

Commentary on non-compliant results for 2013

1. National Surveillance Scheme
2. Meat Inspection Scheme
3. Pigs Testing Scheme
4. Residues in Sheep & Cattle

1. NATIONAL SURVEILLANCE SCHEME

Samples collected under the UK National Surveillance Scheme may be taken at abattoirs or on-farm, and provide retrospective surveillance data. As a consequence, carcasses are not detained pending the laboratory result.

a) Prohibited and unauthorised substances

1. **Phenylbutazone.** This non-steroidal anti-inflammatory painkiller is licensed only to be given to horses that are not intended to be slaughtered for human consumption. It is not licensed for use in cattle. It has been used for the treatment of mastitis; however such treatments are illegal. Residues of phenylbutazone and its metabolite were detected in liver taken from a young male bovine. There was no phenylbutazone on the farm. There were horses on the farm, but the owner stated that neither these, nor any of the cattle had been treated with phenylbutazone. At a farm follow-up visit, no suspect animals were identified. Five follow-up samples were taken and were compliant.
2. **Chloramphenicol.** This is a broad-spectrum antibiotic, that is banned from use in food animal production. Residues of chloramphenicol were detected in the urine of a young female bovine, collected on-farm in a dairy farm. None of a range of follow-up samples contained any chloramphenicol. However, there was a tentative link to an EU Rapid Alert for chloramphenicol in a poultry feed enzyme, issued at the same time. The feed given to the cattle was prepared in a mill that had received some of the chloramphenicol-contaminated poultry product.
3. **Flubendazole.** This is an antiparasitic drug, active against nematodes, that is licensed for use in pigs, but not in cattle. Residues of one of its metabolites were detected in milk from a cow held on a mixed dairy & beef herd. No obvious cause of the residue was identified during the on-farm follow-up and a follow-up sample, collected at slaughter, tested compliant.
4. **Sulphadiazine.** This is an antibacterial, that is licensed for use in a wide range of species. However, it is not licensed for use in chickens laying eggs for human consumption. Residues of sulphadiazine were detected in eggs collected from a table egg layer unit. Analysis of the retained feed sample showed the presence of sulphadiazine at 11.3 mg/kg; a concentration that could easily account for the finding in eggs. It was probably caused by feed mill contamination. Eggs were collected at the time of the on-farm investigation and were found to be compliant.

5. A number of samples tested non-compliant for a range of compounds, mainly α -boldenone, α -nortestosterone (illegal growth-promoting hormones) and thiouracil (a thyrostat that promotes growth by increasing water retention). However, all these compounds can occur naturally because of dietary-, pregnancy- and injury related factors, etc. In all cases no evidence of misuse was uncovered and no penalties were applied.

b) Veterinary medicines

1. **Closantel.** This is an antiparasitic drug, active against liver fluke, that is licensed for use in cattle and sheep. Residues were detected in a bovine liver sample in excess of the Maximum Residue Limit. The animal had been treated with a pour-on formulation containing closantel. The withdrawal period for the product (28 days) had been adhered to (although medicines records did not tally with the farm notebook) and no obvious cause of the residues was identified.

c) Contaminants

1. **Cadmium.** Cadmium was found in the kidney of one cow (age 12 years). Cadmium is a metallic environmental contaminant that accumulates in kidney, with increasing age of the animal. In the EU, a Maximum Permitted Limit of 1.0 mg/kg has been established for this heavy metal. At an on-farm investigation, no obvious cadmium sources were identified.

2. MEAT INSPECTION SCHEME

Under this Scheme, the carcase is detained at sampling, and excluded from the food chain if a non-compliant result is obtained.

a) Prohibited and unauthorised substances

No non-compliant results. One sample tested non-compliant for thiouracil (a thyrostat that promotes growth by increasing water retention). However this compound can occur naturally because of dietary factors. No evidence of misuse was uncovered and no penalties were applied.

b) Veterinary medicines

1. **Oxytetracycline.** This is an antibiotic that is licensed for use in a wide range of animal species. Residues of oxytetracycline above the Maximum Residue Limit were found in the muscle taken from eight cattle and one sheep. On-farm investigations showed that the main causes of these residues included: overdosing of animals, a lack of food chain information accompanying animals that had only been on the presenter's farm for a short period of time, mistakes and gaps in the recording of the product used, and a failure to adhere to the withdrawal period.
2. **Marbofloxacin.** This is a fluoroquinolone antibiotic that is licensed for use in a wide range of species. Residues of marbofloxacin, at more than two times the Maximum Residue Limit were detected in the muscle of one cow. The medicines records suggested that it had been

treated with marbofloxacin six days before slaughter (the product has a six days withdrawal period).

3. **Amoxycillin.** This is an antibiotic that is licensed for use in a wide range of animal species. Residues of amoxycillin above the Maximum Residue Limit were found in the muscle taken from one cow. Although the withdrawal period had been observed, the animal had been treated with 30 mL at one site (instead of 20 mL split across two sites) – a mistake which led to the positive result.
4. **Closantel.** This is an antiparasitic drug, active against liver fluke, that is licensed for use in cattle and sheep. Residues were detected in a bovine liver sample (with fluke damage) in excess of the Maximum Residue Limit. The animal had been treated with a pour-on formulation containing closantel. The withdrawal period for the product (28 days) had been adhered to (38 days between treatment & slaughter), no obvious cause of the residues was identified.
5. **Nitroxynil & levamisole.** These are antiparasitic drug, active against immature and adult liver fluke and some gastro-intestinal roundworms in cattle & sheep. Residues of nitroxynil were detected in two bovine liver samples, from one beef herd, at concentration more than 10 times the Maximum Residue Limit. Both liver samples also contained levamisole, but the Maximum residue Limit was exceeded only in one sample. Nitroxynil was not present on the farm. The farm medicines records showed that the animals had been treated with a levamisole-containing product and that the withdrawal period had been adhered to. No obvious explanation for the nitroxynil residues was identified.
6. **Sulphadiazine.** This is an antibacterial, that is licensed for use in a wide range of species. Residues of sulphadiazine were detected in the muscle of a steer in excess of the Maximum Residue Limit. Medicines records were incomplete and the animal had been sent for slaughter before the withdrawal period had expired.

3. PIGS TESTING SCHEME

At Phase 1, the carcass is not detained at sampling, but if found to contain non compliant residues, the producer is allocated to Phase 2 intensified sampling with carcass detention. Non-compliant carcasses at Phase 2 are condemned. (After 3 consecutive, clear rounds of Phase 2 sampling, the producer is returned to Phase 1 sampling).

a) Prohibited and unauthorised substances

No positive samples were found.

b) Veterinary medicines

1. **Sulphadiazine.** This is an antibiotic that is licensed for use in a wide range of animal species. Residues of sulphadiazine, above the MRL, were detected in the kidney of 5 pigs from three producers of fattening pigs. Sulphadiazine, at low concentrations, was found in the retained feed samples associated with 3 of the positive pigs. No obvious cause for the other two

positives was identified. Follow up samples (119) were all compliant.

4. RESIDUES IN SHEEP & CATTLE

Residues in Sheep & Cattle (RISC) samples are taken at abattoirs, and are designed to provide risk-based surveillance data. Carcasses are not detained pending the laboratory result.

a) Prohibited and unauthorised substances

No testing for these substances was performed.

b) Veterinary medicines

1. **Nitroxynil.** This is an antiparasitic drug, which is active against immature and adult liver fluke and some gastro-intestinal roundworms in cattle & sheep, that is licensed for use in cattle & sheep. Residues were detected in a bovine liver sample in excess of the Maximum Residue Limit. The animal had been bought in from the Republic of Ireland, where it had been treated by the former owner.
2. **Marbofloxacin.** This is a fluoroquinolone antibiotic that is licensed for use in a wide range of species. Residues of marbofloxacin, at more than nine times the Maximum Residue Limit were detected in the muscle of one cow. The farmer was unclear about what had been administered to his animal, and when, and whether or not a withdrawal period had to be followed.
3. **Closantel.** This is an antiparasitic drug, active against liver fluke, that is licensed for use in cattle and sheep. Residues were detected in a bovine liver sample in excess of the Maximum Residue Limit. The herd owner had not intended to treat this animal with closantel, as he had intended it to go for slaughter shortly afterwards. Closantel residues above the MRL were detected in the liver of seven sheep. On-farm investigations revealed a range of reasons for the positive results. In several cases, the animal had been on the farm for only a few days prior to slaughter; in another case the animal was overdosed by 50%, and in another case the farmer said that the animal may have been treated by intramuscular injection, rather than by subcutaneous injection.
4. **Dihydrostreptomycin.** This is an antibiotic that is licensed for use in a wide range of animal species. Residues of dihydrostreptomycin, above the Maximum Residue Limit, were detected in the kidney of three cattle. In one case, the positive was caused by a failure to record the treatment in the medicines records and in another case was caused by a failure to adhere to the 23 day withdrawal period; as it was slaughtered 3 days after the last treatment.
5. **Monensin.** This is a coccidiostat that is used widely in poultry production, but which is not licensed for use in sheep. Residues of monensin were detected in a sample of ovine liver. No obvious cause was identified and the feed was purchased from a mill that does not produce poultry feed.
6. **Oxyclozanide.** This is an antiparasitic drug, active against liver fluke, that is licensed for use in

ruminants. Residues of oxyclozanide, above the Maximum Residue Limit were detected in a sample of ovine liver. During an on-farm investigation, it was noted that the farmer had treated his animals with a product containing this medicine, but did not think that he had treated this animal, as it had been isolated prior to sending to slaughter. A follow-up sample, collected at slaughter was compliant.

7. **Levamisole, triclabendazole, oxyclozanide, fenbendazole.** These are antiparasitic drugs, all of which are licensed for use in sheep. Residues above the Maximum Residue Limit of levamisole (4 times the MRL), triclabendazole (1.5 times the MRL), oxyclozanide (4 times the MRL), and fenbendazole (32 times the MRL) were detected in the liver of one sheep. During an on-farm investigation it was discovered that the animal had been on the farm for one to two weeks. The previous owner could not be traced. Six follow-up samples were collected and all were found to be compliant.