

Commentary on non-compliant results for 2011

1. National Surveillance Scheme (NSS),
2. Additional testing on NSS samples
3. Bovine QA Scheme
4. Meat Inspection Scheme
5. Pigs Testing Scheme

1. National Surveillance Scheme (NSS)

Samples collected under the UK National Plan 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 were detected in serum taken from a 5-year old bovine from a mixed dairy/beef herd. There was no phenylbutazone on the farm. Neither were there any horses on the farm. At a farm follow-up visit, no suspect animals were identified. The herd was flagged for sampling & detention at slaughter.

b) Veterinary medicines

1. Sulphadiazine. This is a licensed synthetic antibiotic and was detected in a porcine kidney sample, taken from a 5.5 month old pig, in excess of the MRL. The herd keeper had been using the product and a withdrawal period of 5 days had been observed. However, the product has a withdrawal period of 7 days, which may explain the residue. His PVP subsequently advised him to increase the withdrawal period to 2 weeks. It was decided to place the herd keeper on Phase 2 of the Pigs Testing Scheme to ensure compliance. Three sets of pigs were collected at Phase 2 (30, 20 & 10 animals) and all were compliant. This was submitted as a minor SMR breach, and no further action is proposed.

2. Ivermectin. This is a licensed anthelmintic and was detected in a milk sample, taken from a cow in dairy herd. The herd keeper had been using Bimectin plus. It is not to be used in lactating animals or in in-calf heifers within 60 days of calving. A withdrawal period of only 41 days had been observed. At an on-farm follow-up visit (90 days post-treatment), a further milk sample was collected and was compliant. This was submitted as a minor SMR breach, and no further action is proposed.

3. Nitroxynil. Nitroxynil is an anthelmintic drug, which is active against immature and adult liver fluke and some gastro-intestinal roundworms in cattle & sheep. It has an EU MRL in muscle & liver, but has no EU MRL in milk (or in any other country). However, an ambiguity in the wording of the product licence, may have mistakenly given the impression that it could be used to treat dairy cows in the dry period. Residues of nitroxynil were detected in farm bulk tank milk from three producers (3.8 – 144 µg/L). Following consultation with the UK Veterinary Medicines Directorate and the Food Standards Agency, it was agreed that a threshold of 40 µg/L (in line with GB) would be

used as a trigger for a risk assessment - on a case-by-case basis – in addition to on-farm follow up visits, which would occur in response to any finding of nitroxylnil. On farm investigations took place. It was agreed that milk from the two farms below the 40 µg/L threshold could continue to enter the food chain, as there was no risk to human health from consuming the milk. The follow-up samples indicated that the milk concentrations continued to decline in all cases. However, milk from the farm above the 40 µg/L threshold was subject to further investigation. The treated animals were identified and their milk was withheld until subsequent samples were below the 40 µg/L threshold. All three farms were submitted as SMR breaches

c) Contaminants

1. Cadmium.

Cadmium was found in the kidney of 7-year old bovine. 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. The corresponding muscle sample was compliant. At an on-farm investigation, no obvious cadmium source was identified. Five samples of kidney and muscle were collected from cattle from this herd at slaughter. One non-compliant kidney was detected. The remaining samples were compliant. No further action is proposed.

2. Additional testing on NSS samples

The analytical method used to detect hormones in the NSS in Northern Ireland is capable of detecting a wide range of hormones, in addition to the compound(s) specifically targeted in the NSS. This section details those positive results found as a result of this “non-targeted” analysis.

a) Prohibited and unauthorised substances

No non-compliant results.

b) Veterinary medicines

No non-compliant results.

3. Bovine QA Scheme

Bovine QA samples are taken at abattoirs, and are designed to provide retrospective surveillance data. As a consequence, carcasses are not detained pending the laboratory result.

a) Prohibited and unauthorised substances

1. Clenbuterol. This is a β-agonist and is licensed only for use at calving in cattle and has a MRL of 0.5 µg/kg. Clenbuterol can also be used as a growth promoter but it is not licensed for this purpose. Clenbuterol was detected in the retina of a female bovine at 152 µg/kg. There is a possibility that the drug may have been administered legally to assist calving. Accordingly, the liver was tested to check compliance with the MRL. The liver concentration was 6.9 µg/kg, while the MRL for a legal administration is 0.5 µg/kg. Subsequently, it was discovered that the animal had not previously calved. The animal had been sent to the meat plant in Northern Ireland from a farm in the Republic of Ireland. The farm had sent several batches of animals for slaughter to the Meat Plant since the beginning of 2011. The non-compliant animal was one of a group of 12 cows

submitted for slaughter in the same Meat Plant on the same day. Those animals, along with 3 others had been quartered & frozen. Of the resulting 60 quarters, 59 were still held in the Plant. All 59 were voluntarily surrendered for destruction. The authorities in the RoI were notified of the finding. At a follow-up investigation, quantities a liquid, suspected of being clenbuterol were recovered at the farm. By coincidence, 2 urine samples were collected from the farm around the same time, and had been sent to a laboratory in the RoI for analysis for other substances. These were subsequently tested by ELISA for the presence of clenbuterol by the Laboratory (1 non-compliant, 1 compliant) and were then transferred to AFBI for analysis using a validated, accredited procedure. Both samples were found to be non-compliant.

b) Veterinary medicines

No non-compliant results.

4. Meat Inspection Scheme

Under this Scheme, the carcass 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.

b) Veterinary medicines

1. Oxytetracycline. Oxytetracycline is an antibiotic that is licensed for use in a wide range of animal species. Residues of oxytetracycline above the MRL were found in the muscle of four cattle. In all four cases during on-farm investigations the main causes for the residues had been a breakdown in medicine record keeping or in communication between the herd owner and either his PVP or farm workers, that resulted in the animals being presented for slaughter before the withdrawal period had expired.

2. Marbofloxacin. Marbofloxacin is a fluoroquinolone antibiotic that is licensed for use in a wide range of species. Residues of marbofloxacin, above the MRL were detected in the muscle of a two-year old bull. Marbofloxacin (6 days withdrawal period) had been administered to the animal seven days prior to slaughter, and the treatment had been recorded in the medicines book. It is not clear whether or not the disease status of the animal could have decreased excretion of the drug. Some confusion was apparent concerning the application of the veterinary cascade under circumstances where the product was used for a purpose not specifically included in its list of uses.

3. Sulphadiazine. Sulphadiazine, a licensed synthetic antibiotic, at a concentration of 90 times the MRL was detected in the carcass of a twelve year old cow. The animal had been present on the farm for two months prior to slaughter. No sulphadiazine-containing products were present on the farm and no explanation for this extremely high positive was found.

5. 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. Ampicillin. Ampicillin is an antibiotic that is licensed for use in a wide range of animal species. Residues of ampicillin, above the MRL, were detected in the kidney of a fattening pig. Animals on the farm are regularly treated with antibiotics, including ampicillin. These are generally very well recorded. However, no treatment of the animal in question was recorded. The herd keeper assumes that he made a mistake and failed to record the treatment. Samples were collected from 20, 10 and 20 pigs at intensified Phase 2 sampling. No non-complaint results were obtained and the producer was returned to Phase 1 sampling.

2 Marbofloxacin. Marbofloxacin is an antimicrobial substance that is licensed for use in a wide range of species. Residues of marbofloxacin, above the MRL were detected in the kidney of a fattening pig. Marbofloxacin was administered to this animal according to the manufacturer's instructions. The herd keeper marks treated pigs and ensures that they are not submitted for slaughter for at least one week after treatment. There are two marbofloxacin containing products on the market for pigs, both of which have a two-day withdrawal period. No obvious explanation or error was apparent.