with no issues or concerns apart from TB recently. The owner does all the milking using a portable mini milker with around 45 litres of milk produced per day. Milk is sold directly at the shop using a milk vending machine which is where the sample was taken from. Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) used to treat pain and inflammatory diseases in humans (there are no licensed products available for animals). The owner confirmed no recent history of taking diclofenac or applying it topically. The sampling officer also confirmed no use. However, inadvertent cross-contamination from anyone who may have used the milk dispenser pre-sampling cannot be excluded despite good hygiene practices. The medicine records were made available at the time of the investigation and were all satisfactory, showing dates, withdrawal periods and batch numbers. The owner was advised to continue with good medicine record keeping, good hygiene practices and a suggestion was made for the milk to be collected from the sealed bags rather than from the vending machine in future. The investigation could not establish a directly attributable cause for this residue.
Cattle milk	Florfenicol 5.7 µg/kg	Northern Ireland	An investigation was undertaken in April 2022. The animal (2 years, 6 months old) was born on the farm. It was part of a dairy herd of 357 animals. On inspection, the medicine records were satisfactory and were kept in accordance with legislation. Another animal on the farm had been injected with Norfenicol in March 2022 and the herd keeper claimed that the same syringe was used to inject the positive animal with Finadyne (Flunixin) in April. A further follow up visit to the farm in May revealed other medicines supplied by a different veterinary group. Milk from the positive animal was withheld from the tank after the herd keeper had been notified by the dairy. A follow up milk and kidney sample were both found to be compliant.
Cattle plasma	Phenylbutazone 0.76µg/kg	Northern Ireland	An investigation was undertaken in August 2022. Phenylbutazone is not licensed for use in bovine animals. The animal was 26 months old, purchased in July 2020 and on the farm for 23 months prior to sampling. It is part of a suckler/beef breeding herd of 103 animals. A pony and some ducks are also on the premises. Movement and medicine records were kept in accordance with legislation. The herd owner denies intentional administration of phenylbutazone containing medicines. He suspects a bucket, that may have been used to administer phenylbutazone to the pony on-site by a farrier, may have cross contaminated this animal. All follow up samples were compliant.
Cattle serum	Beta-oestradiol 0.099 µg/kg 2236078	Great Britain	This is a medium size farm comprised of cattle and sheep. The farm has only fattened beef cattle, no breeding is carried out on site. The farmer stated that to the best of his knowledge he had never administered hormones to the cattle. Proof of purchase of all veterinary medicines, related documents for the previous five years are retained. Adequate animal ID and withdrawal periods are recorded. All medicines are stored appropriately, and no expired medicines were found during the inspection. The positive animal (a rig, incomplete castrated male, under 24 months old) was sent to the abattoir in October 2022. 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 a natural level. Given the natural origin of the finding, it is advised that the farm avoid long and stressful journey times which perhaps contributed to the animal's endogenous hormonal production.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle serum	Beta-testosterone 2.3 µg/kg 2226613	Great Britain	This is a medium sized Red Tractor accredited dairy farm, comprised of 423 females and 10 males, mainly Holstein Friesian Cross and Flekvieh Cross. The positive cow was born in July 2016 and sent to abattoir in a group of 6 in August 2022. There is a closed herd policy with all replacements reared on farm. Breeding is by artificial insemination (AI). Calves are sold at about two weeks old through market. Animals graze from April until October and are housed through wintertime. The medicine cabinet was inspected, and no deficiencies were identified. The cabinet is locked, and all the medicines are correctly identified and in date. Medicine records were checked, and no non-compliances were identified. Cows are wormed when they are dry and vaccinated for rotavirus. The positive cow had a calving history therefore it is not possible that it was a freemartin animal. The records show that the animal was AI in July 2022 but was persistently cystic which is the reason it was culled. Persistent cystic issues could have produced high amounts of testosterone naturally giving rise to this residue. Although it is unlikely, there exists the possibility that this animal was in an early stage of pregnancy which went unnoticed went sent for slaughter. 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 a natural level.
Cattle urine	Alpha-estradiol 1710 µg/kg Beta-estradiol 45 µg/kg	Northern Ireland	Beta-estradiol can be present when high level of alpha-estradiol is present. No further investigation required.
Cattle urine	Alpha-nortestosterone 0.73 µg/kg 2209467	Great Britain	This is a medium sized farm mainly comprised of beef cattle, there are also fattening pigs on site. In specific the positive steer had been transported and sold the day before going to slaughter the next day. The time and distance to the abattoir were significant due to over 65 miles journey duration. Levels of nortestosterone can occur naturally in steers suffering from stress and the levels found in the animal were low and compatible with endogenous origin. Given the natural and completely random origin of the finding, avoiding too much combined transport or too long a stressful journey would be advised in future 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 a natural level.
Cattle urine	Alpha-nortestosterone 0.12 µg/kg 2218407	Great Britain	This is a medium sized 200-acre farm enterprise consisting of a beef suckler herd, 98 cattle, a flock of 240 ewes and a pig unit. Cattle and pigs are slaughtered on farm. Sixteen acres are used to grow barley which is fed to the cattle. There is a health plan which was recently updated with the PVS. The cattle herd receives routine worm and fluke treatments 4-6 weeks after housing (Closamectin or Bimectin Plus) with a planned repeat treatment for fluke in July. Boluses containing selenium, iodine, cobalt and copper are administered. Calving begins in March and runs through to early July. Housed calves are weaned at 7-9 months old. A combination of AI and natural service, using stock bulls is used. Medicine storage facilities were found to be satisfactory and there was no evidence of any medications which could trigger the positive result. There were out of date medicines (antibiotic bottles and a worming product were not identified as expired). The farmer was fully aware of these and there was no evidence that they had recently been used. The farmer was advised on the correct protocols for expired medicines. Medicine purchase and treatment records appeared in good order; only standard treatments were recorded. According to the farmer, the positive animal was not pregnant at the time of slaughter. However, this possibility could not be ruled out as it had been running with the previous year's bull calves prior to housing. There is a history of neighbouring bulls straying onto the premises (the cow was not pregnancy checked before leaving the farm). Pregnancy is recognised as a cause of the presence of alpha-nortestosterone. Also, the journey to the abattoir takes approximately 2 hours and the stress of transport could be a possible factor. Additional advice was given on the correct disposal of expired medicines and labelling of bottles to show expiry dates. 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 a natural level.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle urine	Alpha-nortestosterone 6.5 µg/kg 2218339	Great Britain	The positive animal a female born in October 2018 and was transported directly to the abattoir in May 2022, slaughtered the same day. The journey time to the abattoir was approximately 50 minutes duration and 23 miles in distance, a short journey. The owner confirmed that the animal had calved in March 2022 (approximately 10 weeks before the sample was taken) and as a dairy animal may have been in early pregnancy already. One of the medicines (Rapidexon) found on farm had expired in February 2022 and was kept with other medicines. It had not been marked. The owner removed it from the fridge and separated it once notified by the inspector. Amongst the medicine records requested from March 2022, there was no record of the product Rapidexon administered to any animal. During the medicine checks, the medicine Tetracure was found (not UK authorised, an incidental finding of a non-UK antibiotic found to have been imported on an SIC (Special Import Certificate). The farmer had not been informed it was being used under the cascade. Recommendation and guidance were given to the owner to observe and check withdrawal periods for medicines. 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 a natural level.
Cattle urine	Alpha-nortestosterone 9.7 µg/kg 2226469	Great Britain	This is a medium sized SAI Global affiliated farm. Cattle is the main livestock comprised of 72 dairy and 152 beef. There are also other animals present (30 horses, 50 sheep, 12 goats, 30 pigs, 2 ducks, 4 hens, 14 dogs, 15 puppies). The cattle are grazed all year round and additionally given grass silage, brewers' grains, blend for the dairy cattle. Horses, sheep, and goats are grazed, in addition with hay. Pigs are fed with a purchased blend; calves are fed with milk power. Veterinary medicines are kept in a locked cabinet. During the inspection the following products were found: Synulox 100ml, PenStrep100ml, Metacam 20mg/ml, Alamyacin 100mg/ml, Equimax, Hornex, Orbeseal, Metricure, Loxicom Oral Suspension for Dogs 1.5mg/ml, and Relaquine 35mg/ml Oral Gel for Horses. The positive homebred female cattle suffered a broken leg and as a result, the PVS was called to issue an emergency slaughter certificate. The animal was then transported directly to the abattoir. There were no other movement records for this animal. All animals on the farm were visually examined with no abnormal growth or modified behaviour observed. 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 a natural level. The farmer was advised to keep up to date records of all the veterinary medicinal products purchased, to record specific information whenever such medicines are administered to animals on the farm and to dispose of expired medicines through the approved methods.
Cattle urine	Alpha-nortestosterone 18 µg/kg 2226411	Great Britain	This is a large, Red Tractor accredited farm with approximately 400 beef cattle, 190 suckler cows, 5 stock bulls (3 Simmental and 2 Angus), calves and fattening cattle. Around 160 cows calve in spring (start at the end of February) and the rest are autumn calvers. All stock is reared until finishing. This is a closed herd, with only bulls purchased. The cattle are turned out for grazing between April and October. The stock is fed with homegrown grass silage, forage mix, barley, beans, and a mineral mix (mainly yeast) mixed into the feed. There are no health issues in the herd and the farmer minimises the use of medicines. The animals are only vaccinated for clostridial disease. All electronic medicine records were found satisfactory on inspection. A handheld device is used to input individual ear tag numbers, medicine administered, batch number, dosage, withdrawal period, person administering the medicine. Worming treatments and tuberculin are also recorded. All medicines are kept in a lockable storage room next to the farm office. Only the farmer and 2 members of staff have access to the medicine products. No products containing hormones were found at the time of the investigation. A 26-month-old homebred heifer, which was an INF gamma positive, was moved off the premises in July 2022 to the abattoir and slaughtered the next day, when it was sampled. There was no evidence of fraudulent treatment observed during the investigation visit. Veterinary invoices were checked and there was no indication of steroid treatment used on the farm. The farmer was however reminded that the use of steroids, other than those prescribed by a PVS for treatment, is not permitted. The farmer checked records and confirmed that the positive animal was in the bulling heifer group in November 2021. Therefore, it is likely that the alpha nortestosterone result occurred naturally due to the animal being in-calf at the time of sampling.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle urine	Beta-nortestosterone 0.65 µg/kg	Northern Ireland	An investigation was undertaken in November 2022. The animal was 5 years old. It was purchased in May 2022 and had been on farm four months prior to slaughter. The movement records were not available for inspection. Medicine records inspected were kept in accordance with legislation. The animal is part of a high turnover herd, with 74 young beef finishers and a few older cows purchased by the herd keeper at markets. The herd keeper stated that he did not treat this animal with any hormonal treatment. All follow up samples were compliant.
Cattle urine	Taleranol 1.2 µg/kg Zeranol 0.31 µg/kg 2236148	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 1.5 µg/kg Zeranol 0.36 µg/kg 2226722	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 1.7 µg/kg Zeranol 0.57 µg/kg 2226736	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 1.7 µg/kg Zeranol 0.86 µg/kg 2218735	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 1.9 µg/kg Zeranol 0.77 µg/kg 2226697	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 3.2 µg/kg Zeranol 1.4 µg/kg 2221870	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	Testosterone 14 µg/kg	Northern Ireland	Young bull. No further investigation required.
Cattle urine	Testosterone 19 µg/kg	Northern Ireland	Bull. No further investigation required.
Cattle urine	Testosterone 22 µg/kg	Northern Ireland	An investigation was undertaken in November 2022. The animal was 23 months old. It was purchased in March 2022 and had been on farm six months prior to slaughter. The movement and medicine records were kept in accordance with legislation. The animal is part of a beef finishing herd with 255 animals which are mainly bought at market and kept 3 to 12 months prior to slaughter. Ewes and lambs are also kept on farm. The herd keeper remembered this animal having a bull-like appearance which is why he bought it. The animal finished well, and the keeper suspects the animal had an undescended testicle, this could have caused the presence of the hormone residue as there was an incomplete castration, retained testicle. All follow up samples were compliant.
Cattle urine	Testosterone 25 µg/kg	Northern Ireland	Bull. No further investigation required.
Fattening cattle urine	Alpha-estradiol 9.8 µg/kg Beta-estradiol 0.34 µg/kg	Northern Ireland	Beta-estradiol can be present when high level of alpha-estradiol is present. No further investigation required
Fattening cattle urine	Alpha-estradiol 150 µg/kg Beta-estradiol 16 µg/kg	Northern Ireland	Beta-estradiol can be present when high level of alpha-estradiol is present. No further investigation required

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Fattening cattle urine	Alpha-estradiol 1240 µg/kg Beta-estradiol 24 µg/kg	Northern Ireland	Beta-estradiol can be present when high level of alpha-estradiol is present. No further investigation required
Fattening cattle urine	Alpha-nortestosterone 5.2 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 5.4 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 5.7 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 6.1 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 6.3 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 7 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 7.1 µg/kg 2211287	Great Britain	The animal was in-calf at the time of sampling.
Fattening cattle urine	Alpha-nortestosterone 7.2 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 9.1 µg/kg 2211452	Great Britain	The animal was in-calf at the time of sampling.
Fattening cattle urine	Alpha-nortestosterone 9.8 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 10 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 10 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 14 µg/kg 2211294	Great Britain	The animal was in-calf at the time of sampling.
Fattening cattle urine	Alpha-nortestosterone 14 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 14 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 14.9 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 15 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 19 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 21 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Alpha-nortestosterone 46 µg/kg	Northern Ireland	Pregnant female. No further investigation required.
Fattening cattle urine	Taleranol 0.92 µg/kg Zeranol 0.55 µg/kg 2200631	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 1.4 µg/kg Zeranol 0.58 µg/kg 2221888	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 1.9 µg/kg Zeranol 1.5 µg/kg 2221908	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 1.9 µg/kg Zeranol 0.88 µg/kg 2221843	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 2.3 µg/kg Zeranol 1.5 µg/kg 2221857	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 4.8 µg/kg Zeranol 1.5 µg/kg 2221867	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 8.5 µg/kg Zeranol 3.4 µg/kg 2221884	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 19 µg/kg Zeranol 9.9 µg/kg 2231605	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	Thiouracil 37 µg/kg 2211545	Great Britain	This is a large farm accredited as part of the Red Tractor Assurance Scheme. The farm is comprised of beef cattle and sheep. At the time of the investigation, the positive animal (still present on the farm) appeared in normal condition, an excellent quality fattening animal. Normally fattening cattle are sent through to the market, but a few go directly to the abattoir. The animal had been on the farm since November 2021 and was purchased from a local farmer who kept suckler cattle and sold stores. The diet consisted of rolled barley/dark grain protein and minerals. The grain product is a by-product of a bio-ethanol process fed to cattle (about 30% protein). Hay and barley straw was also fed to the animals. The investigation established that there was no evidence of the use of banned substances therefore the probable cause of this residue was due to natural ingestion. Research has shown that thiouracil may be present in the urine of animals following the use of cruciferous-based feed or having access to cruciferous crops.
Fattening cattle urine	Thiouracil 57 µg/kg 2211543	Great Britain	This is a large, licensed livestock farming enterprise of beef and fattening cattle. There are also sheep (200 young fattening lambs) on the farm. The fattening cattle are kept in fields, some breeding cows with calves were in the shed. All livestock is non-organic, exempt from TB testing. Cattle are purchased from markets and private farms in age around 1 year. They are then fattened and sent to slaughter. The farm grows its own cereals and purchases cereals. They also produce their own silage, hay, and straw for livestock. Crops are grown as non-organic fertilisers and pesticides are used. The positive animal was born in February 2020. According to the medicine records the animal was sunburnt and treated with Vitamin B and Dexamecine (dexamethasone) in July 2022 and sampled the same month. Dexamethasone is a corticosteroid used to treat many different inflammatory conditions such as allergic disorders and skin conditions. All medicines are supplied by the PVS. The medicine records and storage facilities were checked and found satisfactory; no expired products were found. There were no signs of illegal use of methylthiouracil and no suspicion of abnormal conformation in the livestock. The investigation established that there was no evidence of the use of banned substances therefore the likely cause of this residue was due to natural ingestion.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Fattening cattle serum	Beta-testosterone 1.1 µg/kg 2211806	Great Britain	This is a large farm accredited as part of the Red Tractor Assurance Scheme. The positive animal was born in December 2021 and sold January 2022. At the time of sampling this heifer was just under 6 months of age and was kept with a group of calves of the same size where castrated bull calves and females were mixing. The size of herd was 847 animals but varies from 800-850. Calves are brought in every two weeks (batches of 100-130) and kept together as a group until sold (unless they are not growing as expected, so they are then left with the next batch). Movements off farm normally happen each week, depending on availability. Calves are kept on milk replacement, then transitioned onto a weaned diet (cake and hay). Bull calves are castrated within a week or two of arrival and all animals get vaccinated for pneumonia. All vaccines and parasite treatments are recorded against the individual profile of the animals on the farm software. Withdrawal periods are also recorded and meet the veterinary medicine regulation requirements. The medicine records for the positive animal were checked and appeared satisfactory. Unfortunately, at the time of the investigation, the animal was no longer at this location and a physical examination was not carried out. Pregnancy was ruled out as bull calves are castrated and the farm manager does not recall any calves being missed or castrated at a later stage. There was a human error at the time of the collection of the sample. The sample could have been taken from a male where the testosterone levels would have been expected to be higher. The animal had ovarian cysts which would have increased the testosterone levels. 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 a natural level.
Pig kidney	Sulfadiazine 120 µg/kg 2205443	Great Britain	This is a medium size QMS accredited subsidiary holding. As the farm is a distance away from the main holding, the farm manager only sends the healthy stock to this premise and no medicines are stored there, they are kept at the main holding. Animals are reared at the main farm, then moved to the subsidiary at 12 weeks, where they are reared for 10-15 weeks before going to slaughter. The veterinary practice sent a record of all the medications obtained from the practice for inspection, none of the products contained the substance sulfadiazine. A possible cause of the positive result could be accidental contamination of feed at the feed mill. Trimediazine was an additive used in feed intended for the main holding, which would have been mixed at the same mill where the feed used at the other farm was mixed. Although some of the pigs were weaned at the main holding, the duration spent at the subsidiary farm would mean the pigs were well past the minimum withdrawal period at the time of slaughter. Antibiotic usage is kept to a minimum and advice was given to continue to do so and retain evidence of all medicines purchased. The investigation was unable to establish a likely cause for this residue, although there is a possibility of it being a feed issue.
Pig liver	Albendazole 4.5µg/kg Albendazole amino sulphone 0.86 µg/kg	Northern Ireland	An investigation was undertaken in August 2022. The positive animal was 24 weeks old and had been on farm approximately 12 weeks. It was part of a 1260 group of finisher pigs. There is one pig finishing unit on the farm with a new batch of pigs every 3-4 months; one batch is reared at a time. The movement and medicine records were kept in accordance with legislation. Lambs are bred on farm and cattle are bought and finished on the farm. There is no breeding of cattle. Sheep housed in a yard adjacent to the pig unit were dosed with Ovidrench (active ingredient albendazole). There was a suggestion that the farmer may have entered the pig shed on the same day he had dosed the sheep, causing contamination within the pig shed. In turn, this could have caused subsequent ingestion by the pig resulting in the non-compliant residue. All follow up samples were compliant.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Pig liver	Levamisole 610 µg/kg 2228548	Great Britain	<p>This is a medium sized farm, of approximately 2590 pigs (around 500 sows and over 2000 weaning pigs), 2860 sheep (1100 ewes, 1760 lambs) and 24000 laying hens. Pigs and sheep are kept separately outside in the fields, poultry are kept inside. Only dry granulated feed is given to the animals and water drinkers are available, supplied from the mains. All species are organic and medicine use is limited accordingly. Veterinary medicines and vaccines are kept in a lockable metal portacabin, labelled, there was no evidence of suspect products. A visitor book is available and strict biosecurity procedures are in place. Medicines are supplied by the PVS, invoices were checked with no expired products found. Vaccines are kept in the fridge, the only one vaccine used for pigs is Panacur AquaSol Oral Suspension, (active ingredient fenbendazole) used in the drinking water. There was no evidence of any other anthelmintic products kept on the premises. Pigs are under a specialist vet supervised strict health plan. The positive pig was born in March 2022 and was sent for slaughter in August in a batch of 86. According to the movement records all pigs were classified as organic and fit for slaughter. The pigs were treated with Panacur AquaSol in June with no other treatment, as confirmed by the keeper. There is no traceability of individual pigs in the medical records as they are treated in groups to prevent internal parasites. As there was no individual animal ID or kill number, it was impossible to trace the animal. Although there is no proof of using Levamisole on the premises, it is possible that higher levels were caused by accidental administration on the farm of origin. A recommendation was given to the farmer to consult the measures within the farm veterinary practice to avoid such residues in the future. The investigation was unable to establish a cause for this residue.</p>
Pig liver	Ochratoxin A 3.9 µg/kg 2218297	Great Britain	<p>This is a medium sized farm comprised of cattle, together with sheep, pigs, ducks, and geese. Pigs were transported directly to the abattoir by the farmer in his trailer. The residue found was Ochratoxin A, which is a fungal mycotoxin most often caused by the poor drying and storage of grains (excessive moisture allowing the growth of the fungal contaminants which produce the toxin). The pigs were fed home grown corn and new corn had been stored on top of the previous year's grain without cleaning the storage area. The farmer was advised to stop feeding the contaminated feed and to remove and dispose of it in a safe manner. The inspector advised that in future new feedstuffs must not be placed on top of old and that thorough cleaning of an area must be carried out before the storage of fresh feedstuffs. Every effort should be made to store feedstuff in dry and clean conditions. Leaflets were also provided to the farmer on good storage practice and ways to prevent contamination. A summary of the medicine recording requirements for keepers of food-producing animal was given. The investigation established that the cause of this residue was feed contamination on-farm.</p>
Sheep kidney	Cadmium 1100 µg/kg 2208129	Great Britain	<p>This is a large farm mainly comprised of sheep, with beef and fattening cattle. The positive sheep was purchased at market in 2018 and came from a group of ewes which had been selected for culling for various reasons. It had been housed and grazed around the main farm, at the same location every year. The animal had received no treatment out of the ordinary, nor was it grazing in a different pasture to usual. There is no suspicion of the unauthorised use of illegal drugs and a private vet supplies all the medicines to the farm. The medical records were found to be satisfactory and followed the vet's health plan. There is a military base and waste incinerator within 5-7 miles radius of the farm, and this could have contributed to the result. 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.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep kidney	Cadmium 1300 µg/kg 2234813	Great Britain	<p>This is a medium-sized Red Tractor accredited farm with calves, beef cattle, sheep, breeding pigs, goats, broilers, ducks, geese, and horses. The ewe spent the first five years of its life on the natal farm, grazing most of the time. It stayed around two years on another farm, grazing on cake and a supplement given for lambing time. It had spent life in several locations and moved to other holdings before being sold for slaughter from market (slaughtered in November 2022). The medicine storage facilities were inspected and found satisfactory. No expired medicines were found. Only the farmer and another had access to the medicine cabinet and administered medicines to the animals. Medicine records were also checked, no non-compliances were identified. There is no evidence to suggest a correlation between the levels of cadmium found and the medicines provided. In England the natural soil is acidic, and the UK has high levels of soil (cadmium) hot spots, so not possible to identify which holding was the main source, as this is a soil sourced geochemical. In this case, as the ewe was of a certain age, the cadmium found in the kidneys was a result of accumulative action after years of grazing (natural soil origin, ingested during natural grazing). The farmers were further advised to keep up to date records of medicines, adhere to withdrawal periods before sending animals to slaughter.</p>
Sheep kidney	Lead 560 µg/kg 2230884	Great Britain	<p>This is a large Red Tractor affiliated farm with approximately 1500 breeding ewes, 1500 lambs and 190 cattle. Sheep graze all year outdoors. The farm is located close to several lead mines located in the area, which has been closed for more than 40 years. The area is known to have a higher-than-average lead level in soil. Five years ago, a farm in the area had one cow in serious condition through lead poisoning. Farm buildings are quite old, but are very well kept and tidy, there is no evidence of fly tipping. There is no building maintenance or new painting on the farm and no lead batteries are dumped within the farm. The farmer confirmed that there is seasonal game shooting, but the areas are away from the farm and fields. Lambs are reared until 9-11 months of age and normally sold at local markets. No medicated feeding stuffs are used. Sheep are treated periodically for round worms, lungworms, fluke, blowfly strike, lice, and ticks. Different products are used according to the best indication for condition and withdrawal time. Lambs are treated with a vitamin and trace element drench for preventing copper deficiency. None of these treatments have traces of lead as an excipient. Medicine records were found to be satisfactory. The medicine cabinet was inspected, two injectable bottles were found. Medicines are purchased from a local vet. The positive lamb grazed in fields where water came directly by stream from the moors, whereas the fields closer to the farm have water from the mains. Before reaching the grazing grounds, the water in the stream is channelled first into a metal pipe and then into a longer plastic pipe. An information leaflet on lead poisoning was given to the farmer. The farmer has been advised to voluntary test the soil and water for lead content and the PVS was also informed. The investigation established that there were potential sources of environmental contamination of the soil and water, locally. 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.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep kidney	Oxytetracycline 11000 µg/kg 2206535	Great Britain	<p>A medium sized farm, NSF Global Animal Wellness Standard accredited. Animals go to market, or direct to the abattoir 25 miles away. Animals are transported using the holding's own trailer, sheep and cattle are transported separately. At the time of inspection, there were approximately 300 sheep and 100 beef cattle. In February 2022, 19 sheep had been delivered to the abattoir journey time 35 mins. The animals were from the previous year's lambs and had not received any treatment, other than the wormer Endofluke (triclabendazole) given in November 2021. The withdrawal period recorded on the medicine records is 47 days but the withdrawal period in sheep meat is currently 56 days. Alamycin LA (oxytetracycline) was administered in March 2022 for 8 lame ewes, the withdrawal period recorded on the medicine records was 28 days, withdrawal for Alamycin LA 200 mg/ml Solution for Injection is 24 days for sheep meat. The owner admitted that some of the lambs sent to slaughter were lame, but maintained that no treatment was provided, the decision was taken to send them to the abattoir, instead of treating. There was a gap on the medicine records during this period, the owner commented that very little medication was being used on the holding. No treatments were recorded in January-February 2022 that could have affected the sample results. At the time of the inspection visit, all the sheep (except a few left for shearing) were in the field, grazing. In February 2022 according to the owner, 19 lambs were in a pen, no proof of access to medication was found. The medicine fridge is kept in the same building as the sheep, it was found tidy, and all medicines were stored appropriately. Medicine records showed that a dose of 5ml was given to the lame ewes. A second batch of sheep were dosed, potentially within the withdrawal period, this could have led to a residue. The lamb was 18kg so if it was given a 5ml dose that would be a significant overdose. The lack of a record for this animal with farmer's herd mark also suggests a mistake/failure to record the treatment. Presence of the medication on farm, lack of records over the relevant 6-week period, chain of evidence from the farm to the abattoir, animal herd mark indicates the animal must have been treated quite soon before it went to slaughter. Advice was given to the farmer to check withdrawal periods and instructions with the vet. 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.</p>
Sheep kidney	Oxytetracycline 2300 µg/kg 2206377	Great Britain	<p>A medium sized enterprise where there is a high turn-out and slaughter of sheep at this premises. The farmer owns an abattoir and purchases livestock to supply it. Sheep are purchased to be slaughtered and therefore, there is no reason to treat them. Sheep do not usually stay longer than a week. Cattle and goats are also registered at this holding. Some cattle are kept for a few months to be fattened before slaughter. No breeding takes place at this farm. During the inspection, the farmer was unable to provide any documentation or licence for the positive sheep. The FCI was incomplete, therefore non-compliant. The OV confirmed that the ear tag was broken, so there was not a complete ID number available for this animal (full traceability was not available). Records confirmed that there was a movement licence from the market holding in March for 33 hogs, store lambs and ewes. However, it only listed 32 tag numbers, it was assumed that the 'no e-ID tags found' listed must have been the positive animal. The tag was not read due to damage/incompleteness. Veterinary medicines purchase records were inspected, no antibiotics were recorded, and the last entry was made in 2019. The owner confirmed no veterinary medicines were stored at the premises and proof of purchase were kept. Use of medicines were not recorded in the medicine book. Adequate animal IDs, withdrawal period details were missing. Details of the farm of origin could not be found, as the tag number was incomplete. The owner was advised to record the use of veterinary medicines, the importance of observing and recording withdrawal periods was also explained – guidance was provided. The investigation was unable to back trace the animal and therefore the source of residue could not be established.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep kidney	Oxytetracycline 2400 µg/kg 2216244	Great Britain	This is a medium sized farm of sheep and dairy cattle. A group of 13 hoggs were treated with oxytetracycline in March 2022 and were still on farm at the time of investigation. The inspector concluded that it is likely that one of the hogg's must have been mixed up with the group that went directly to slaughter in April 2022. The farmer admitted that this was a genuine mistake. The investigation established that the likely cause of this residue was a mix up of treated sheep and subsequent slaughter whilst within a withdrawal period. Veterinary medicines guidance was provided detailing requirements for administration, disposal of medicines and to ensure that withdrawal periods are observed in future.
Sheep kidney	Oxytetracycline 24000 µg/kg 2206583	Great Britain	An investigation was not conducted as the animal did not end up in the food-chain – farm of origin was the same as for RIM 2206535, which was investigated.
Sheep kidney	Tildipirosin 28.2 µg/kg	Northern Ireland	An investigation took place in September 2022. The animal was approximately 12 months old and was purchased in October 2021. It was transported by the farmer's own transport or with another producer and was kept separately from other herds. Movement and medicine records are kept in accordance with legislation, but deficiencies with medicine records were noted. The animal is part of a herd of fattening lambs, all had been slaughtered at the time of the investigation as the flock owner buys approximately 200 lambs in October and sells them as fattened animals in April-May. The owner does not keep medicines on farm, he buys and uses them on the same day. The animal was injected with Draxxin (active ingredient tulathromycin) in April 2022 approximately 3 weeks prior to slaughter. The cause of tildipirosin residue is not established.
Sheep kidney	Tulathromycin 2700 µg/kg 2206687	Great Britain	This is a medium sized FAWL accredited farm with a health plan in place for sheep. The sheep herd consists of approximately 330 animals, there is no sheep milk production. Sheep are fed grass and silage, feed is purchased. There is no medicated feed. Replacement ewes are purchased yearly in September. A small number of ewe lambs are kept from homebred lambs. Sheep are vaccinated against clostridial diseases, purchased ewes are already vaccinated. Routine drenches are used for ectoparasites, regular treatments are also given for foot rot. The lambing period runs from February-April; store lambs are sold from 12 weeks to 8 months old. The cattle herd consist of 35 suckler cows (including maiden heifers), plus followers. There is no bull stock, AI is used. Calves are reared to fat and sent direct to slaughter. Summer grazing is April-November, and there is winter housing. Animals are fed grass only in summer and cows are fed silage. No boluses are given and there is no medicated cattle feed. Medicines were stored in a locked cabinet and appeared to be in good order. The farmer kept medicine and purchase invoices for medicines administered, however entire records were missing for 2019, and very few entries appeared for 2018. There were no records for disposal of medicines. The farmer uses all medicines purchased and was aware of the correct route for their disposal. The most immediate treatment was with Tuloxin 100mg/ml given to 10 very lame fat lambs in December 2021. These were part of the group where the positive residue was found. By the time the lambs were sent to the market, the withdrawal period (16 days) had been met. Lambs were weighted on a weight crate and the dose administered was reportedly the one indicated on the bottle. The animal could have been overdosed due to overestimation of body weight or lack of calibration of the dosing device. The farmer was advised to seek advice from the PVS and to keep updated movement/medicine records. The importance of correct dosage and the impact of overdosing was discussed. The investigation established that the likely cause of this residue was an overdose given inadvertently.
Sheep liver	Closantel 1950 µg/kg	Northern Ireland	An investigation was undertaken in July 2022. The animal was purchased the day before it was taken to slaughter, in the farm's own transport but mixed with other animals from the herd. On inspection, the movement and medicine records were kept in accordance with legislation and found satisfactory. The positive animal was part of a 1237 flock. The flock owner consistently buys and slaughters giving a high turnover of animals. The owner relies on information on administered medication being disclosed on the food chain information. He confirmed that that no medicine was administered to this animal during the short time period he had it. All follow up samples were compliant.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep liver	Closantel 2200 µg/kg 2207077	Great Britain	<p>This is a large, Red Tractor assured farm, comprised of 836 cattle and approximately 5000 sheep. All medicines are supplied by a PVS, and there is proof of purchase of all veterinary and medicinal products purchased in the last five years. The farmer's medicine records show that fluke treatment was given to the sampled animal in December 2021. According to the farmer the animal could have been inadvertently overdosed. Products given and recorded are Flukiver Oral Suspension for fluke treatment in sheep and lambs (42-day withdrawal period), Crovect and Cydectin. Over 1000 sheep on the farm were treated between December 2021 and January 2022. The positive homebred sheep was sent to slaughter in January 2022. Only 36 days had elapsed from the earliest treatment in December 2021, and any sheep that went to slaughter from the treated groups would still have been in the withdrawal period for the medicine mid-January which could have given rise to the residue. This indicates that it is likely either the records were not checked before the sheep was sent for slaughter or possibly a sheep not intended for slaughter escaped into a slaughter group. The temporary marking of treated sheep is best practice when the individual ear tag numbers of treated sheep is not recorded. It is also possible that the sheep were sent to a green store market and the farmer did not expect the sheep to be sent for slaughter, although the unexpired withdrawal should have been declared on the food chain information document. The investigation was unable to establish the precise cause of this residue.</p>
Sheep liver	Closantel 4500 µg/kg 2207367	Great Britain	<p>This is a large FAWL accredited farm consisting of 2900 pure breed New Zealand Romney sheep with 2200 lambing. Medicines are recorded in the medicine records, however only groups of animals treated are recorded. Therefore, without any additional form of identification (e.g., spray marking) of treated animals, it was not possible to determine individuals treated. The positive 5-year-old ewe was originally misidentified but subsequently listed correctly following review of CCTV evidence. There was evidence of a lockable medicine cabinet, and the medicine and purchase records were made available to the inspector. The farmer stated that any unused medicines are returned to the vet practice, and they were able to confirm this. All breeding ewes, rams, and replacement ewe lambs were drenched with Fasinex in October and November 2021. Replacement ewe lambs were drenched with Flukiver in January 2022 and sold to market in March. Only in-lamb ewes should have been drenched with Flukiver in February which was the last use on farm with the medicine withdrawal in March. It is possible that the positive ewe accidentally received a drench and was sent to market within the withdrawal period as groups of animals only are recorded in the medicine records. Flukiver oral drench (meat withdrawal 42 days) was the only product containing closantel used in 2022. The farmer reported that sheep are occasionally weighed, and the dose calculated according to the heaviest animal in the group. Flukiver was given orally via a dose gun. The farmer attempts to ensure the dose gun correctly fills each time but could not guarantee that a double dose was not administered. Cull ewes were gathered for sale to market in March 2022, however the farmer was not present during the loading of the ewes, it is possible that the ewe in question was unintentionally taken to market in this batch. The farmer was advised that it is an offence to fail to observe the appropriate withdrawal period following the administration of a veterinary medicine and was reminded of record keeping requirements through an advisory-warning letter. The investigation established that the likely cause of this residue was an unrecorded treatment and subsequent slaughter whilst within a withdrawal period.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep liver	Ivermectin 160 µg/kg 2205369	Great Britain	This is a large sized farm of sheep and fattening cattle. The number of sheep is very variable as it depends on the market. At the time of the inspection there were around 9000 sheep, although the maximum capacity could be up to 14000 in 30 different locations. Some of the animals are bought in markets and sent straight to abattoir, others stay on farm for short periods of 1-2weeks. The animals were kept in good clean condition and showed normal behaviour. There is a good system in place for traceability and movement records. All invoices for medicines are kept locked at the farm. Due to the positive liver sample form not having the full ID for the sheep, it was impossible to complete a full investigation of the specific animal. Single animals were scanned under the same flock number, not matching the records found on farm. The digital records on farm, showed around 1000 sheep bought from the farm of origin in different batches. Assuming the animal identified was the one sampled, after treatment (substance ivermectin) it was put in a field next to the batch that was due to be transported to the abattoir and may have broken through a small gap in the fence. Treated lambs are given a small mark on their backs, unfortunately the men failed to notice it when loading sheep. It is possible that the animal escaped to a batch with a different withdrawal period or that the animal received a double dose by mistake (only experienced staff working at the farm for several years are responsible for treatments). The farmer was advised to review procedures to avoid possible human errors during handling or treatment of animals and was also reminded of record keeping requirements, guidance was provided to ensure withdrawal periods are observed. The investigation was unable to trace the specific animal, therefore the investigation remains inconclusive.
Sheep liver	Levamisole 150 µg/kg 2230222	Great Britain	This is a large-sized, well managed organic certified farm (confirmed by the PVS), with a cattle herd of 71 cows, 46 replacement, 143 growing cattle and a sheep flock of around 1055 used to produce meat and wool. There is no sheep milk production. There are 350 hectares of fields and animals graze on grass in summer and on silage during winter housing. No medicated feed is used. The lambing period is March-April. Medicines are purchased from the PVS, and stored appropriately (Levafas Diamond Oral Suspension). No expired products were found, usually the farm does not have expired medicines but knows the procedure to dispose them of through the veterinary practice. Medicine records are kept for more than 5 years and include batch numbers, expiry dates, withdrawal periods, date of administration, dose and quantity administered, animal ID. The farm used a levamisole-based product twice during 2022, but these treatments were for different groups of lambs. Treated animals are spray marked and kept in specific locations. Used equipment is cleaned, the dosing gun was cleaned with hot water from a water boiler. The farmer calculates the doses of anthelmintic treatment, discussed with the PVS. Lambs are dosed according to weight, after a faecal egg count to ensure a suitable product is used. The farm runs different groups of lamb based on weight, so they know which lambs are most likely to be ready for slaughter. Depending on when this is, they determine which anthelmintic products must be used, always ensuring the withdrawal period is adhered to (based on product label and veterinary advice). The farmer declared that the procedure to calculate the doses of anthelmintic treatment is to weigh several of the largest animals and calculate the dose based on the heaviest one. The inspector checked the medicine records and found a potential discrepancy with the dose calculated for the product Levafas. In August 2022 the positive animal, was moved directly from the holding in a group of 69 homebred lambs to the abattoir and slaughtered the next day. The investigation established that the most likely cause of this residue is an accidental overdose due to the wrong estimation of the weight of the animal, but the investigation did not conclusively establish the cause of this positive result. The farmer was advised to continue keeping records, given a summary of medicine recording keeping requirements and recommended to read the product specifications to adjust doses more accurately.
Sheep urine	Alpha-boldenone free/conj 0.4/1.2 µg/l	Northern Ireland	Beta-boldenone is indicative of abuse and alpha-boldenone is indicative of faecal contamination. No investigation was required as there was no presence of conjugated beta-boldenone.
Sheep urine	Alpha-boldenone free/conj 0.43/1.25 µg/l	Northern Ireland	Beta-boldenone is indicative of abuse and alpha-boldenone is indicative of faecal contamination. No investigation was required as there was no presence of conjugated beta boldenone.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone free/conj 0.89/0.45 µg/l	Northern Ireland	Beta-boldenone is indicative of abuse and alpha-boldenone is indicative of faecal contamination. No investigation was required as there was no presence of conjugated beta-boldenone.
Sheep urine	Alpha-boldenone free/conj 1.21/2.09 µg/l	Northern Ireland	Beta-boldenone is indicative of abuse and alpha-boldenone is indicative of faecal contamination. No investigation was required as there was no presence of conjugated beta-boldenone.
Sheep urine	Alpha-boldenone free/conj 1.4/2.2 µg/l	Northern Ireland	Beta-boldenone is indicative of abuse and alpha-boldenone is indicative of faecal contamination. No investigation was required as there was no presence of conjugated beta boldenone.
Sheep urine	Alpha-boldenone 2.0 µg/kg 2229047	Great Britain	This is a medium-sized sheep farm. The positive animal was a young male which was taken to market in September 2022 and slaughtered at the abattoir the next day. There was no evidence of illegal or accidental treatment in the medical records or in the storage fridge. Medicine storage facilities were found to be satisfactory, and no expired medicines were found. Adequate animal ID and withdrawal period details were recorded. The farmer stated, that to the best of his knowledge, he had never administered hormones to the sheep and the investigation established that there was no evidence of the use of banned substances on the farm. It is likely that the residue had arisen following faecal contamination of the urine sample or other endogenous (natural) origin. Too much combined transport, and long stressful journeys could have also contributed to raising the animal's endogenous hormonal production.
Sheep urine	Alpha-boldenone 2.0 µg/kg 2229089	Great Britain	This is a medium-sized SAI Global accredited farm comprised of 70 cattle and 500 sheep (approximately 200 breeding ewes of a mixture of breeds, and the rest lambs). The sheep feed on grass during the year with ewe nuts supplements in winter and during the remainder of the year, sheep are at grass. Lick buckets are also used for minerals. The farmer stated all medicines are purchased from either their PVS or a suitable qualified person and receipts of purchased medicines are kept. The animal did not receive any treatment whilst on farm according to the farmer. Most of the sheep are taken to slaughter within 1-3 weeks or less. The positive animal was purchased in September 2022 and taken to the abattoir the next day, spending less than 24 hours on farm. It appears that any residue identified in this animal was, almost certainly, present when it was purchased. It is most likely that the residue has arisen following faecal contamination of the sample or other endogenous (natural) origin, as certain plant sterols can be metabolised to produce Boldenone in the urine. This investigation was carried out remotely.
Sheep urine	Alpha-boldenone 2.1 µg/kg 2229088	Great Britain	This is a large sized, FAWL accredited farm with approximately 1850 sheep and 34 beef cattle. The cattle are grazed during spring, summer and housed over winter, when they are fed with grass silage. No concentrates are given, and no fattening of cattle takes place on this farm. All beef calves are sold at 9-12 months of age. Lambs are just fed on grass. The ewes have access to concentrates during the month of December, before lambing season. The farmer oversees looking after the animals, including feeding, and applying veterinary medicine treatments, under advice from the PVS. An inspection of the locked medicine's cabinet showed all products were approved medicines with the corresponding batch numbers. No expired medicines were found. The positive animal was part of a group of 56 homebred lambs that went directly from farm to the abattoir in August 2022. No animal from that group of low land lambs remain on farm now, only hill lambs. This holding sends all sheep directly to slaughter and does not sell to other farms. The farm has good movement and medicine records. 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.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 2.2 µg/kg 2206007	Great Britain	This large holding has 7 heifers and 1500 sheep. Lambs are purchased from the market and other farms during August-March, kept for 6-7 weeks and sold to the abattoir. The movement records were found satisfactory on inspection. Sheep grass-graze (radish and stubble turnips), no fertilizers are authorised. The farmer owns 107 acres of land and rents other fields which were not inspected during the visit. All sheep are kept in pens and on an adjacent farm of 40-50 homebred lambs, 70 purchased, a group of 34 (8 ewes and 26 lambs) and another 17 lambs. The lambs on farm were inspected for signs of steroid administration, all appeared in normal condition. Most sheep drink from the 'drinkers' available at the bottom of the fields. There are 50 acres of land where sheep drink from a lake. Individual animals under treatment are identified using a colour spray marker that changes monthly to allow the farmer to identify/observe withdrawal periods and are marked differently on the neck according to medicine used. Usual treatments are Alamycin, Betamox LA, Tetroxy Vet, PenStrep, and Albex. Four expired bottles were found in the unlocked cabinet drawer (Dectomax, Betamox, Tylucyl, Bimectin), these should have been disposed of. In-use medications were kept in a lockable metal cupboard. A large blue container used to dispose of expired medicines was full (these are usually taken to the veterinary practice). The farmer was advised to record batch numbers, quantity, persons administering medication on the medicine records diary, and to clearly mark expired bottles/medicines exceeding broach periods for disposal. A copy of the veterinary medicines guidance on record keeping requirements was provided. The PVS was contacted to discuss findings and advised to contact the farmer to re-enforce advice regarding medicine records, storage, and disposal obligations. There was no evidence of the use of banned substances on the farm therefore the presence of this hormone is considered to be of natural origin due to faecal contamination of the urine at the time of sampling.
Sheep urine	Alpha-boldenone 2.2 µg/kg 2215513	Great Britain	This is a medium size FAWL affiliated farm mainly comprised of sheep together with beef cattle. There were no horses on the farm. The positive sheep was in a group of 21 that were sold at market in May 2022 and went to slaughter the next day when the urine sample was taken. The animal (male lamb) grazed on clover pasture which can be related to the natural production of alpha-boldenone. The animal ID on some of the entries in the medicine administration records were vague, making it impossible to clearly identify the treated animals without the farmer's diary. The farmer stated that the entries that had no individual ear tags, nor physical mark, referred to animals that were kept in specific fields. He confirmed that he had records of the batches he treated on certain dates. A summary of medicine record keeping requirements for keepers of food-producing animals was provided. 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 2229098	Great Britain	This is a small-sized sheep farm. The stock was inspected and there were no concerns or abnormalities to report. The farmer explained that the flock rarely receives medicine outside of annual worming (last administered in January 2023), therefore there were not many entries from the last 3 years. A welfare case of lameness had recently been recorded so veterinary medicines were likely to be acquired. At the time of the inspection visit no veterinary medicines were stored on the farm other than Albex which was kept in a locked container. The positive animal was sold to market in September 2022 and slaughtered the following week, when the sample was taken. It is most likely that the residue has arisen following faecal contamination of the sample or other endogenous (natural) origin, as it is possible that certain plant sterols can be metabolised to produce boldenone in the urine. Therefore, it is reasonable to consider the low level found to be of natural origin. No further advice was provided, other than discussion and guidance on withdrawal periods and record keeping.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 2.2 µg/kg 2229111	Great Britain	This is a small suckler and sheep farm comprised of 29 suckler cows, 1 bull, 2 heifers and 30 young stock. Steers are sold on market, replacements for cows are purchased every year. There is summer grazing and winter housing. There are 481 ewes, 13 rams, and 12 lambs. No ewe lambs are kept for replacement. The animals go to slaughter at 5-6 months old. Sheep are fed with grass, silage. Lambs are fed with finisher a month before they go to the abattoir. Movement records have been revised from the last five years (automated records). The medicine records for sheep and cattle were inspected and appeared compliant with legal requirements. Medicines were stored correctly, and no expired medicines were found. Medicine records show that lambs were treated for worms and blowfly prevention in May and June. 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. The farmer was recommended to seek advice from the PVS.
Sheep urine	Alpha-boldenone 2.3 µg/kg 2234861	Great Britain	This is a medium-sized sheep farm with 28 pedigree Texel ewes and usually 450 commercial ewes (fewer this year with approximately 330). There are also 3 horses present on the farm. The pedigree ewes and lambs are indoors in February, commercial ewes and lambs are outdoors in April. Lambs are slaughtered between July and the following April in batches as they are ready. All the lambs are sold through market, as are most of the cull ewes. Lambs are only fed on grass and cover crops. The ewes receive a little bit of concentrate in the lead up to lambing. All medicines are stored appropriately, and no expired medicines were found. Adequate animal ID and withdrawal periods were recorded. The positive sheep was sold directly from the grazing field to market in November 2022 (with no dealer involved). The sheep was then sent to slaughter. The remaining lambs from the same management group were inspected with no obvious signs of steroid use. 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. The farmer was also provided with guidance information on record keeping requirements.
Sheep urine	Alpha-boldenone 2.3 µg/kg 2234884	Great Britain	This organic-accredited medium holding has 1200 Scottish black face ewes and 120 cows. The farmer owns 900 hectares of land which is fully fenced. Lambs are born on farm and sold directly to abattoir. Breeding ewes and tups are sold at market. Lambs are fed on grass only with access to natural water sources. The positive animal arrived in the abattoir directly from the farm of origin in a batch of 69 lambs in October 2022 which was confirmed by the movement record. All medicines are purchased from the PVS and stored in a locked room. Some expired medications were found but these were already separated by the farmer for disposal. As this farm is organic, the withdrawal periods are longer than standard, but were being adhered to. Requested records were available to be inspected, however the medicine and movement records were not completely up to date. The usual treatments involved Alamyacin, Betamox, and Heptivac. Treated animals are marked on the neck. The lambs on farm were inspected for signs of steroid administration and all appeared in normal condition. Ear tags of treated animals and medications are noted in a diary to be updated on the farm records. None of the lambs sent to slaughter were given any treatment prior to sale. A copy of the veterinary medicines guidance on record keeping requirements was provided. The PVS was contacted to discuss findings and advised to contact the farmer to reinforce the record-keeping and medicine disposal obligations. 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.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 2.4 µg/kg 2206002	Great Britain	<p>This is a small-sized farm with 20 cattle (15 cows and 5 bulls), approximately 100 sheep (81 ewes, rams, and lambs), 300 chickens, 7 turkeys, 7 geese, 3 ducks, 20 pigs, 11 pet goats, 3 pet alpacas, 5 pet rabbits and 5 pet guinea pigs. This is an open farm to the population, although most of the sheep are not in the display area of the farm. The farm produces its own grass, grass silage and concentrate for sheep. Cattle pig and poultry feed are provided. All feedstuffs are kept bagged on site and grass pellets are also purchased which are used for people to feed the display animals. There is no medicated feed kept on farm. Medicine and movement records are kept according to the legal requirements. Veterinary medicines are administered under veterinary supervision and stored correctly. No unlicensed veterinary medicines were found during the inspection. All medication had the purchase receipts and prescriptions records. The farm sends lambs, pigs, and store cattle for slaughter and carries out seasonal slaughter of turkeys and ducks by licensed staff. A low number of lamb rams are kept selling as breeders. Lambs and pigs are collected by the abattoir's haulier and less frequently the farm delivers the lambs in their own transport. Cattle are normally delivered to the abattoir by the farmer, some sheep are sold through market. The positive result was obtained from a batch of 3 lambs sent for slaughter born on the sister farm under the same management. Inspection of the yearly lambs did not show any evidence of abnormal muscles or body conformation. All the animals seen presented with normal body condition and conformation. 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. No advice was provided as the farmer was fully compliant with the Veterinary Medicines requirements.</p>
Sheep urine	Alpha-boldenone 2.5 µg/kg 2205180	Great Britain	<p>This is a medium size farm consisting of 2200 sheep, kept outside in surrounding fields which are fully fenced. Sheep are not in contact with other livestock. Fields are isolated from public, buildings, or stores. The positive animal arrived from market in a batch of 104 in September 2021. According to the sheep and goats movement document, the animal was fit for slaughter. The keeper stated that the animals were originally from a few different farms brought to his holding from the market. These sheep were kept in the same field for 6 months with outside grazing and silage provided during the winter with water drinkers available. The animals were transported to the abattoir in March 2022 and slaughtered the following day. Requested records were available to the inspector, however some movement records were missing or not accurate and some movements were not recorded on systems. Purchased medicines were also not recorded. According to the medicine records no treatments had been administered to the batch of sheep. The farmer does not keep individual ID records of treated sheep, they are just treated as a batch. All medicines were stored appropriately and found satisfactory. There is no evidence that treatment or steroids were administered to the animal. It is possible that the higher level of boldenone was caused by faecal contamination during sampling or by certain plant sterols which can be metabolised to produce boldenone in the urine.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 2.5 µg/kg 2229031	Great Britain	<p>This is a medium size sheep farm with approximately 140 ewes (Texel and mixed breeds). There are also poultry on the farm. Lambing season occurs in March. Most of the female lambs are retained for replacement, apart from 15 Texel lambs that will be sold at market. Texel male lambs (25) are kept on the farm for fattening until the following year around September-October when they will be sold. The farmer keeps some gimmers for replacement and buys 20-25 females at market for the same purpose. The rest of cast ewes, tups and male lambs will be sold at the same market. The sheep were in good condition and were provided with decent shelter. The flock is vaccinated with Ovivac for lambs and Heptavac for ewes. Veterinary medicines are obtained from the PVS and dewormers from an agricultural merchant. The medicine records were found to be satisfactory, and the medicines store was lockable. There were some medicines that had been kept for too long after broaching. The farmer was advised to dispose of these appropriately. The farmer is aware of the requirements in terms of medicine recording, (withdrawal periods and FCI information) and the premises seemed well managed. The tup in which the residue was found went to the market with another tup and 10 lambs in August 2022. 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. Advice was provided regarding more effective medicine record keeping (individual identification of sheep treated).</p>
Sheep urine	Alpha-boldenone 2.5 µg/kg 2229113	Great Britain	<p>This is a large, FAWL accredited farm, with 49 beef cattle and 582 sheep. Calves are purchased in the autumn and reared until 18-24 months old when they are sold through local markets. The breeding ewes are lambed in late February. The positive animal (female lamb) was in a group of 35 lambs, aged 6-8 months old, sent to slaughter in September 2022. Veterinary medicine purchases are recorded in a book for both cattle and sheep. The usage is recorded in a separate medicine book used for cattle and sheep. All the products presented in the medicine storage (photograph evidence provided), were correctly recorded. Information included batch numbers, expiry dates, withdrawal periods, date of administration, dose, quantity, treated animal IDs. Unwanted or finished bottles of medicine are disposed of through the local PVS. The farmer confirmed that no steroids had been administered to livestock. The PVS for the sheep and cattle confirmed that there was no suspicion of veterinary medicine misuse at this farm. The investigation established that 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. Advice was given to continue recording the medicines administered to livestock correctly.</p>
Sheep urine	Alpha-boldenone 2.5 µg/kg 2234879	Great Britain	<p>This is a medium-sized, FAWL accredited farm comprised of 114 beef cattle and around 230 sheep, including 4 rams. Sheep are fed grass, silage, hay, and purchased feed (pellets and nuts). Lambing season is from the end of January-mid-April, store lambs are sold to markets. All cattle are purchased; no breeding takes place on the farm, and they are reared to fat then sold to slaughter. They graze in the summer (April-October) and are housed in the winter when they are fed on silage, beef nuts with mineral licks are provided. Medicated feed is not used. Sheep are vaccinated against clostridial diseases and enzootic abortion; and wormed routinely with regular drenches for ectoparasites. The PVS is called out as required and there is a health plan for the sheep. Medicines used are for the correct target species. The farmer had not administered any steroids to his livestock. Medicine storage is locked with a key. The veterinary medicines were all in good order, correctly recorded in the farm records of medicines acquisition. There were no expired medicines. Medicine records and purchase invoices for more than 5 years were available. Records for used products included the batch numbers, expiry dates, withdrawal periods, date of administration, dose and quantity administered, treated group of animals. Veterinary medicines are obtained from the veterinary practice or from an agricultural store. The positive animal was in a group of 8 lambs sold to market in November 2022 and sent to slaughter where the sample was collected the next day. The investigation established that 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.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 2.6 µg/kg 2228992	Great Britain	<p>This is a small farm consisting of 20 sheep and 8 hens. The sheep farm system is based on breeding ewes (Pedigree Lleyn) to produce ewe lamb replacements. A few lambs are sent for slaughter for the farm's own consumption. Occasionally new ewe lambs are purchased at the market. Sheep graze all year round and get extra ewe cake (pellets) during lambing. The farmer declared that no medicated food is used, clover is present in the grazing pastures. The farm has an annual animal health plan including vaccination against footrot, pasteurilla and clostridial diseases. Antiparasitic treatments, breeding treatments and antibiotics are used when needed. Veterinary medicines are stored in a lockable cabinet and were found in good order. Poultry medicine is used immediately on purchase and therefore not stored. On inspection, the only product found was Klik Pour-On. According to the medicine book, it was used in June 2022, and the pot had a best before date of 2024 (shelf life after opening one year June 2023). There were medicine records available for more than 5 years and these were found to be satisfactory. Purchase invoices were presented, including expiry dates and treatment doses. Medicine disposal is done at the local PVS practice, good husbandry standards and procedures were observed to be in place for the correct use of medicines on the farm. The sampled animal, plus two other sheep, aged between 6-12 months, were moved directly from the holding to the slaughterhouse in August 2022. These 3 animals were slaughtered, and the sample was taken the next day, there was no delivery to retail shops, (only for the owners' consumption). The investigation established that 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.</p>
Sheep urine	Alpha-boldenone 2.8 µg/kg 2229102	Great Britain	<p>This is a medium size FAWL accredited farm of 400 acres. The farm runs a beef suckler herd, mainly Limousin Cross, with 48 cows, stock bulls and followers (139 total stock). The sheep flock consists of 700-750 ewes, 20 rams, plus followers. Welsh, Welsh Cross and Texels. There are two holdings and sheep are kept on both premises. Ewes are brought to the main holding for lambing mid-February-May. Welsh ewes are lambed outside, and Welsh Cross are lambed inside. Lambs are weaned at 12-14 weeks old. The positive lamb was moved to the other holding in May 2022, then sent to market in July. The lamb did not go directly to the abattoir, it spent two days on an intermediary holding. There is a health plan in place with the PVS. The last annual health welfare review for FAWL assurance purposes was done in January 2022. The flock is vaccinated against clostridial disease using Covexin 8. Lambs are wormed with Endospec in the spring and ewes receive fluke treatment (Tribex) in the autumn. Sheep are dipped yearly and Klik Extra is used on the lambs for fly prevention. Chronogest sponges (substance flugestone acetate) are used for artificial breeding control purposes in the ewes. Medicine storage facilities were found satisfactory, however one bottle of expired PenStrep was found (sealed bottle) not used on any livestock. The owner confirmed that expiry dates are checked before administering medication to animals and expired medications, needles and pumps are separated to avoid inadvertent use and returned to the PVS for disposal. Medicine purchase and treatment records appeared in good order; only standard treatments were recorded. The lamb had received treatments with Covexin vaccination, Endospec wormer in April. Klik Extra in June 2022. Some lambs from the group were treated with Trymox for lameness. They were identified with a red spray marker, but it was not possible to determine if the positive lamb received this treatment or not. All withdrawal periods had ended before the lamb was sent to market in July. 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.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 2.8 µg/kg 2229124	Great Britain	This is a large farm business with sheep (950 breeding ewes, 27 rams) and beef cattle (101 heifers). The animals of this holding are in four different locations. When veterinary medicines are applied to a group of animals, farmers use the name of these locations to identify the group of animals treated. The sheep flock grazes all year round, except when they are housed for lambing (January-May). The sheep are normally purchased in August, then from February-April are sold to the market. From April-July, August, they are sent to slaughter. The cattle group is housed from October-April depending on the weather conditions. In September-October young heifers are bought, the fattened heifers are sent to slaughter. No medicated food is used for cattle or sheep. The farmers did not have any concern about animals eating any plant at grazing that could have consequences in the food chain. Animals are treated under the advice of the PVS for routine treatments (internal and external antiparasitic programs) or for the treatment of casual problems. Veterinary medicines are kept in a locked cabinet (some appear repetitively in the medicine records). Medicines are only purchased for treatments needed to avoid accumulation and these appeared to have the batch numbers (this inspection was carried out remotely). No expired medicines were found. Records were found in good order, including all the required information. There was evidence that showed a solid management system for invoices, movements, mortality, and there were medicine records going back five years. The veterinary practice confirmed they did not have any concerns. The positive sampled lamb was a homebred animal sent to the abattoir in August 2022 and slaughtered the next day. The investigation established that 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. A copy of the veterinary guidance notes on record keeping requirements was provided by the inspector.
Sheep urine	Alpha-boldenone 2.8 µg/kg 2234843	Great Britain	This is a medium-sized, FAWL accredited farm with 230 Welsh Mountain ewes. The ewes are grass fed only; no cake is provided. Lambing time is at the beginning of April, the farmer provides energy lick blocks to the ewes, lambing takes place outdoors. The farmer only uses antibiotics if needed after difficult lambing. Any treatments are given under the advice of the PVS who also provides the medicines. All withdrawal periods are recorded in the medicine record book and procedures are followed as required. Any expired products are returned to the veterinary practice for disposal. The farmer provided the medicine, movement records, and purchase receipts as requested by the inspector. Medicines are stored in a metal lockable cabinet (photographic evidence was provided), there were no medicines in store at the time of inspection. The positive lamb was moved directly to abattoir in November 2022 in a group of 50 and slaughtered the next day. The farmer stated that the lamb spent all its life at the farm and was last treated in August for flukes and worms with Cydectin TriclaMox. No animals from this batch remained on the farm. Medicines used within the last two months prior to the slaughter of the positive animal were checked for the presence of steroids and none were found. The investigation established that the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. This investigation was carried out remotely.
Sheep urine	Alpha-boldenone 2.9 µg/kg 2205940	Great Britain	This is a medium sized farm containing mainly dairy cattle, there are also some sheep. On inspection, all medicine records were found in order and had been consistently kept since at least 2015. Adequate animal ID and withdrawal period details were recorded. The medicines cabinet and fridge containing medicines were inspected, no illegal substances were found. All medicines were stored appropriately. Only a small amount of medicine was stored, a broad spectrum, but mostly antibiotics all in date. The sheep that tested positive was purchased at market in January 2022, in a batch of 14. It was delivered to the abattoir the next day where the positive sample was taken. The farmer feeds the sheep extensively with forage rape which is most likely to be the natural source of boldenone.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 3.0 µg/kg 2228990	Great Britain	This is a medium size farm business, comprised of 15 sheep, 12 cattle, approximately 69 pigs, 8 geese, 5 turkeys and 3 donkeys. The flock grazes in fields where there is presence of clover, which has been found related to the natural production of boldenone. The medicine storage facilities were checked, veterinary medicines are kept on a closed shelf, in a locked room. There was one out of date bottle of medicine (Betamox LA 150 mg/ml) present, however the farmer confirmed he was not using it. The medicine records for 2021-2022 were inspected, two minor non-compliances were found. A withdrawal period was not recorded in the medicine records, but the farmer noted when this withdrawal period ended in his personal diary so that he could send the sheep to the slaughterhouse. Animal movement records were also checked, the homebred positive animal was in a batch of 11 lambs sent from the holding to the abattoir in September 2022, where a urine sample was taken the next day. 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. The farmer was advised to add the withdrawal periods to the medicine records and to separate expired medicines to avoid misuse.
Sheep urine	Alpha-boldenone 3.0 µg/kg 2229087	Great Britain	This is a medium sized organic sheep farm with approximately 400 breeding ewes and around 200 acres. It is a closed flock, as the farmer does not purchase any replacements. Homebred ewe lambs are kept as replacements and fat lambs are sold direct to slaughter in the autumn. The lambing period takes place during March-April. The farmer transports the fat lambs direct to the abattoir in his own trailer and aims to have all fat lambs off the farm and slaughtered before the end of the year. As this is an organic farm, the farmer uses as little medication as possible for the sheep and it is always under veterinary supervision. Veterinary medicines are recorded, including adequate animal ID and withdrawal period details. All veterinary medicines are stored appropriately and there were no expired medicines found on site. The positive animal was in a batch of 15 fat lambs taken directly to the abattoir in July 2022. There were no animals of this group of lambs left on the farm. 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 3.3 µg/kg 2225741	Great Britain	The farm is a medium sized QMS accredited beef and sheep farm, consisting of 1060 acres, of which 200 are arable. Crops grown include barley, oats, and turnips. The farm currently stock 1200 ewes, 1400 lambs and 16 tups. The flock is a Highland mule herd with Texel-cross and Suffolk-cross breeds. Cattle are mostly Simmental-cross, a mixture of homebred beef sucklers and bought-in finishers. Lambs do not receive concentrate or supplementary roughage feed prior to sale, grazing is rough pasture. The positive lamb was a homebred fat lamb born Spring 2022. Ewes are housed overnight during lambing period only. Ewes are fed a mixture of concentrates, silage, and turnips in the pre-lambing period. Feed is bought in bulk sugar beet and soya mixed on site with home grown oats. Cattle feed is mixed in a separate shed and sheep do not have access to this. Cattle are housed in winter. The farm has a comprehensive flock and herd plan with PVS which was up to date. Expired medicine needles are returned to the veterinary practice for disposal. Most veterinary medicines are obtained from the PVS, however Oramec and Ovivac are obtained elsewhere. Proof of purchase is retained electronically. Medicine records showed the positive lamb was vaccinated against orf clostridial disease using Scabivax and Ovivac. The lamb was treated for endoparasites using Oramec drench (ivermectin). The lamb had received no other medicines prior to slaughter, correct withdrawal periods were observed. Resflor had been used off-license in individual sheep on occasion, prescribed by the PVS, the withdrawal period was observed as per the instruction given for the sheep. Medicine storage facilities were found satisfactory. The farm appeared to be very well managed, and the owner was cooperative and provided all records requested during the inspection. 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.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 3.5 µg/kg 2206014	Great Britain	In March 2022, the owner transported 3 homebred sheep from the farm directly to the abattoir using a borrowed trailer from a neighbour. The owner runs a small sheep enterprise supplying slow grown lamb directly to local customers. Lambs are not slaughtered until at least 18 months old. A small amount of yarn is also produced and sold. There are 59 sheep and 52 of this year's lambs on the farm. They are predominantly fed on grass only, with a small amount of creep feed provided occasionally. The PVS supply POM medicines to the farm. Medicines on stored within a shed on farm and the owner is the only person who administers any medications. A separate shelf containing empty medicine bottles is used and there some partially filled bottles that had expired were found. These were separated from the in-use medications; however, the individual bottles were not marked. No evidence was found that the expired medicines were being used. The owner was advised to dispose of the medications/empty bottles correctly with timely disposal and storage. A link to the codes of recommendation for the welfare of livestock was given to the owner. Medicine records were provided, and these were found to be satisfactory on inspection. 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 3.6 µg/kg 2228948	Great Britain	This is a medium sized farm with over 450 ewes and followers. Ewes are bought for lambing and lambs are normally sent direct to market. There is no sheep milk production, and the sheep are fed on grass, silage, hay, and a supplement for growing lambs. No veterinary medicines are stored onsite. The medicine and movement records were provided and appeared accurate and satisfactory. Treatment records requested were from June. Names, batch numbers, quantities, expiry dates, withdrawal periods, animal ID and treatments were all recorded. The positive animal was sold at market and sent to slaughter in September 2022, with the sample being taken the next day. After the assessment of the situation, based on the evidence of adequate procedures of recording the use of medicines on the farm, 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. The farmer was advised to continue to record veterinary medicines administered to the livestock.
Sheep urine	Alpha-boldenone 3.6 µg/kg 2229123	Great Britain	This is a medium sized farm with 450 sheep and 41 cattle on the holding. The positive animal was homebred and reared on farm. It had been grazed at pasture prior to being sent for slaughter. No medicated feedstuff is used on the farm, lambs are finished at pasture. Lambs are sold mainly through market but occasionally directly from the farm. The medicine and purchase records were made available and appeared to be satisfactory. The medicine storage facilities were sufficient. The animal in question was sent to slaughter in July 2022. 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. The farmer was advised to continue to purchasing medicines from the PVS.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 3.8 µg/kg 2215539	Great Britain	<p>A medium to large sized farm with 630 breeding ewes, followers and 98 beef cattle. Cattle are brought in during winter, sheep are only brought in for lambing. There is a presence of clover in the field, which has been found to be related with the natural production of alpha-boldenone. The medicine records showed that there was 15ml of Dexadreson used in February without specifying on what animal it was used. The farmer confirmed he thought it was used for a cow based on the amount used. Veterinary medicines are kept on an open shelf, and the room is kept locked with a padlock. Medicine records from 2011-2018 were provided, although records for 2019-2020 had been lost or misplaced. The farmer seemed to be consistent with records (including for TB vials). However, there were some minor mistakes in record keeping, such as missing appropriate ID of animals treated, annotation of disposal dates. There were also several expired medicines present, namely Panacur 10% Oral Suspension, Norodine 24 Solution for Injection, and Fasinex 240, 24% w/v Oral Suspension for Cattle. Norodine and Fasinex were kept separated to avoid inadvertent use. None of the three substances had been given to the stock and the farmer was aware of the need for disposal. The farmer provided an example of separate records kept for deworming. The positive homebred male lamb, sampled in April, was one of the old-season lambs, therefore no other animals from the same batch were present for inspection. There were young lambs approximately 6 months old, that would have been from the same batch of the 11 lambs sent to slaughter on the same date. The lambs remaining on the farm did not show any signs of abnormal muscling. Ewes would have had a full and individualized ear tag number. Information and guidance on record keeping was provided to the farmer to enable improvement on processes. 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.</p>
Sheep urine	Alpha-boldenone 4.0 µg/kg 2229066	Great Britain	<p>This is a medium size farm comprised of 60 cattle (Limousine Cross) and approximately 400 sheep. There are also 50 chickens, 10 ducks, 1 pony (kept as a pet) and 5 working dogs. The main business orientation is fattening and selling lambs, rearing, and selling beef cattle. Early lambs are fed with creep pellets, grass, and barley. The lambs have access to straw bedding and are sold at the market at 45-49 kilograms. Cattle are kept on grass most of the year (spring-autumn) and sometimes mix with the sheep, lambs are separated from the cattle area. Lambs are only sold through the market and delivered by the farmer, occasionally cattle are sold privately to other farms. The positive male lamb was from a batch of 15 lambs born on the farm in February 2022, fattened up until July then sold to the market. It was fed creep, nuts, barley, and grass. The animal was treated with Spectam Scour Halt and vitamins and before being sold it was treated with Clikzin Lamb Pour-On and Albacert in June, administered by the farmer. Sheep on farm were inspected, no noticeable muscular hypertrophy was found. The pony was also inspected and had an adequate muscular mass for a 20-year-old animal. There is a bridle path nearby close to the farm fields and sometimes tourists run by, but nothing else was noticeable. Manure is removed and only spread on arable 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 natural due to accidental faecal contamination of the urine at the time of sampling. The farm was provided with information on recording keeping requirements, boldenone facts, together with a leaflet on correct de-worming procedures for sheep and cattle. The importance of adhering to withdrawal periods and keeping feedstuff away from medical waste was explained and highlighted.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 4.0 µg/kg 2229143	Great Britain	This is a medium, FAWL assured sheep farm with between 3500-4000 fattening sheep. There is no breeding stock as ewes are sold straight to slaughter only. Sheep are bought regularly from market and farmed on the same block of land. There is an infrequently used public footpath, no horses are in the near vicinity. Sheep are fed primarily on grass, with no additional feed and have a PVS developed health plan. Sheep are fed primarily on grass; no additional feed is given. Medicine records inspected during the visit were up to date and correctly completed in compliance with the legal requirements. Proof of purchase is retained for all medications with data sheets for each product used on farm. No drugs compatible with alpha-boldenone were recorded. Proof of purchase is retained for all medications with data sheets for each product used on farm. All medications are stored in a cabinet inside a locked office. No medicines are mixed on site and unused medicines are not retained on site. Medicines are mainly administered by the farmer who is the SQP, but other members of the family also do it. The positive animal was transported directly to slaughter by the farmer with his own transport in September 2022, in two lots of 150. The average weights and scoring from the 300 sheep sold to the abattoir does not show any obvious steroid drug misuse. The farmer was given advice and guidance on preventative measures The most likely cause of the positive result is that the residue has arisen following faecal contamination of the urine sample during collection.
Sheep urine	Alpha-boldenone 4.2 µg/kg 2234892	Great Britain	This is a medium Quality Meat Scotland affiliated holding which has 750 Romney cross sheep and 184 cattle. Lambs are born on farm and sold directly to the abattoir. They are fed on grass all year round and given lamb maize pellets during the winter with access to troughs connected to the water mains. The farmer owns 500 acres of fertilized land which is fully fenced. All medicines are purchased from the PVS and stored in a locked fridge. Some expired medications were found but were clearly marked by the farmer for disposal. Medicine records were made available to be inspected and were very thorough and complete. Lambs sent for slaughter are given a slaughter tag and are batch treated. Breeding flocks are individually treated when needed and a unique tag is recorded. Treatments usually involve Engemycin and Zactran, treated animals are spray marked on different parts of the body which correlates to the specific treatment. The lambs on farm were inspected for signs of steroid administration and all appeared in normal condition. None of the lambs sent to slaughter were given any treatment prior to sale. The positive animal arrived in the abattoir directly from the farm of origin in a batch of 191 lambs in October 2022, which was confirmed by movement records. The investigation established that the presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling. Advice was given to dispose of any expired medications with the PVS and to contact the vet further if any questions regarding medicine residues.
Sheep urine	Alpha-boldenone 4.7 µg/kg 2229153	Great Britain	This is a medium size SAI Global accredited sheep holding with approximately 200 breeding ewes and a mixture of lamb breeds, around 500 sheep in total. The sheep feed on grass during the year with ewe nuts supplements in winter. Lick buckets are also used for minerals. The farmer stated that all medicines are purchased from either the PVS or a suitable qualified person, receipts of purchased medicines are kept. The majority of sheep are taken to slaughter within 1-3 weeks or less. The positive animal was purchased in July 2022 and taken to the abattoir the next day, spending less than 24 hours on farm. According to the farmer, the animal did not receive any treatment whilst on the farm. It appears that any residue identified in this animal was almost certainly present when it was purchased. This investigation was carried out remotely and was significantly delayed due to Avian Influenza priority. 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 4.7 µg/kg 2234878	Great Britain	<p>This is a medium sized holding of 1100 Clun and Texel breeding ewes and 210 cattle. Lambs are born on farm and sold at market. They are fed on grass all year round and given rapeseed during the winter with water access from either natural sources or troughs. The farmer owns 700 acres of fully fenced land, fertilized with nitrogen, phosphate, and potassium. Medicines are purchased directly from the private vet or a registered veterinary pharmacy and kept in locked storage facilities. Some expired medicines were found, the farmer was advised to mark any expired medications, to store them in a clearly marked compartment and to discuss with the PVS best practice for disposal of medicines to reduce the risk of cross-contamination. Medicine records were made available for inspection and appeared very thorough and complete. The usual treatments involved Dectomax, Flukiver, and Supaverm. Animals treated are spray marked and/or isolated from the herd. In October 2022 the homebred positive animal (Texel lamb) was transported to the market in the farmer's own transport, in a batch of 63 lambs confirmed by movement records. It was sold to the abattoir and slaughtered the next day. The lambs remaining on farm were inspected for signs of steroid administration and all appeared in normal condition. None of the lambs sent to slaughter were given any treatment prior to sale. 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.</p>
Sheep urine	Alpha-boldenone 4.9 µg/kg 2232597	Great Britain	<p>A medium size farm with 230 beef cattle and around 700 sheep. All sheep graze outside in fully fenced fields and do not meet other livestock, the public, buildings, or stores. The farm sells about 700, mostly Cheviot, homebred fat lambs for slaughter per year. The ewes are mated in November and scanned after 60-90 days. Lambing takes place outdoors, April to mid-May. No medicine records were made available, but the farmer informed the inspector that treatments given to the batch in question would have generally been limited to worming, fluke treatment and clostridial vaccination. All medicines are kept securely on farm and veterinary medicinal products are obtained from the PVS and an agricultural supplier. The farmer states he had not administered steroids to this animal and does not use anabolic hormones. Withdrawal periods are checked from the product's label. There is a veterinary health plan in place and the farm seeks veterinary advice when appropriate. There were no previous incidents related to medicine use and no reports of welfare issues. The positive animal was part of a group of 93 sheep sold at market in November 2022. The lambs were transported from the holding in November 2022, then overnight by ferry to arrive at the lairage of the abattoir. They were slaughtered two days later when the sample taken was taken. 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. This investigation was carried out remotely and the farmer was cooperative throughout. Recommendation was given to the farmer to familiarise himself with the veterinary medicine regulations, and to have contingency plans in place to ensure farm records are accessible for ease of inspection.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 5.2 µg/kg 2229038	Great Britain	<p>This is a large size FABBL accredited mixed farm with approximately 1100 breeding ewes, lambs, and a few replacement hogs. There are also around 100 breeding beef cattle with calves, in-calf heifers and growing stock. Some replacement hogs and bulls are purchased at market, however most of the stock is bred on site mainly through natural service. The sheep mainly graze outside and do not have any additional feed. Medicines are stored in a lockable fridge and were within their use-by-date. There was just one bottle of expired Calcium (over six months old) which was kept separately in the store away from the reach of livestock. The PVS confirmed the farmer was not purchasing any CIDR or Chronogest intravaginal sponges and did not suspect the purchasing of any products from questionable sources. The veterinary records were very thorough, kept for a minimum of 3 years and showed the withdrawal periods. The animal in question was a 6-month-old homebred male lamb. It was sold in September 2022 in a group of 48 and slaughtered the next day. Following inspection of the veterinary records and after speaking with the PVS, the inspector 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. The farmer was advised to dispose of expired veterinary medicines through the PVS appropriately.</p>
Sheep urine	Alpha-boldenone 5.8 µg/kg 2215521	Great Britain	<p>This is a small sheep farm, there are also poultry, geese, and a donkey on site. The farmer normally takes animals to the market and the positive male animal was moved from the main premises to market in April 2022. It was purchased and sent directly to slaughter the same day. The farmer stated he did not use any steroid on the animals and that no contamination source was suspected. The animal was not previously treated before it went to market, or during the previous 30 days beforehand. There is routine vaccination, and a de-worming programme is in place. On inspection, movement records were found to be satisfactory. The veterinary medicine storage is located inside a cabin in the main shed at the farm, the room is locked. All veterinary medicines are obtained from the PVS practice. Two expired medications were found at the time of the visit, (empty bottles separated in a drawer). Veterinary medicine records were checked and found compliant. Medicine purchases, PVS visit records were available to the inspector. Record checks were concentrated on 30 days prior to the sampling date (including medicines, dates, animal IDs, quantity, withdrawal periods) which all found to be satisfactory. However, the inspector highlighted that treatment must be recorded more accurately, as some animals were recorded as group treatment, rather than individually. The farmer had identified each animal treated by colour marks. A copy of the medicine record keeping requirements was provided for information. 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.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 5.9 µg/kg 2225747	Great Britain	<p>This is a medium sized farm with 1320 sheep (520 ewes and 800 fattening sheep). All animals are kept outside in fully fenced fields, in three separate locations. The sheep are not in contact with any other livestock and the fields are isolated from the public, buildings, and stores. Six lambs were kept separately from the rest in a hospital pen. Additional feed is only given to sick sheep and to a batch of sheep in one of the fields on the main holding, water drinkers are available. All animals are homebred including the positive sheep which was part of a batch of 41 slaughtered in August 2022. There was no individual animal ID or kill number on the sample form, therefore it was impossible to trace the sampled animal and a recommendation was made to the slaughterhouse OV to ensure correct ID and kill numbers are detailed for better traceability. Fattening lambs are sent for slaughter approximately 9 times a year. One batch totalled between 40-50 animals. According to the sheep and goat movement records, animals were fit for slaughter. No medical treatment had been administered to the batch of 41 sheep. If treatment was needed, (worming or vaccination), it was administered to the whole batch, no individual records were kept. The medicines storage facilities were satisfactory; all medicines were labelled and are supplied by the veterinary practice or purchased through local shops. Only Virbac and Alamycin medicines were on site, there were no expired products. Invoices provided were also checked. Although the specific animal was untraceable, the investigation established that there was no evidence of the use of banned substances on the farm. The presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling.</p>
Sheep urine	Alpha-boldenone 6.5 µg/kg 2228995	Great Britain	<p>This is a large farm comprised of approximately 70 sheep, 70 goats, 150 pigs, and other (horses, pony, donkey). Grazing sheep are kept in their own field and are sent directly to the abattoir. Sheep are fed mainly grass, silage and hay, no medicated feed is used. Goats are a closed herd used for dairy products and are also fed grass, silage, and hay; additional non-medicated feed is used (no additives). Pigs are kept in their own area and are sent to the abattoir once fattened. Other species have their own area and sheds. The owners obtain their veterinary medicines from the PVS and an online store. All medicines are administered by the owners under veterinary prescription, they confirmed they had not administered any steroids to the livestock. The sheep were inspected, no abnormal muscling was observed. Medicine storage facilities were checked, medicines were found stored in an old caravan, not locked in a cabinet or secure room. Information was missing on the medicine records (no withdrawal periods noted down correctly on records). One expired medicine (Vecoxan Oral Suspension) was found. There was also inadequate disposal of medicines and no records kept. The owners were advised to store medicines securely, ensure medicines are disposed of through the appropriate channels, to adhere to good record keeping requirements including detail of withdrawal periods. 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.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 6.5 µg/kg 2234869	Great Britain	This is a medium-sized, FAWL accredited farm with a flock of approximately 1000 Lleyn breed ewes and a herd of 378 beef cattle (including 130 Limousin cross suckler cows). The calves are reared on farm until being sold at 24 months of age. They are fed barley and silage, but no concentrates are given. The cattle are grazed during spring and summer. They are housed over winter, when they are fed with grass silage and straw, again no concentrates. The positive lamb's diet was grass only, older sheep have access to grass and turnips. Ewes are fed with a supplement for the lambing season, which ends in April. The farm has good records for animal movements and medicines, these are stored appropriately. The only authorised medicine stored on farm was Bimectin Plus which had the corresponding batch number and was compliant with the expiry date. Veterinary medicine treatments are applied under private veterinary advice. The positive animal, (homebred male, 6-12 months old), was part of a group of 136 Lleyn cross lambs and hoggets that went from farm to market in November 2022. It was then transported in a group of 28 lambs to the abattoir the same day. 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. The farmer was advised to continue recording all adequate animal ID and medicine administration correctly.
Sheep urine	Alpha-boldenone 6.8 µg/kg 2234866	Great Britain	See report 2234878 – same premises. 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 10 µg/kg 2234864	Great Britain	This FAWL accredited farm is an upland sheep and beef enterprise that runs a flock of 900-950 Welsh, Mule, Aberfield Xewes and a beef suckler herd comprising 90 stabiliser and first dairy cross cows with 3 breeding bulls and followers. Sheep lamb during March-April, offspring were retained for breeding over the last two years, 20 rams are kept. Replacement females are homebred, only replacement tups are purchased. Offspring are mostly fattened and sent directly to slaughter and a small number are sold as stores or as ewe lambs. Routine veterinary treatments for the sheep comprise of fluke treatments Triclacert, dip or inject against scab Osmonds Gold Fleece, Paramectin Multi Injection, flystrike prevention through the summer months, Clik and Crovect. Lambs are typically wormed with a white drench in late May (Albex). Vaccination protocols are in place against enzootic abortion (Enzovax), clostridial disease (Bravoxin) and orf (Scabivax Forte). Medicine and treatment records appeared in good order. Veterinary medicines are stored in a locked cupboard and products were in date. The farmer confirmed the positive male lamb was born and reared on the premises. The animal was sent directly from farm to slaughter as a new season lamb (under 6 months) in October 2022. 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 14 µg/kg 2228963	Great Britain	This is a medium size, FAWL accredited farm, comprised of 110 cattle and 1020 sheep. The farm has 2000 acres, mainly used for sheep and cattle grazing. The predominant sheep breed is Welsh Mule, a progeny of a Blue faced Leicester ram crossed with Welsh Mountain ewe or Beulah Speckled-face ewe. Sheep are kept for meat, breeding, and wool. There is no sheep production. Clipping, dipping and shearing is carried out end of May-June. Lambing is in March-April indoors. There were no store lambs remaining on farm, they were sold off. The positive animal was homebred on farm and was part of a batch of 47 old ewes sold at market in September 2022. They were sent to the abattoir by the dealer, 3 days later, where the urine sample was taken. There is no evidence to suggest that any illegal product was used during the short stay with the dealer. 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.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Alpha-boldenone 19 µg/kg 2229065	Great Britain	This is a large sized farm with 1250 sheep (650 ewes, 400 lambs, 200 replacements) and 23 beef cattle (18 adults, 5 calves). The flock grazes all year round, except for lambing and fattening lambs, which are fattened in the pen for 3-4 weeks before being sent to the slaughterhouse. There is presence of clover in the field, which has been found related with the natural production of alpha- boldenone. At the time of the inspection, there were 3 groups of animals on the farm, a group of fattening lambs, a group of animals ready to be sent to slaughter and a group of ewes which were going to undergo ultrasound scanning that same day. None of these animals showed any signs of abnormal muscling. Movement and medicine records were inspected and were found satisfactory, adequate animal ID and withdrawal periods were recorded. The farmer (a veterinarian) oversees the treatment of the animals and only uses what is required. No medicines are stored on the farm. There was no evidence nor suspicion of the use of anabolic compounds, nor steroids being administered to sheep. In September 2022, 40 sheep divided into 8 lots belonging to the holding were sold to market. On the same day, 2 lots from this farm, one with 4 animals and the other with 2, were sent from this market to the slaughterhouse. The rest of the animals were sent to other holdings. Two days later a urine sample was taken from the positive ewe (originally purchased by the farmer in August 2016). 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 4.1 µg/kg Beta-boldenone 0.44 µg/kg 2234857	Great Britain	This is a large, Farm Assured farm, with 1560 sheep. The sheep are fed on grass all year round with a natural water source available and given a moisture molasses feed and mineral bucket when required. The tups also get a blend feed when needed. The farm has 4000 acres of land and uses straight urea fertilizer. If any sheep are individually treated, they are spray marked and recorded in the medicine record, no expired medicines were found. All veterinary medicines are purchased directly from the PVS or an agricultural merchant and stored in a locked room, facilities were found satisfactory. Requested records were available to be inspected. The Blackface ewe in question was transported to market in October 2022 by the owner's own transportation. From there the ewe was transported to the abattoir and slaughtered the next day. The sheep observed did not show any signs of steroid administration. There was no evidence of possession or use of boldenone on the farm. The farmer was provided the veterinary guidance form on record keeping requirements for medicines. The presence of this hormone is considered natural due to accidental faecal contamination of the urine at the time of sampling.
Sheep urine	Beta-nortestosterone 0.42 µg/kg 2229097	Great Britain	This is a medium sized Red Tractor accredited farm comprised of both dairy and fattening cattle and sheep. The farmer purchased 512 sheep in August 2022 from two markets. In August this batch of sheep was transported to the abattoir which was over 6 hours in travel duration. The ear tag number provided by the Meat Health Inspector taking the sample did not correspond with any ear tag number of the 512 lot from the abattoir (animals purchased from the markets). With a large group of animals purchased via markets an error may have crept into the information on submission by a third party. There was no clear chain of evidence of the individual animal, although the batch identified was correct. The farmer is adamant that the positive animal did not belong to him, however if it did, the animals did not receive any treatment at the farm as they spend a maximum of 24-48 hours at the holding before being moved to the abattoir (the veterinary records confirmed this). Beta-nortestosterone levels can be elevated due to stress (of natural origin) and the long journey to slaughter may have been the cause although this is a very low level in a female sheep. There was no evidence of abuse. The inspector questioned the distance to the abattoir, the farmer explained that the animals were initially going to a closer abattoir but due to a last-minute change of circumstances they had to travel a further distance.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Beta-nortestosterone 0.69 µg/kg 2205951	Great Britain	<p>This medium sized farm is SAI Global accredited and comprised of a combination of 15 dairy and fattening cattle, 700 sheep. The farm uses blended feed for sheep and lambs, and a grazing system. There are some common grazing fields, as well as silage and hay from the farmland, supplemented with mineral licks for growing cattle. The positive animal was a homebred male hogg and was at farm with young stock until it left the main premises for market in March 2022. On the same day it was sent directly to slaughter. The farmer stated that no contamination source was suspected. The animal had not been treated before it was sent to the abattoir or in the previous 30 days beforehand, no medicine was administered. There is a routine vaccination and de-worming programme in place, as per a herd health plan agreed with the PVS. The veterinary medicine storage is located inside the building of the farm in a locked room and facilities were satisfactory. All veterinary medicines are obtained from the PVS practice, and no expired medicines were found at the time of inspection. It was noted however, that the disposal of empty products could be better organised. Withdrawal periods were reviewed regularly for updates, and these were adhered to. The veterinary medicine records were checked and found compliant. Veterinary invoices and recorded PVS visits were made available and found acceptable (detailing medicines, dates, animal ID, treatment and withdrawal periods, expiry dates). The farmer was advised of the common causes for the natural occurrence of this hormone in pregnant females and in male animals suffering stress. A copy of the guidance on record keeping requirements was also provided for information. 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 a natural level.</p>
Sheep urine	Beta-nortestosterone 1.0 µg/kg 2205998	Great Britain	<p>This is a large-sized QMS accredited farm enterprise covering approximately 1500 acres, with a flock of around 1600 sheep, mainly black face and a suckler herd of 46 cattle (Belted Galloway, Simmental, Luing, shorthorn). Lambing starts April-May with approximately 1500 lambs being born. Only natural mating takes place, starting in November, finishing December-January. Lambs are sold between August-April the following year. Replacement ewes are mostly homebred and around 6 are bought in every 2-3 years direct from other farms. One or two tup replacements are bought each year, homebred tups are kept for replacements. Cast ewes and tups are sent to market. Ewes are kept outside all year long and mainly grass fed with extra feeding of ewe rolls prior to lambing. Lambs are grass fed only, tup lambs are kept inside from October-March and fed with tup lamb blend. Ewes and tups are wormed with Cydectin and vaccinated with Heptavac P at the end of March-April. During May and June lambs are treated with Crovect or Clik. Ewes, tups, and lambs are treated for fluke with Supaverm in September. Ewes and tups are treated with Flukiver in winter. A minor non-compliance was found in which sheep identification was not recorded in medicine records. The farmer was advised regarding on the correct recording and identification (e.g., to colour spray if recording an individual animal ID proves to be unpractical). Medicines are stored in a lockable shed; no unauthorised medicines are present. There is a one-way system in place which prevents any animal being double-dosed or missed when medicines are administered. The positive animal was a bought in as a replacement ewe, it was present at this holding for at least 2 years and was transported direct to market in a consignment of 104 sheep (a mixture of lambs and cast ewes) in February 2022. It was slaughtered the next day and the sample collected. The farmer states there is a slight possibility of this ewe being in lamb, but it was not with a tup to the best of his knowledge. There was no evidence of administration of unauthorised medicines or banned substances. The investigation established that the cause of this residue was due to natural levels.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Sheep urine	Beta-nortestosterone 1.1 µg/kg 2229048	Great Britain	<p>This is a medium-sized farm with 60 cattle (Limousine Cross) and approximately 400 sheep. There are also 50 chickens, 10 ducks, 1 pony (almost 20 years old kept as a pet) and 5 working German shepherd cross rescued dogs. The main business orientation is fattening, selling lambs, rearing, and selling beef cattle. Early lambs are fed with pellets, grass, and barley. The animals have straw bedding and are sold at the market when around 45-49 kilograms. Manure is removed and spread on arable fields only. Cattle are kept on grass most of the year from early spring to late autumn. They sometimes mix with sheep, though the lambs are kept separated from the cattle area. Lambs are only sold through the market and delivered by the farmer. Occasionally cattle are sold to other farms. The positive male lamb was from a batch of 15 lambs born in February 2022, fattened until July then sold to the market. The lamb was fed nuts, barley, and grass, treated with Spectam Scour Halt and vitamins. Before being sold it was treated with Cliqzin Lamb Pour-On and Albacert in June, administered by the farmer. Several sheep remained on farm from the batch that included the positive lamb. On inspection, no noticeable muscular hypertrophy was found. The pony was inspected and appeared of normal conformation; no medicine had been administered. The farmer confirmed that a bridle path was close, and tourists exercise nearby. 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 a natural level. The farmer was provided veterinary guidance on record keeping requirements, with an information leaflet on boldenone, nandrolone, nortestosterone facts, and a leaflet detailing the correct way on deworming animals. The importance of respecting withdrawal periods was explained.</p>
Horse kidney	Cadmium 26000 µg/kg 2230925	Great Britain	<p>This large farm is mainly comprised of Aberdeen Angus, Hereford, and Limousin cattle. There are also 200 fattening lambs and 25 horses (the owner is a horse dealer). Horses are purchased and kept in a shed for a maximum of 7 days, then sent to the abattoir approximately 20 per week. The horses are fed with self-produced hay locally. On inspection, no non-compliances were observed in the horse buildings or feed store. The previous owner of the positive animal had sold the horse due to laminitis. The farmer confirmed that he does not medicate any animals himself; they are only treated by the private vet. There were no medicines stored onsite, and only records for the sheep were provided. The positive sample came from a horse over 7 years old, which was bought a few days before the slaughter date. It had not been possible to trace the previous owners or farm of origin due to poor records, and the passport not being updated after transfers of ownership. The owner was advised to keep accurate movement, ownership registration (updated horse passports) where applicable and a veterinary guidance note was issued. The source of cadmium is likely to be due to accumulation in the kidney from soil ingestion at grazing and possible other sources such as grain. There was no evidence of contamination from any cadmium source such as batteries or metals.</p>

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Eggs	Lasalocid 1400 µg/kg 2220623	Great Britain	<p>The level of residue in the sample is indicative of the bird feed containing Avatec rather than any cross contamination. The farm had cleared out house 2 as they could not feed the birds. They had changed to a lower specification diet and were collecting from two mills during the period before, during and after July 2022. The records were patchy, no samples were kept since changing to bagged collection rather than bulk delivery. Two tonnes of feed were collected in July. The mill only makes plain feed and analysis results were negative for lasalocid and it is highly unlikely that the feed from this mill contained lasalocid. The other collections were in 25kg bags, the manufacturing records did not indicate any anomalies, but the bar-coding system did not look well controlled. The warehouse system had flaws with game feed mixed with layer pellets in the bays. For collection in July traceability was lost, and anything could have been loaded. However, the farm would have noticed if it had received game feed, as it would have been in a pellet or crumb form instead of a meal. Although the mill samples were negative for lasalocid, there was only one sample for 8 tonnes. The mixer holds 4 tonnes, therefore one of the mixes would not be represented in the sampling. There is a possibility that lasalocid could have been accidentally put in at the hand tip for the mix that was not sampled. The mill had a traceability gap in July, which fits with the timing. Storage and the use of the intermediate bay have since been reviewed. As with all mills there is nothing stopping the operator adding the wrong product and the bar-coding system that used that hand tip point is open to errors. The investigation was unable to find the cause of residue, but all the producers are going to improve their systems. Procedures also need to be tightened at the mills.</p>
Eggs	Salinomycin 3.2 µg/kg 2220665	Great Britain	<p>The farm has one laying house with approximately 1000 birds. At the time the egg was sampled the birds were 39 weeks old. Apart from the poultry, the owner also keeps a small number of pigs on site. The pig feed is pencils bought in bags. The layers feed is stored in one six tonne bin by the chicken house. This is the only bulk bin on site. There had been no medicated feed used on site in the last 6 months. The sample taken at the farm was retained samples from the last two deliveries of feed. There was no fault found at the farm. The layers feed is delivered in bulk from the feed manufacturer's (approximately 4 tonnes are delivered each month). Samples also were collected from the mill (retained samples of the last 4 deliveries of feed). Findings of this investigation indicated that the mill operators had been overriding the system flush that was in place, thinking the chaser flush as part of the batch was sufficient, causing cross contamination from the previous product manufactured which contained salinomycin. It is concluded that this residue occurred due to human error. Staff have been retrained and recommendation given to carry out 3 additional carryover tests. Results of these tests and the corrective actions taken will be reviewed during the next inspection.</p>
Broiler liver	Monensin 8.8 µg/kg	Northern Ireland	Investigation not fully completed.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Broiler liver	Halofuginone 3.6 µg/kg 2224511	Great Britain	A broiler liver was found positive for halofuginone (Stenorol). The farm managers were aware of the product and the 5-day withdrawal period. All 5 farms on this site had been using this product. On the farm inspected, there are 7 sheds, 6 of the sheds have a group 3 feed bins per shed. Shed 1, however, only has 2 bins which makes it harder to ensure it is empty before moving on to the next diet. Bin A was used for the Stenorol crumb. Both bins were used for the grower with Maxiban and the finisher with Sacox. The finisher with Sacox was fed from day 25. Both bins were clearly labelled on the day of the inspection and looked like very new labels. Bin A, they try to empty before the end of the crop ready for the crumb for the next crop. Bins empty from the middle which means that if feed is put on top of a different diet, the first diet can hang around the side until it finds a way to the middle resulting in older feed coming out later. Also, bin hygiene needs attention. Bin B had a thick layer of old, moist feed stuck to the sight glass windows. Bin A had a layer of dust/product over the glass windows, so it was difficult to see. There were no concerns about the feed mill. All the manufacturing and delivery notes were seen. The mill had included the use of Stenorol in their cross-contamination matrix. All the production records were scrutinised as was the delivery paperwork. There were no anomalies and trace information agreed with that of the farm. The farm manager acknowledged that the bins needed cleaning out and that the bin containing Stenorol must be empty before filling with the next diet to avoid cross contamination. The investigation was inconclusive, but residue likely due to feed contamination on-farm. The farm should ensure they follow withdrawal limited on labelling, to take care with bin management and hygiene procedures.
Broiler liver	Toltrazuril sulfone 900 µg/kg 2214188	Great Britain	This is a large, isolated farm, Red Tractor accredited. The farm has a total of 14 poultry sheds and aims to run at as close to maximum capacity and is an all-in-all-out system, average stock of 412,870 broiler birds. The chicks are brought in at zero days old and kept until slaughter at day 36, with thinning occurring on day 29-30. The farm's vet practice has been investigating and culturing with visits routinely held on day 7, 14, 21 and 28. Baycox (active substance toltrazuril) was recommended and prescribed by the vets for a poultry crop of 6021 and the following crop due to a reduction in growth rate, as a suspected result of coccidiosis. Baycox 2.5% was administered via the Dosatron dosing pump system for two days to each house. According to the dates of the Baycox administration and slaughter dates, the medicine withdrawal period of 16 days was adhered to, and no breach was found. The farmer was advised to provide a further buffer tray in case residues have not been eliminated from the animals' systems or to use a product with a shorter withdrawal period in the same treatment window to allow an extended withdrawal free period before the culling. The farmer was also advised to discuss possible medicine interactions regarding Baycox with the vet. The investigation was unable to fully establish the cause for this residue.
Partridge muscle	Lasalocid 210 µg/kg 2236835	Great Britain	This is a large estate of just over 8600 acres (approximately 3500 hectares) situated in Scotland. The estate manages forestry, a range of game (including boar, deer, partridge, and pheasants) as well as fishing. There is also a recently built wind farm. Fewer birds were placed this year, partly due to a reduction in shoots as bookings had dropped since covid, lack of poultry availability as most are imported from France and Avian Influenza restrictions have stopped some areas from exporting. All feed is kept in one shed near to the estate office, feed is then taken to the shoot areas on an as needed basis and feeders are topped up. Two deliveries of feed occurred in the 2022 season, one delivery of mini-pellets and grower in late June and one delivery of medicated grower, plain grower, and released in August. The estate has two new keepers, one who has some game bird experience and one who has only deer stalking experience. The owner did mention that the cause could be management of the tub feeders by inexperienced staff, so there is a possible reason for a residue, if it was their bird. There is a community shoot nearby too. Wild Boar population was discussed, since 2020 there have been control measures and the population had been reduced. There was no damage to the pens or feeders from wild boar activity in the 2022 season. There does appear to have been failures in the collection or in the labelling. This means it is impossible to ascertain what problem may have occurred and where. There was no evidence seen at the mill that a feed contamination issue has occurred. There were discrepancies and traceability issues for the bird in question, therefore the investigation case was closed.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Pheasant muscle	Lasalocid 50 µg/kg 2236840	Great Britain	The estate covers approximately 8000 acres and includes a golf course, three lochs, two farms, a grouse moor, woodlands, and an equestrian centre. Much of the area around is used exclusively for hotel amenities. Feed is stored in the main farm offices and stores. This also includes vehicle maintenance sheds and equipment sheds. Birds are bought in at about 6 weeks of age and are penned for a couple of weeks, then released. Feeders used are a mix of the old tub feeder type and some newer type feeders. There was nothing at fault with the management of the feed and records. The two feed distributors involved were contacted to ensure that there were no other feed suppliers who may have had production which could have lasalocid carryover, but this was not the case. Storage is good for gamebirds, there is organisation of feeds to separate the feed types and traceability by keeping labels and recording usage in the diary. This residue is most likely to be due to keeper error in that a feeder was left unchecked when the transfer to plain feeds occurred and feed containing avatec was still available to the birds until the feeder was identified and removed. The estate is putting extra procedures in place for the keepers to ensure all feeders are checked. It would appear that the residue was related to the unchecked feeder, additional training is recommended.
Salmon muscle and skin	Oxytetracycline 1100 µg/kg 2201889	Great Britain	Inspector sample error, sample should not have been taken as fish were not at harvest weight.
Salmon muscle and skin	Oxytetracycline 2200 µg/kg 2201896	Great Britain	Inspector sample error, sample should not have been taken as fish were not at harvest weight.
Salmon muscle and skin	Oxytetracycline 3200 µg/kg 2201890	Great Britain	Inspector sample error, sample should not have been taken as fish were not at harvest weight.

Pending investigation reports Great Britain:

Species & Matrix	Residue detected & concentration (RIM Ref)	RIM reference
Broiler liver	Halofuginone 4.0 µg/kg	2233530
Eggs	Salinomycin 3.2 µg/kg	2232215

Sampling of animals suspected of containing a residue at the time of slaughter: 31 December 2022

Residues detected above the reference point to date: 31 December 2022

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
Cattle kidney	Antimicrobials screen 1	1050	15	50	138, 6786 amoxicillin
				50	67, 90.9 benzylpenicillin-PenG
				1000	4730, 6690 dihydrostreptomycin
				300	1895 florfenicol
				600	820, 2830, 7640 oxytetracycline
				3000	3910, 3931, 4270, 4680, 5270 tulathromycin
Cattle liver	Anthelmintics	111	3	100	173 clorsulon
				1000	1820 closantel
				250	319 triclabendazole
	Avermectins	111	3	100	143, 168, 319 ivermectin
	Corticosteroids	91	1	Presence	3.8 cortisol

Results of suspect follow-up investigations: 31 December 2022

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle kidney	Amoxicillin 138 µg/kg	Northern Ireland	An investigation was undertaken in September 2022. The animal was 2 years, 1 month old, purchased on the same day as slaughter. It was never on the herd keeper's farm. It was transported within half an hour of purchase in the herd keeper's lorry separately. The movement and medicine records are kept in accordance with legislation. The animal was purchased as part of a high turnover herd of beef fattening animals. The herd keeper did not administer any medications to the animal. There was no indication at the mart that this animal had been treated with any medication. All follow up samples were compliant.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle kidney	Amoxicillin 6786 µg/kg	Northern Ireland	An investigation was undertaken in November 2022. The animal was 20 months old; purchased on the day of slaughter in November 2022. It was taken to the abattoir in the herd keeper's own transport directly from market. Movement records and digital medicine records are kept in accordance with legislation. The herd keeper has a high turnover, with a large finishing herd of 1212 animals. Cattle are usually purchased and slaughtered within a short time frame. A small flock of sheep are kept but do not reside on the farm. Pneumonia was present in the finishing herd, and this was treated with florfenicol. The herd keeper confirmed that the positive animal was purchased and slaughtered directly; it was never on his farm, and he was not made aware of any medications administered to the animal. All follow up samples were compliant.
Cattle kidney	Benzylpenicillin (PenG) 67 µg/kg	Northern Ireland	An investigation was undertaken in May 2022. The animal was 21 months old and was purchased in February 2022. It was kept on the farm 47 days prior to slaughter. The animal was part of a herd of beef finishers and was transported by the herd keeper with animals from the same herd. The animal was presented as lame and in poor body condition. The movement and medicines records were kept in accordance with legislation. The herd keeper stated that the animal had not been injected on farm but could have been injected prior to purchase.
Cattle kidney	Benzylpenicillin (PenG) 90.9 µg/kg	Northern Ireland	An investigation was undertaken in July 2022. The animal was 2 years and 5 months old, purchased in March 2022. It was kept on farm for 68 days prior to slaughter. The animal was an on-farm emergency slaughter and part of a beef herd. Movement records were not available for inspection. Some medicine records were kept in accordance with legislation. The animal developed a sore foot and was injected in May 2022 with 50ml of Depocillin inter-muscularly. By mid-May, the animal was lame, its condition not improving so the animal was slaughtered on-farm. The recommended dose of Depocillin estimated from dead weight at slaughter was 26ml. The animal was injected with 50ml, 10 days before slaughter. The withdrawal time for this medicine is 5 days, therefore an overdose may account for this residue.
Cattle kidney	Dihydrostreptomycin 4730 µg/kg	Northern Ireland	An investigation was undertaken in February 2022. The animal was 3 years old and was born on site. The animal came from a dairy herd and was transported to slaughter in the owner's trailer. Movement and medicine records were kept in accordance with legislation. Medicine records detailed that this animal had been injected in January 2020 with Marbocyl but the herd keeper was certain this animal had not been treated with any medication since or with any containing the detected substance. The herd keeper said he would have contested the finding, but he had already lost out financially with this animal being rejected as the animal had been identified in the lairage as having mastitis. Three follow up samples were taken; two were compliant and one was non-compliant for tulathromycin (5270µg/kg).
Cattle kidney	Dihydrostreptomycin 6690 µg/kg	Northern Ireland	An investigation was undertaken in December 2022. The animal was 5 years 9 months old; purchased 1 day prior to slaughter in November 2022. It was taken to the abattoir in the herd keeper's own transport. The movement records are kept electronically, and medicine records kept in accordance with legislation. The animal was part of a high turnover of a beef fattening herd of 64 animals. The herd keeper confirmed that he did not administer any medications to the animal. Animals are purchased and sent to slaughter, sometimes on the same day, or certainly within a couple of days. There was no indication at purchase that the animal had been treated with any medications. All follow up samples were compliant.
Cattle kidney	Florfenicol 1895 µg/kg	Northern Ireland	An investigation was undertaken in January 2023. The positive animal was 21 months old and purchased in October 2022, 68 days prior to slaughter. It was taken to the abattoir by the farm's own transport. Electronic movement records and medicine records are kept as a Farm Quality Assurance Scheme template book. The animal was injected with 25ml of Nufloor in two separate injection sites in the neck, twice at the start of November. The datasheet for Nufloor states no more than 10ml to be given at one site and has a 37-day withdrawal period. The animal had been given 46 days withdrawal but had been overdosed and the injections were administered incorrectly. The Nufloor had been given in combination with a daily dose of Metacam (meloxicam-active ingredient-NSAIDs). The animal was part of a 77-finisher beef herd. There were issues with lameness and pneumonia on the farm which were treated with anti-inflammatories and antibiotics. As the animal had not responded to the Nufloor, the PVS administered Draxxin (tulathromycin antibiotic), Engemycin (oxytetracycline) and Pyroflam (flunixin). The report considered that the medicine regime given to the animal could have compromised its kidney function and the elimination of the medicine drug from the sick animal. All follow-up samples were compliant.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle kidney	Oxytetracycline 820 µg/kg	Northern Ireland	An investigation was undertaken in March 2022. The animal was 3 years and 4 months old and born on site. The animal is part of a herd with beef finishers and a small number of suckler cows. It was transported by the herd keeper with one other animal to slaughter. Movement and medicine records were kept in accordance with legislation. In early January, the animal was injected over two injection sites with Hexasol LA (active substances oxytetracycline and flunixin). The withdrawal period of 35 days was not adhered to and, the animal was presented for slaughter in February: 31 days post treatment. The herd keeper did not check the correct withdrawal time for this medication and mistakenly assumed it was 28 days. All follow up samples were compliant.
Cattle kidney	Oxytetracycline 2830 µg/kg	Northern Ireland	An investigation was undertaken in July 2022. The animal was 8 years and 7 months old, born on site. The animal was an on-farm emergency slaughter and taken to the abattoir in the farm's own transport. Although medicine records were kept in accordance with legislation, only medicines administered by the farmer were listed. Those administered by the vet were not, which has been the practise for many years. Movement records were kept in accordance with legislation. The animal is part of a 427milk producer/beef herd. The farmer suspects the animal may have been seen by a vet in early June due to lameness and may have been injected at that time. Subsequently the animal slipped and hurt itself but was not treated with any medication on this occasion. There was no evidence of any medication detailed in the medicine book which contained the substance detected in the animal. The farmer was advised to contact the vet to determine if the animal had been administered any medication however it has not been possible to contact the farmer since, to determine the outcome of the discussion with his vet. All follow up samples were compliant.
Cattle kidney	Oxytetracycline 7640 µg/kg	Northern Ireland	An investigation was undertaken in November 2022. The animal was 1 year 7 months old; purchased in September 2022, one month prior to slaughter. It was transported to the abattoir in the herd keeper's own lorry. Movement and medicine records are kept in accordance with legislation. The animal was purchased as part of a high turnover herd of 314 beef finishers. The animal was treated with Alamycin LA (active ingredient oxytetracycline) as per manufacturer's instructions and last administered in October, five days prior to slaughter. The withdrawal period is 41 days. The herd keeper accidentally moved the treated animal in with a group for slaughter. Several animals are taken to slaughter from these premises every week and this is the first known error of such nature for this herd keeper. All follow up samples were compliant.
Cattle kidney	Tulathromycin 3910 µg/kg	Northern Ireland	An investigation was undertaken in February 2022. The animal was 8 months old and born on site. It was from a dairy and beef herd; sheep were also present on the farm. The animals were kept separate on the lorry during transportation to slaughter. Movement and medicine records were kept in accordance with legislation. The animal was injected in December 2021 with Tullavis (active substance tulathromycin), with a 22-day withdrawal period which was observed. The animal was also given Dugnixon (contains flunixin) the same day as the animal was unwell. All follow up samples were compliant.
Cattle kidney	Tulathromycin 3931 µg/kg	Northern Ireland	An investigation was undertaken in October 2022. The animal was 26 months old and had been purchased in August 2022. It was administered an injection (15ml) of Draxxin 100mg/ml (active ingredient tulathromycin) in August for pneumonia. The withdrawal period is 22 days, and the animal was slaughtered as an on-farm emergency slaughter in September, one day after the full withdrawal period, therefore the withdrawal period was adhered to. The animal was taken to the abattoir by the farm's own transport and kept separate. Medicine and movement records were kept in accordance with legislation. The animal is part of a beef breeding and finishing herd. It was later determined by further contact with the farm manager that the dosage of 15ml was given to the animal subcutaneously at one site whereas according to the manufacturer's instructions the dose should be divided so that no more than 7.5ml is injected at one site. Incorrect administration of the veterinary medicine is the most likely cause of the residue finding. All follow up samples were compliant.
Cattle kidney	Tulathromycin 4270 µg/kg	Northern Ireland	An investigation was undertaken in February 2022. The animal was 8 months old and born on site. It was from a dairy and beef herd; sheep were also present on the farm. The animals were kept separated on the lorry during transportation to slaughter. Movement and medicine records were kept in accordance with legislation. The animal was injected in December 2021 with Tullavis (active substance tulathromycin), with a 22-day withdrawal period which was observed. The animal was also given (contains flunixin) the same day as the animal was unwell. All follow up samples were compliant.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle kidney	Tulathromycin 4680 µg/kg	Northern Ireland	An investigation was undertaken in August 2022. The animal was 5 years and 8 months old and born on site. The animal was part of a large dairy herd of 497 animals. Movement and medicine records are kept in accordance with legislation. The animal was injected by the herd keeper with a single dose of 15mls Draxxin (active ingredient tulathromycin) in July 2022 (23 days prior to slaughter in August). Unbeknown to the herd keeper, at the time of slaughter, the cow had IBR (Infectious Bovine Rhinotracheitis) and was not lactating. The animal was slaughtered after the end of the withdrawal period (22 days). A single dose of 15ml, not as the manufacturer recommends, could be the cause of the residue. All follow up samples were compliant.
Cattle kidney	Tulathromycin 5270 µg/kg	Northern Ireland	A further investigation was undertaken in February 2022. This animal was 6 years old, born on site and was transported to slaughter in the owner's trailer. The herd keeper was certain that this animal had not been treated with the drug detected as it was not noted in the medicine record. A further four follow ups were compliant.
Cattle liver	Clorsulon 173 µg/kg	Northern Ireland	An investigation was undertaken in December 2022. The animal was 5 years 9 months old; purchased 1 day prior to slaughter in November 2022. It was taken to the abattoir in the herd keeper's own transport. The movement records are kept electronically, and medicine records kept in accordance with legislation. The animal was part of a high turnover of a beef fattening herd of 64 animals. The herd keeper confirmed that he did not administer any medications to the animal. Animals are purchased and sent to slaughter, sometimes on the same day, or certainly within a couple of days. There was no indication at purchase that the animal had been treated with any medications. All follow up samples were compliant.
Cattle liver	Closantel 1820 µg/kg	Northern Ireland	An investigation was undertaken in December 2022. The positive animal (3 years old) was kept on farm for five months prior to slaughter. The animal was part of a herd of 12 cows and younger stock brought in. There are also pig houses on the farm, which are kept separated from the cattle. The movement and medicine records were kept in accordance with legislation. The animal was administered Closamectin Pour-on (active ingredients closantel and ivermectin) by the herd keeper. The last treatment was in March 2022 (113 days prior to slaughter). The 58-day withdrawal period was adhered to. The herd keeper has stated this animal was treated when it was in an isolation pen. It was isolated as it was a TB forward trace animal, and it was isolated until the herd test was carried out in June 22. The veterinary officer concluded there were no obvious non-compliances. There were no follow up samples as the producer has not slaughtered since.
Cattle liver	Cortisol 3.8 µg/kg	Northern Ireland	The animal had been condemned at the time of slaughter due to the carcass having multiple abscesses. The presence of cortisol is most likely elevated due to this animal being ill or under stress. No follow up action was undertaken. The animal tested compliant for antimicrobials and NSAIDs.
Cattle liver	Ivermectin 143 µg/kg	Northern Ireland	An investigation was undertaken in December 2022. The animal was 5 years 9 months old; purchased 1 day prior to slaughter in November 2022. It was taken to the abattoir in the herd keeper's own transport. The movement records are kept electronically, and medicine records kept in accordance with legislation. The animal was part of a high turnover of a beef fattening herd of 64 animals. The herd keeper confirmed that he did not administer any medications to the animal. Animals are purchased and sent to slaughter, sometimes on the same day, or certainly within a couple of days. There was no indication at purchase that the animal had been treated with any medications. All follow up samples were compliant.
Cattle liver	Ivermectin 168 µg/kg	Northern Ireland	An investigation was undertaken in October 2022. The positive animal was from a 1200 beef finisher herd with a high turnover of animals. It was taken to the abattoir in the farm's own transport. The movement and medicine records were kept in accordance with legislation. The animal had been purchased four days prior to slaughter and there was no notification declared at the market regarding the administration or withdrawal of medication. Follow up samples have been taken and were compliant.
Cattle liver	Ivermectin 319 µg/kg	Northern Ireland	An investigation was undertaken in November 2022. The animal was three years old, purchased thirteen days prior to slaughter. The animal was taken to abattoir in the herd keeper's own transport mixed with another herd. The movement and medicine records were kept in accordance with legislation. This animal was part of a beef herd of 500 animals, ovine animals were also kept on the farm. The herd keeper denies giving any medicines to this animal as it was purchased thirteen days prior to slaughter and was not aware at the time of purchase that any medicine had been administered. The Food Chain Information had no details. All follow up samples were compliant.

Species & Matrix	Residue detected & concentration (RIM Ref)	Region	Cause of residue
Cattle liver	Triclabendazole 319 µg/kg	Northern Ireland	An investigation was undertaken in January 2023. The positive animal was 2 years old and born on site. It was part of a dairy herd of 1570 animals and was never milked. It was transported to slaughter by a haulier and kept separate from other herds. The animal was not thriving and was treated for suspected fluke and worm with Fascionix 34% (active ingredient nitroxynil). The animal did not improve and after the withdrawal period plus 9 days, it was taken to the abattoir. The veterinary officer concluded that the poor health of the animal may have contributed to the residue after the withdrawal period, as it was under weight and may have been given too much. An update concluded that the animal was treated with a Cydectin TriclaMox Pour-on (active ingredients moxidectin, triclabendazole) in July 2022. The withdrawal period was compiled with.

Details of 2022 UK statutory surveillance programme by sector

Cattle

Group	Analyte	Species	Matrix	Number of non-compliers / analyses (% non-compliant)
A2	Thyrostats	Cattle	Urine	0/170
		Fattening cattle	Urine	2/217 (0.9%)
A3 Hormones	Gestagens	Cattle	Kidney fat	0/291
		Fattening cattle	Serum	0/260
	Oestradiol	Cattle (male)	Serum	1/213 (0.5%)
		Fattening cattle (male)	Serum	0/337
	Steroid screen 1	Cattle	Urine	11/1079 (1.0%)
		Fattening cattle	Urine	23/1077 (2.1%)
	Testosterone	Cattle (female)	Serum	1/336 (0.3%)
		Fattening cattle (female)	Serum	1/325 (0.3%)
A4 Hormones	Zeranol	Cattle	Urine	5/405 (1.2%)
		Fattening cattle	Urine	9/371 (2.4%)
A5	Beta-agonists	Calves < 6 months	Liver	0/7
		Cattle	Liver	0/581
		Fattening cattle	Feed	0/193
		Fattening cattle	Urine	0/244

Group	Analyte	Species	Matrix	Number of non-compliers / analyses (% non-compliant)
A6 Annex IV	Chloramphenicol	Calves < 6 months	Kidney	0/8
		Cattle	Kidney	0/299
		Fattening cattle	Feed	0/225
		Fattening cattle	Urine	0/60
	Nitrofurans	Calves < 6 months	Kidney	0/4
		Cattle	Kidney	0/174
		Fattening cattle	Feed	0/168
		Fattening cattle	Serum	0/2
	Nitroimidazoles	Calves < 6 months	Kidney	0/4
		Cattle	Kidney	0/178
B1 Antimicrobials	AMS1	Calves < 6 months	Kidney	1/129 (0.8%)
		Cattle	Kidney	0/1296
	AMS2	Cattle	Kidney	0/136
	AMS4	Calves < 6 months	Kidney	3/103 (2.9%)
		Cattle	Kidney	0/132
	Florfenicol	Calves < 6 months	Kidney	0/94
		Cattle	Kidney	0/284
	B2A	Anthelmintics	Cattle	Liver
Avermectins		Cattle	Liver	0/486

Group	Analyte	Species	Matrix	Number of non-compliers / analyses (% non-compliant)
B2B	Coccidiostats	Calves < 6 months	Liver	0/18
		Cattle	Liver	0/5
B2C Pesticide screen	Pyrethroids	Calves < 6 months	Kidney fat	0/29
		Cattle	Kidney fat	0/6
B2D	Sedatives	Cattle	Liver	0/39
B2E	NSAIDs	Cattle	Kidney	1/429 (0.2%)
	Phenylbutazone	Cattle	Plasma	1/76 (1.3%)
B2F	Glucocorticoids	Cattle	Liver	1/346 (0.3%)
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Cattle	Kidney fat	0/81
B3B Pesticide screen	Organophosphorus compounds	Cattle	Kidney fat	0/228
B3C Heavy metals	Metals	Cattle	Kidney	1/72 (1.4%)
		Cattle	Muscle	0/13
B3D	Mycotoxins	Cattle	Liver	0/31

Horses

Group	Analyte	Matrix	Number of non-compliance / analyses (% non-compliance)
A2	Thyrostats	Urine	0/1
A3 Hormones	Steroid screen 1	Urine	0/1
A4 Hormones	Zeranol	Urine	0/1
A5	Beta-agonists	Liver	0/8
A6 Annex IV	Chloramphenicol	Kidney	0/2
	Nitrofurans	Kidney	0/1
	Nitroimidazoles	Kidney	0/1
B1 Antimicrobials	AMS1	Kidney	0/2
B2A Anthelmintics	Avermectins	Liver	0/5
B2B	Coccidiostats	Liver	0/2
B2C Pesticide screen	Pyrethroids	Kidney fat	0/2
B2D	Sedatives	Liver	0/4
B2E	NSAIDs	Kidney	0/10
B2F	Glucocorticoids	Liver	0/4
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	0/112
A3 Hormones	Gestagens	Kidney fat	0/112
	Methyltestosterone	Feed	0/26
	Steroid screen 1	Urine	0/400
A4 Hormones	Zeranol	Urine	0/280
A5	Beta-agonists	Feed	0/52
		Liver	0/429
A6 Annex IV	Chloramphenicol	Casings	0/4
		Kidney	0/285
	Nitrofurans	Casings	0/4
		Feed	0/12
		Kidney	0/352
	Nitroimidazoles	Casings	0/4
		Feed	0/17
		Kidney	0/265

Group	Analyte	Matrix	Number of non-compliers / analyses (% non-compliant)
B1 Antimicrobials	AMS1	Kidney	1/1382 (0.1%)
	AMS2	Kidney	0/433
	AMS4	Kidney	0/49
	Ceftiofur	Kidney	0/109
	Florfenicol	Kidney	0/241
B2A	Anthelmintics	Liver	2/365 (0.5%)
	Avermectins	Liver	0/219
B2B	Coccidiostats	Liver	0/121
B2C Pesticide screen	Pyrethroids	Kidney fat	0/77
B2D	Sedatives	Kidney	0/34
		Liver	0/124
B2E	NSAIDs	Kidney	0/46
B2F	Glucocorticoids	Liver	0/52
	Carbadox	Liver	0/11
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Kidney fat	0/84
B3B Pesticide screen	Organophosphorus compounds	Kidney fat	0/155
B3C Heavy metals	Metals	Kidney	0/16
		Muscle	0/3
B3D	Mycotoxins	Liver	1/79 (1.3%)

Sheep

Group	Analyte	Matrix	Number of non-compliers / analyses (% non-compliant)
A2	Thyrostats	Urine	0/75
A3 Hormones	Gestagens	Kidney fat	0/80
	Steroid screen 1	Urine	51/482 (10.6%)
A4 Hormones	Zeranol	Urine	0/103
A5	Beta-agonists	Liver	0/274
A6 Annex IV	Chloramphenicol	Kidney	0/147
	Nitrofurans	Kidney	0/234
	Nitroimidazoles	Kidney	0/111
B1 Antimicrobials	AMS1	Kidney	6/2013 (0.3%)
	AMS2	Kidney	0/8
	AMS4	Kidney	0/98
	Florfenicol	Kidney	0/225
B2A	Anthelmintics	Liver	4/1447 (0.3%)
	Avermectins	Liver	1/574 (0.2%)
B2B	Coccidiostats	Liver	0/317
B2C Pesticide screen	Pyrethroids	Kidney fat	0/539
B2D	Sedatives	Liver	0/95
		Kidney	0/9

Group	Analyte	Matrix	Number of non-compliance / analyses (% non-compliance)
B2E	NSAIDs	Kidney	0/48
B2F	Glucocorticoids	Liver	0/23
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Kidney fat	0/121
B3B Pesticide screen	Organophosphorus compounds	Kidney fat	0/551
B3C Heavy metals	Metals	Kidney	3/51 (5.9%)
		Muscle	0/5
B3D	Mycotoxins	Liver	0/19

Eggs

Group	Analyte	Species	Number of non-compliance / analyses (% non-compliant)
A6 Annex IV	Chloramphenicol	Barn hen	0/10
		Caged hen	0/7
		Free range hen	0/203
		Organic hen	0/12
		Quail hen	0/1
	Nitrofurans	Barn hen	0/9
		Caged hen	0/5
		Free range hen	0/162
		Organic hen	0/10
	Nitroimidazoles	Barn hen	0/8
		Caged hen	0/9
		Free range hen	0/153
		Organic hen	0/14
		Quail	0/1
	B1 Antimicrobials	AMS1	Barn hen
Caged hen			0/4
Free range hen			0/230
Organic hen			0/7
Quail			0/1

Group	Analyte	Species	Number of non-compliers / analyses (% non-compliant)
B1 Antimicrobials	AMS2	Barn hen	0/8
		Caged hen	0/8
		Free range hen	0/115
		Organic hen	0/9
		Quail	0/1
	AMS3	Barn hen	0/14
		Caged hen	0/9
		Free range hen	0/159
		Organic hen	0/19
	Florfenicol	Free range hen	0/140
	Tiamulin	Barn hen	0/3
		Caged hen	0/4
		Free range hen	0/25
		Organic hen	0/4
B2A	Anthelmintics	Free range hen	0/200
	Fipronil	Free range hen	0/200
B2B	Coccidiostats	Barn hen	0/38
		Caged hen	0/32
		Free range hen	3/614 (0.5%)
		Organic hen	0/42
		Quail	0/2
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Barn hen	0/3
		Caged hen	0/4
		Free range hen	0/85
		Organic hen	0/4

Poultry

Group	Analyte	Species	Matrix	Number of non-compliance / analyses (% non-compliant)
A3 Hormones	Steroid screen 2	Broilers	Liver	0/571
		Broilers	Serum	0/74
		Ducks	Liver	0/6
		Hens	Liver	0/31
		Turkeys	Liver	0/59
A5	Beta-agonists	Broilers	Feed	0/212
		Broilers	Liver	0/455
		Ducks	Feed	0/3
		Ducks	Liver	0/10
		Hens	Feed	0/22
		Hens	Liver	0/26
		Turkeys	Feed	0/15
		Turkeys	Liver	0/48
A6 Annex IV	Chloramphenicol	Broilers	Muscle	0/723
		Ducks	Muscle	0/8
		Hens	Muscle	0/38
		Turkeys	Muscle	0/32
	Nitrofurans	Broilers	Feed	0/264
		Broilers	Muscle	0/601
		Ducks	Feed	0/3
		Ducks	Muscle	0/8
		Hens	Feed	0/19
		Hens	Muscle	0/33
		Turkeys	Feed	0/18
		Turkeys	Muscle	0/38
	Nitroimidazoles	Broilers	Feed	0/259
		Broilers	Serum	0/991
		Ducks	Feed	0/3
		Ducks	Serum	0/12
		Hens	Feed	0/22
Hens		Serum	0/41	
Turkeys		Feed	0/14	
Turkeys		Serum	0/58	

Group	Analyte	Species	Matrix	Number of non-compliers / analyses (% non-compliant)
B1 Antimicrobials	AMS1	Broilers	Muscle	0/1271
		Ducks	Muscle	0/15
		Hens	Muscle	0/82
		Turkeys	Muscle	0/86
	Florfenicol	Broilers	Muscle	0/185
		Turkeys	Muscle	0/1
	AMS2	Broilers	Muscle	0/580
		Ducks	Muscle	0/7
		Hens	Muscle	0/34
		Turkeys	Muscle	0/57
Tiamulin	Broilers	Muscle	0/12	
B2A	Anthelmintics	Broilers	Liver	0/337
		Ducks	Liver	0/6
		Hens	Liver	0/30
		Turkeys	Liver	0/51
B2B	Coccidiostats	Broilers	Liver	4/1454 (0.3%)
		Hens	Liver	0/24
		Turkeys	Liver	0/70
B2C Pesticide screen	Pyrethroids + Carbamates	Broilers	Fat	0/9
		Broilers	Liver	0/88
		Ducks	Liver	0/5
		Hens	Liver	0/10
		Turkeys	Liver	0/10
B2E	NSAIDs	Broilers	Liver	0/10
		Ducks	Liver	0/6
		Hens	Liver	0/7
		Turkey	Liver	0/6
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Broilers	Fat	0/36
		Broilers	Liver	0/274
		Ducks	Liver	0/6
		Hens	Liver	0/12
		Turkeys	Liver	0/9

Group	Analyte	Species	Matrix	Number of non-compliers / analyses (% non-compliant)
B3C Heavy metals	Metals	Broilers	Liver	0/13
		Broilers	Muscle	0/89
		Ducks	Muscle	0/3
		Hens	Muscle	0/6
		Turkeys	Muscle	0/6
B3D	Mycotoxins	Broilers	Liver	0/16
		Hens	Liver	0/1
		Turkeys	Liver	0/1

Fish muscle & skin

Group	Analyte	Species	Number of non-compliers / analyses (% non-compliant)
A3 Hormones	Methyltestosterone	Trout	0/4
A6 Annex IV	Chloramphenicol	Salmon	0/180
		Trout	0/14
	Nitrofurans	Salmon	0/181
		Trout	0/2
	Nitroimidazoles	Salmon	0/186
		Trout	0/6
B1 Antimicrobials	AMS1	Salmon	0/110
		Trout	0/5
	AMS2	Salmon	0/32
		Trout	0/5
	AMS3	Halibut	0/1
		Salmon	3/183 (1.6%)
		Trout	0/5
	Florfenicol	Salmon	0/94
B2A	Anthelmintics	Salmon	0/116
		Trout	0/4
	Avermectins	Salmon	0/100
		Trout	0/4
B2C Pesticide screen	Pyrethroids	Salmon	0/135
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Salmon	0/13
		Trout	0/3
B3B Pesticide screen	Organophosphorus compounds	Salmon	0/45
B3C Heavy metals	Metals	Salmon	0/21
		Trout	0/3
B3D	Mycotoxins	Salmon	0/7
		Trout	0/1
B3E	Dyes	Salmon	0/227
		Trout	0/46

Milk

Group	Analyte	Species	Number of non-compliers / analyses (% non-compliant)
A6 Annex IV	Chloramphenicol	Cattle	0/907
		Goats	0/11
		Sheep	0/2
	Dapsone	Cattle	0/45
		Goats	0/1
		Sheep	0/1
B1 Antimicrobials	AMS1	Cattle	0/565
		Goats	0/6
		Sheep	0/3
	Florfenicol	Cattle	1/259 (0.4%)
		Goats	0/3
		Sheep	0/1
	AMS2	Cattle	0/255
		Goats	0/3
		Sheep	0/3
	AMS3	Cattle	0/320
		Goats	0/5
	AMS4	Cattle	0/196
		Goats	0/2
	Cefquinome	Cattle	0/137
		Goats	0/4
	Ceftiofur	Cattle	0/94
		Goats	0/2
	B2A	Anthelmintics	Cattle
Goats			0/9
Sheep			0/1
Avermectins		Cattle	0/460
		Goats	0/6
		Sheep	0/2
B2E	NSAIDs	Cattle	1/178 (0.6%)
		Goats	0/5

Group	Analyte	Species	Number of non-compliance / analyses (% non-compliance)
B3A Pesticide screen	Organochlorine compounds and polychlorinated biphenyls	Cattle	0/39
		Goats	0/2
B3B Pesticide screen	Organophosphorus compounds	Cattle	0/44
		Sheep	0/1
B3C Heavy metals	Metals	Cattle	0/45
B3D	Mycotoxins	Cattle	0/42

Game

Group	Analyte	Species	Matrix	Number of non-compliance / analyses (% non-compliance)
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	0/4
		Partridge	Liver	0/1
		Pheasant	Liver	0/2
		Red Grouse	Liver	0/5
B2B	Coccidiostats	Partridge	Muscle	1/7 (14.3%)
		Pheasant	Muscle	1/5 (20%)
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	0/5
		Pheasant	Muscle	0/1
		Wild deer	Muscle	0/100

Bees honey

Group	Analyte	Number of non-compliers / analyses (% non-compliant)
A6 Annex IV	Chloramphenicol	0/13
	Nitrofurans	0/12
B1 Antimicrobials	AMS1	0/23
	AMS3	0/23
	AMS4	0/23
	AMS5	0/23
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	0/11
	Naphthalene	0/11