

RESIDUES & RECORDS

“I KNOW WHAT I’VE TREATED MY ANIMALS WITH.”

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Why should farmers and veterinary surgeons record at the time of treatment the medicines that they give to food-producing animals?

They are required to do so under the Veterinary Medicines Regulations 2005 (1).

Under European and national residues legislation (2), member states sample animals on farm and at slaughter for residues of veterinary medicines *inter alia*. Random and targeted sampling, and investigation of non-compliant results are carried out, in order to identify and exclude produce that contains unacceptable residues. Recent results for carcasses tested at the Veterinary Science Division’s Chemical Surveillance Branch, and the Veterinary Service’s field follow-up reports, indicate that time-of-use medicines records are indeed worth keeping for food-producing animals;

1. Antibiotics residues in casualty cattle - the Meat Inspection scheme

Casualties are over-represented in the total number of cattle condemned for excessive antibiotics residues (3). Whilst dealing with a crisis, it may not be appreciated that -

- The withdrawal time listed in the medicine’s product data sheet leaves little if any margin for time error
- Under the Meat Inspection scheme, every casualty carcass is screened for antibiotics (*inter alia*)
- Carcasses are detained, enabling condemnation (and prosecution)

The British Cattle Veterinary Association’s advisory booklet and declaration forms (4) emphasize the need to check treatments given within the

preceding six months to the casualty when considering fitness for on-farm slaughter or to travel for slaughter. This period more accurately reflects the current range of withdrawal times for cattle medicines (see tables below), than the 28 days that could be inferred from previous declaration forms. Is it likely that even the most meticulous farmer will remember whether the tilmicosin was given at least two months ago, or exactly when which individuals last received what oxytetracycline preparation?

A casualty-slaughtered beef carcass that is condemned for a non-compliant antibiotic residue will have been a very expensive animal.

2. Chlortetracycline residues in pigs - the Pigs scheme

There may be an analogous problem associated with the use of chlortetracycline in pig production. In 2004, chlortetracycline was found above the Maximum Residue Limit in pigs from six producers. Four of these were recording treatments with other antibiotics, but not with chlortetracycline. This is formulated for in-feed or in-water administration to pigs but there is no licensed injectable; it may not always be appreciated that -

- Chlortetracycline is a prescription antibiotic (POM-V, formerly MFS), subject to the same rules on recording treatment that govern the use of other antibiotics in farm animals
- Withdrawal times for the pig preparations range from 6 to 14 days

Phase 1 of the supplementary Pigs Scheme operating in Northern Ireland comprises the random, stratified (by producer) sampling of pigs at slaughter,

without carcass detention. If the results are non-compliant, the producer is allocated to more intensive phase 2 sampling;

- A minimum of five pigs from each subsequent consignment are screened for antibiotics *inter alia*
- The carcasses are detained, enabling condemnation (and prosecution)

Inadequate withdrawal of chlortetracycline from pigs is likely to be expensive. (After three compliant consignments, the producer is returned to phase 1 sampling).

A somewhat different residues issue for owners and veterinary surgeons surrounds the widespread use of a medicine that is unlicensed for food-producing animals, in a potentially dual purpose species;

3. Phenylbutazone residues in horsemeat and the horse passport regulations

Within the last year, the VSD has found residues of phenylbutazone on several occasions in horses consigned for slaughter in Northern Ireland for export as food for human consumption. As no Maximum Residue Limit has been set for phenylbutazone in meat, subsequent consignments will be sampled and the carcasses condemned if found to contain it.

Under the recently implemented passport regulations (5), horses may be consigned for slaughter if accompanied by their passport and if section IX of the passport is signed “intended to be slaughtered for human consumption”.

The derogation within the “cascade” directives (6) that would permit phenylbutazone to be given to horses prior to slaughter for human consumption, subject to an extended, six-month default

withdrawal period, has not yet been implemented. The “residues” regulations (2) prohibit the use of drugs such as phenylbutazone at any stage in horses that are slaughtered for human consumption. Hence the Veterinary Medicines Directorate and British Equine Veterinary Association advise that phenylbutazone should not currently be given to horses that might be slaughtered. That is, it should not be given to horses whose passports are signed “intended” or remain unsigned – unless section IX is amended to “not intended”.

When phenylbutazone is prescribed to these horses, the BEVA advises that the prescribing veterinary surgeon should ensure that the passport declaration is amended, or if this is unavailable, advises in writing that it must be amended.

Medical treatment need not be recorded in the passport once section IX is signed “not intended”.

The passport will be scrutinised at ante mortem inspection. In view of the emerging residues problem in this dual-purpose species, we wish to bring to the attention of veterinary practitioners and horse keepers that -

- The consignor has a duty to present horses for slaughter that are free of unacceptable drug residues, and is held responsible if any are found
- Phenylbutazone must not be given to horses that may be slaughtered for human consumption
- When it is given, the passport must be checked and the declaration amended to “not intended”, and this amendment is irreversible.

For detailed advice on the recording of medical treatments in the the passport see the BEVA website (7). For information about the licensing of horse medicines see the VMD website (8)

National legislation is available at <http://www.opsi.gov.uk/>
EU legislation is available at <http://europa.eu.int/eur-lex/>
(1) The Veterinary Medicines Regulations 2005;
(2) Council Directive 96/23/EC, the Animals & Animal Products (Examination for Residues and Maximum Residue Limits) Regulations (N Ireland) 1998
(3) The 2004 results for Northern Ireland are available on the AFSNI website;
<http://www.afsni.ac.uk/Divisions/Veterinary/CSBIntro.htm>
(4) Guidance for veterinary surgeons and farmers on the slaughter of cattle which are injured or showing signs of abnormalities. British Cattle Veterinary Association 2005. Copies available from the BCVA email office@cattlevet.co.uk and the Food Standards Agency email foodstandards@eclogistics.co.uk
(5) Horse Passport Regulations (Northern Ireland) 2004
(6) Directive 2001/82/EC amended by Directive 2004/28/EC
(7) www.beva.org.uk
(8) www.vmd.gov.uk

CATTLE MEDICINES WITHDRAWAL TIMES

Cattle Systemic Antibiotics

The tables were collated from the NOAH and Norbrook websites on the 16th February 2006; the information on these websites is liable to change

TRADE NAME & MANUFACTURER	ACTIVE INGREDIENT(S)	ADMIN ROUTE	MEAT withdrawal	MILK withdrawal
Norobritin Norbrook	Ampicillin	Im	18days	24hours
Amfipen LA Intervet		Im	60d!!!	NFU not for use
Duphacillin Fort Dodge		Im	18d	24h
Betamox Norbrook	Amoxycillin	Im	18d	24h
Betamox LA Norbrook		Im	23d	79h
Betamox 400 tabs Norbrook		Oral calf	10d	-
Amoxyphen inj Intervet		Im	18d	24h
Amoxyphen LA Intervet		Im	23d	79h
Amoxycare inj Animalcare		Im	18d	24h
Amoxycare LA inj Animalcare		Im	23d	84h
Bimoxyl LA Bimeda		Im	21d	72h
Clamoxyl RTU inj Pfizer		Im	21d	48h
Clamoxyl LA Pfizer		Im	21d	96h
Duphamox FD		Im	18d	24h
Duphamox LA FD		Im	21d	60h
Nisamox injection FD		Im	42d	60h
Noroclav Inj Norbrook	Amoxycillin + clavulanate	Im	42d	80h
Synulox RTU inj Pfizer		Im	42d	60h
Synulox 500mg bolus Pfizer		Oral calf	4d	-
Norocillin Norbrook	Procaine penicillin	Im	5d	60h
Ultrapen LA Norbrook		Sc, im	10d, 21d	5d
Depocillin Intervet		Im	4d	72h
Duphacen fort FD		Sc nonlact	23d	-
		im	23d	132h
Duphacen FD		Im	7d	84h
Penacare Animalcare		Im	7d	84h
Mamyzin Boehringer Ingelheim	Penethamate	im	7d	72h

REGULATIONS

TRADE NAME & MANUFACTURER	ACTIVE INGREDIENT(S)	ADMIN ROUTE	MEAT withdrawal	MILK withdrawal
Cephaguard Intervet	Cephquinome	Im	4-5d	Discard 1st +/- 2nd
Ceporex injectionS-P	Cefalexin	Im	19d	NIL
Metricure Intervet	Cephapirin	I uterine	48h	NIL
Excenel RTU Pfizer	Ceftiofur	Sc	8d	NIL
Excenel sterile powder Pfizer		Im	1d	NIL
Aureomycin soluble pdr FD	Chlortetracycline	Water calf	25d	-
Aurofac 200 MA FD		Milk calf	15d	-
Aureomycin sol oblets FD		Oral calf	25d	-
Alamycin 10 Norbrook	Oxytetracycline	Im	15d	60h
Alamycin LA Norbrook		Im	31d	10d
Alamycin LA300 Norbrook		Im	28-35d	10d
Cyclosol LA Ceva		Im	35d	8d
Duphacycline 100 FD		Im iv	15d	60h
Duphacycline LA FD		Im	31d	10d
Duphacycline XL FD		Im	35d	10d
Engemycin 5%, 10%, 10% farm Intervet		Im iv	35d	6d
Engemycin LA Intervet		Im	31d	10d
Occrycetin bolus FD		Oral calf	14d	-
Oxycare 10% Animalcare		Im iv	15d	60h
Oxycare 20/LA Animalcare		Im	31d	10d
Oxytetrin 20 LA S-P		Im	14d	7d
Terramycin sol pdr 5% Pfizer		Water	10d	Not during tx
Terramycin sol pdr 20% Pfizer		Water	10d	Not during tx
Terramycin Q-100 inj Pfizer		Im	14d	120h
Terramycin LA Pfizer		Im iv	21d	7d
Tetroxy LA Bimeda		Im	14d	7d
Oxycomplex NS Bimeda	Oxytet+flunixin	Iv < im	31d	NFU
Hexasol LA Norbrook		Im	35d	NFU
Advocin 180 Pfizer	Danofloxacin	Sc	8d	4d
Advocin injectable Pfizer		Sc	5d	48h
Baytril 2.5% Bayer	Enrofloxacin	Oral calf	8d	-
Baytril 5% inj Bayer		Sc	14d	NFU
Baytril 10%, Max Bayer		Sc	14d	84h
Marbocyl 2% Vetoquinol	Marbofloxacin	Iv sc calf	6d	-
Marbocyl 10% Vetoquinol		Iv im sc	6d	36h
Marbocyl bolus Vetoquinol		Oral calf	6d	-
Tylan 200 Elanco	Tylosin	Im	28d	108h
Tylan soluble Elanco		Oral calf	14d	-
Draxxin Pfizer	Tulathromycin	Sc	49d	NFU; NFU 2m < calving
Micotil Elanco	Tilmicosin	Sc	60d	NFU; NFU 60d < calving
Spectam injectable Ceva	Spectinomycin	Im calf	32d	-
Nufloor injectable soln S -P	Florfenicol	Im	30d	NFU; NFU in bulls
		Sc	44d	
Apralan soluble pdr Elanco	Apramycin	Water, milk calf	28d	-
Framomycin 15% inj Novartis	Framycetin	Im	49d	56h milk
Devomycin D Norbrook	Streptomycin, dihydrostreptomycin	Im	21d	48h
Duphapen + Strep FD	Dhstrep, ppenicillin	Im	23d	60h
Pen + Strep Norbrook		Im	23d	60h
Streptacare Animalcare		Im	23d	60h
Devomycin Norbrook	Streptomycin	Im	14d	48h
Utocyl Novartis	Dhstrep, pen, f-sulfathiazole	I uterine	28d	36h
Bimotrim co inj Bimeda	Trimethoprim, sulfadiazine	Iv im	10d	60h

TRADE NAME & MANUFACTURER	ACTIVE INGREDIENT(S)	ADMIN ROUTE	MEAT withdrawal	MILK withdrawal
Borgal 24% soln Intervet		Im iv	10d	48h
Duphatrim bolus FD		Oral calf	15d (Cl rum)	-
Duphatrim IS inj soln FD		Im iv	12d	48h
Norodine 24% Norbrook		Im iv	12d	48h
Strinacin Merial		Oral calf	15d	-
Tribrissen 48% S-P		Im	34d	6.5d
Trimacare 24% Animalcare		Im iv	10d	60h
Trimacare bolus Animalcare		Oral calf	28d	-
Trimedoxine 4S Vetoquinol		Oral calf	15d	-
Trinacol Inj Boe Ing		Im iv	12d	48h
Intradine Norbrook	Sulfadimidine	Iv sc	42d	156h

Key **Purple** - withdrawal times > 28 days
Blue - meat withdrawal times for drugs with NIL milk withdrawal
Yellow - oxytetracycline preparations licensed for cattle

Cattle Intramammaries

TRADE NAME & MANUFACTURER	ACTIVE INGREDIENT(S)	MEAT withdrawal	MILK withdrawal
Noroclav lact. cow Norbrook	Amoxicillin, clavulanate	7d	60h
Synulox lactating cow Pfizer		7d	60h
Chanamast DC Chanelle	Cloxacillin	28days	120 hours +/- 28days
Kloxerate DC Fort Dodge		28d	60h +/- 28d
Noroclox DC Norbrook		28d	90h +/- 28d
Lactaclox Norbrook	Cloxacillin, ampicillin	7d	60h
Bovaclox DC, DC Extra Norbrook		28d	96h +/- 45d, 49d
Kloxerate plus DC, gold DC FD		28d	156h +/- 49d
Kloxerate plus milking cow FD		4d	60h
Orbenin dry cow Pfizer		28d	96h +/- 28d; NFU not for use < 28d of calving.
Orbenin extra dry cow Pfizer		28d	96h +/- 42d; NFU < 42d of calving
Orbenin LA Pfizer		7d	84h
Synermast lactating cow Bimeda		7d	72h
Nafpenzal DC Intervet	Nafcillin, procaine penicillin, dihydrostreptomycin	28d	108h +/- 28d
Nafpenzal MC Intervet		7d	84h
Cepravin Dry Cow Schering-Plough	Cefalonium	21d	96h +/- 54d
Pathocef I-mam susp Pfizer	Cefoperazone	2d	84h
Cephaguard LC Intervet	Cefquinome	48h; 5d with Cephaguard im	96h
Cephaguard DC Intervet		2d	49d if dry < 7w 1d after calving if dry >7w
Pirsue Pfizer	Pirlymycin	23d	5d
Lincocin forte S Pfizer	Lincomycin	3d	84h
Tetra-Delta Pfizer	Novobiocin, neomycin, ppenicillin, dhstrep, prednisolone	7d	72h
Leo Red Dry Cow Boehringer Ingelheim	Framycetin, penethamate, procaine penicillin	28d	84h; or 28d + 72h
Leo Yellow Milking Cow Boe Ing	Fram, peneth, dhstrep, prednisolone	28d	84h
Lactatrim MC Elanco	Trimethoprim, sulfadiazine	7d	48h

Key **Purple** - withdrawal times > 28 days

Cattle Parasiticides

TRADE NAME & MANUFACTURER	ACTIVE INGREDIENT(S)	ADMIN ROUTE	MEAT withdrawal	MILK withdrawal
Albenil low dose, sc Virbac	Albendazole	Oral	14 days	60 hours
Albensure 2.5% SC, 10% Animax		0	14d	60h
Albex 2.5% SC, 10% Chanelle		0	14d	60h
Endospec SC 2.5%, SC 10% Bimeda		0	14d	60h
Ovispec s & c 2.5%, 10% Janssen		0	14d	60h
Valbazen 10% Pfizer		0	20d	72h
Panacur bolus Intervet	Fenbendazole	Bolus	200d	NFU not for use; NFU < 200d calving
Panacur 1.5% pellets Intervet		0	19d	7d
Panacur 4% powder Intervet		Premix	14d	5d
Panacur 2.5%, 10%, sc 5% Intervet		0	12d	5d
Zerofen 2.5%, 10% Chanelle		0	14d	96h
Fenzol Norbrook		0	12d	5d
Autoworm finisher, ready pulse, first grazer Schering-Plough	Oxfendazole	B	6, 7, 8 months	NFU; NFU < 6,7,8 months of calving
Bovex 2.265% Chanelle		0	19d	84h
Parafend LV Norbrook		0	21d	NFU
Systemex 2.265 Schering-Plough		0	28d	5d
Hapadex cattle wormer S-P	Netobimin	0	10d	48h
Endofluke 10 Bimeda	Triclabendazole	0	56d	NFU ; NFU < 2m of calving
Fasinex 10% Novartis		0	56d	NFU ; NFU < 7d of calving
Tribex 10% sus for cattle Chanelle		0	56d	NFU ; tx start of dry period
Trodax 34% Merial	Nitroxynil	sc	60d	NFU
Chanaverm 7.5% Chanelle	Levamisole	0	20d	NFU
Levacur sc 3% Intervet		0	18d	NFU
Levasure 7.5% Animax		0	20d	NFU
Ripercol pour-on Janssen		Topical	22d	NFU
Levacide 3%, low vol, inj Norbrook		0, o, sc	14,14, 28d	NFU
Nilzan drench super, gold S-P	L + oxyclosanide	0	28d	NFU
Levafas diamond Norbrook		0	5d	NFU
Combinex cattle Novartis L + triclabendazole		0	28d	NFU; NFU < 7d of calving
Alstomec injection, Alstoe	Ivermectin	Sc	42d	NFU; NFU < 60d of calving
Animec pour-on, injection Chanelle		T, sc	28d, 42d	NFU; NFU < 60d of calving
Bimectin pour-on, injection Bimeda		T, sc	28d, 35d	NFU; NFU < 60d of calving
Depidex pour-on Novartis		T, sc	28d	NFU; NFU < 60d of calving
Ivomec classic p/o, classic inj, Merial		T, sc	28, 35d	NFU; NFU < 60d of calving
Panomec injection Merial		Sc	35d	NFU; NFU < 60d of calving
Qualimintic pour-on Janssen		T	28d	NFU
Qualimintic 1% injection Janssen		sc	42d	NFU; NFU < 60d of calving
Virbamec p-o, inj soln Virbac		T, sc	28d, 35d	NFU; NFU < 60d of calving
Noromectin pour-on Norbrook		T	28d	NFU; NFU < 60d of calving
Ivomec super injection Merial	I + chlorsulon	sc	35	NFU; NFU < 60d of calving
Virbamec super Virbac		Sc	80d	NFU; NFU < 60d of calving
Dectomax pour-on, injection Pfizer	Doramectin	T, sc	35, 56d	NFU; NFU < 60d of calving
Eprinex p/o for beef & dairy cattle Merial	Eprinetin	T	15d	NIL
Cydectin 0.5% p-o, 1% inj Fort Dodge	Moxidectin	T, sc	14d, 65d	NFU; NFU < 60d of calving
Cydectin 10% Fort Dodge		Sc ear	108d	NFU; NFU < 80d of calving
Imizol injection S-P	Imidocarb	Sc once	213d	21d
Auriplak Virbac	Permethrin	Eartag	NIL	NIL

TRADE NAME & MANUFACTURER	ACTIVE INGREDIENT(S)	ADMIN ROUTE	MEAT withdrawal	MILK withdrawal
Flypor Novartis		T	3d	NIL; tx 6h < milk
Ridect pour-on Pfizer		T	3d	NIL; tx 6h < milk
Butox swish Intervet	Deltamethrin	T	20d	NIL
Coopers spot on insecticide S-P		T	17d	NIL
Dysect pour-on Fort Dodge	Alphacypermethrin	T	28d	NIL
Electron fly tags Fort Dodge	Cypermethrin	E	NIL	NIL
Taktic Intervet	Amitraz	T	4d	96h

Key **Purple** - withdrawal times > 28 days
Blue - meat withdrawal times for drugs with NIL milk withdrawal
Italics - NIL meat and milk withdrawal

Cattle Miscellaneous

TRADE NAME & MANUFACTURER	ACTIVE INGREDIENT(S)	ADMIN ROUTE	MEAT withdrawal	MILK withdrawal
Prid Ceva*	Progesterone, oestradiol benzoate	Vaginal coil	24 hours > insertion; 6h>removal	NIL
PMSG Intervet (for superovulation) prostaglandin	Serum gonadotrophin	Sc im	28 days	48h > 2nd
Estrumate Schering-Plough	Cloprostenol	im	24h	NIL
Enzaprost Ceva	Dinoprost	im	3d	NIL
Lutalyse Pfizer		im	28d	NIL
Noroprost Norbrook		im	24h	NIL
Prosolvin Intervet	Luprostiol	im	4d	12h
Dexadreson Intervet	Dexamethasone	im	7d	60h
Dexafort Intervet		im	48d	6d
Duphacort Q Fort Dodge		im iv	21d	48h
Colvasone Norbrook		im iv	21d	72h
Voren suspension Boehringer Ingelheim		im iv	55d	48h
Rimadyl LA sol Pfizer	Carprofen	sc iv	21d	NFU not for use
Binixin Bayer	Flunixin	iv	8d	12h
Cronyxin inj Bimeda		iv	8d	12h
Finadyne solution S-P		iv	5d	24h
Flunixin inj Norbrook		iv	14d	2d
Meflosyl 5% Fort Dodge		iv	7d	36h
Ketofen 10% Merial	Ketoprofen	iv im	1d 4d	NIL
Metacam 20mg.ml BI	Meloxicam	sc iv	15d	5d
Tolfine Vetoquinol	Tolfenamic acid	lv, sc	3d, 7d	Discard 1 milk
Buscopan Boehringer Ingelheim	Butylscopolamine & metamisole	lv, im	9d	NFU
Bisolvon inj, pdr Boe Ing	Bromhexine	lm, oral	28d, 2d	NFU
Dimazon Intervet	Frusemide	iv	Unlisted	Discard 2 milks

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Yellow - oxytetracycline preparations licensed for cattle

Notes * To be withdrawn, and replaced with progesterone-only coils (CIDR etc) Omitted:
1. Receptal, Fertagyl, Chorulon and Oxytocin-S have NIL meat and milk withdrawals
2. Leo Yellow milking cow, Synulox lactating cow & Tetra-Delta contain prednisolone; see intramammary table 2.
3. Oxycomplex and Hexasol injections contain flunixin; see systemic antibiotic table 1.