Annex 3 to advice 07-2013 (dossier 2012/07): Concentration of substances on group one in different matrices of animals species prc

		Animal species							
Substances	***Matrices***	**Bovine**	**Porcine**	**Poultry**	**Ovine**	**Caprine**	**Equine**	**Cervine**	**Fish**
17 α-nortestosterone	**Urine**	steer: mean 0.90 ng/ml, <LOD - 0.519 ng/ml); non pregnant heifer : mean 0.081 ng/ml (<LOD - 2.124 ng/ml); pregnant heifer mean: 1.676 ng/ml (0.138 - 5.124 ng/ml) (Scarth et al., 2011)	not endogenous		Pregnant sheep: <LOD to >2 ng/ml (Van Hende (1995)	Pregnant (Sterk et al. 1998)	Pregnant mares : 1-26 ng/ml (Sterk et al. 1998)	Pregnant red deer (Van Hende, 1995)	
	Faeces								
	Fat								
	Meat								
	Liver								
17 β-nortestosterone	**Urine**	Pregnant bovine (Vandenbroeck et al., 1991), newborn calf (Meyer et al., 1992), injured male cattle (Kennedy et al., 2009) males and females calves <1,0 ng/ml (Nielen et al., 2007)	0.5 tot 344 µg/L (Poelmans et al., 2005)		Sheep (Casson et al., 2006)		Stallions (Houghton et al., 1984)		
	Kidney		0.1 to 232 µg/kg (Poelmans et al., 2005)						
	Testicle		2.2 tot 144 µg/kg (Poelmans et al., 2005)						
	Meat		<CCα to 13.4 µg/kg (Poelmans et al., 2005)						
	Liver		<CCα to 63 µg/kg (Poelmans et al., 2005)						
17α-boldenone	**Urine**	Steer mean: 0.069 ng/ml (<LOD - 0.564 ng/ml); non-pregnant heifer mean: 0.105 ng/ml (<LOD - 1.437 ng/ml); pregnant heifer: mean: 1.395 ng/ml (0.371 - 3.725 ng/ml) (Scarth et al., 2011) Calves males : <0.1 to 2.7 µg/kg calves females: <0.1 to 0.5 ng/ml (Nielen et al., 2007)	not detected		Insufficient data (Scath et al., 2009	Insufficient data (Scath et al;, 2009)	(Ho et al., 2004)	Insufficient data (Scath et al., 2009)	crustaceans (Verslycke et al. 2002)
	Faeces	Calves 1- >100 ng/g (Nielen et al., 2004); 2.6 to 5.9 ng/g (rectal fecal); nd to 988 ng/g skin feacal (Pompa et al., 2006)							
	Fat								
	Meat								
	Liver								
	Urine	<ccα =0,3 ng/ml (Nielen et al., 2007) Calves (Blokland et al., 2007) not endogenous in calves (Nielen et al., 2007)	<CCα to 120,5 µg/L (Poelmans et al., 2005)				male horses: 0,1-4,3 ng/ml (Ho, 2002; 2004).		

17β-boldenone	**Faeces**	Calves: 4 ng/g (Nielen et al., 2007); 27,6 to 89 ng/g (rectal fecal); 2,1 to 482 ng/g skin feacal (Pompa et al., 2006)					ND (Popot, 2008)		
	Testicle		<CCα to 16 µg/kg (Poelmans et al., 2005)						
	Meat		<CCα to 2.5 µg/kg (Poelmans et al., 2005)						
	Liver		<CCα to 4.9 µg/kg (Poelmans et al., 2005)						
Progesterone	**Urine**		endogenous (plasma concentration in sow during estrous cycle <0,2 to 25 ng/ml and during gestation <1 0 to 12 ng/ml) (Hoffman, 1983)	endogenous (plasma cc in hens during estrous cycls <1 to 4 ng/ml (Hoffman, 1983)	endogenous (plasma cc in sheep during estrous cucle <0,2 tot 8 ng/ml and during gestation <8 to 19 ng/ml) (Hoffman, 1983)	endogenous (plasma cc in goat during estrous cycle <0,2 to 6 ng/ml (Hoffman, 1983)	endogenous (cc <0,03 - 18,34 ng/ml in serum of mongalian horses)	endogenous (cc up to 32ng/ml in serum of red deer in gestation) (Kelly et al., 1982)	endogenous
	Kidney	pregnant cow : 6.2 µg/kg; veal calf heifers :0.03 - 4.07 µg/kg (EFSA, 2007)							
	Fat	pregnant cow : 239 µg/kg; veal calf heifers :0.87-1.60 µg/kg (EFSA, 2007)							
	Meat	pregnant cow : 10,1 µg/kg; veal calf heifers: 0,0 - 0,9 µg/kg (EFSA, 2007)							
	Liver	pregnant cow : 3.4 µg/kg; veal calf heifers : 0.16 - 0.75 µg/kg (EFSA, 2007)							
17α-testosterone	**Urine**	female calf <1.0 to 6.2 ng/ml, male calf <1.0 ng/ml to 1000 ng/ml (Nielen et al., 2007)	endogenous	endogenous	endogenous	endogenous	endogenous	endogenous	endogenous
	Faeces	calves: 2.4 to 47.9 ng/g (rectal faeces); 16 to 251 ng/g (skin faeces) (Pompa et al., 2006)							
	Fat								
	Meat	endogenous							
	Liver								
17β-testosterone	**Urine**	male calves <0.1 to 10 ng/ml, females calves <0.1 ng/ml (Nielen et al., 2007); female calf <0.5 to 2.2 ng/ml, male calf <0.3 to 28 ng/ml (Arts et al., 1991)	ubiquitous in males and females at varying concentrations (Scarth thesis).	endogenous	ubiquitous in males and females at varying concentrations (Scarth thesis).	endogenous in males and females at varying concentrations (Ahmad et al. 1996, Flint and Burrow, 1979)	endogenous in males and females : <0,04 to 0,29 ng/ml in serum (Haffner et al., 2010); males - faeces : 40 - 136 pg/g;male - urine 71 - 214 ng/ml (Popot et al., 2008), female faces: 68 pg/g (Popot et al., 2008)	endogenous in males and females at varying concentrations (Hamasaki et al. 2000).(source Scarth, thesis).	endogenous
	Faeces	calves: 4.4 ng/g (rectal faeces); 4.5 ng/g (skin faeces) (Pompa et al., 2006)							
	Fat	pregant cow : 0.59 µg/kg; veal calf heifers : 0.021-0.296 µg/kg; Bull : 10.95 µg/kg (EFSA, 2007)							
	Meat	pregant cow: 0.27 µg/kg; veal calf heifers : 0.006-0.029 µg/kg; Bull : 0.54 µg/kg (EFSA, 2007)							

	Liver	pregant cow : 0,05 µg/kg; veal calf heifers : 0.021-0.126 µg/kg; Bull: 0.75 µg/kg (EFSA, 2007)							
17α- oestradiol	**Urine**	Steer: mean 0.453 ng/ml (<LOD - 9.992 ng/ml); non-pregnant heifer: mean: 6.111 ng/ml (<LOD - 290.1 ngml); pregnant heifer: mean: 34.03 ng/ml (3.37-75.52 ng/ml) (Scarth et al., 2011) male calves <1 to 13 ng/ml, females calves <1 to 1,6 ng/ml (Nielen et al., 2007) male and female calves <0,3 and 5 ng/ml	endogenous	endogenous	endogenous	endogenous	endogenous	endogenous	endogenous
	Faeces								
	Fat								
	Meat								
	Liver								
17β-oestradiol	**Urine**	males and females calves <1,0 ng/ml (Nielen et al., 2007)	endogenous	endogenous	endogenous	endogenous	0.033 to 0.471 ng/ml in serum of domestic mongolian horses (Haffner et al., 2010)	endogenous	endogenous
	Faeces								
	Fat	Control veal, calves, heifers or steers 5-50 ng/kg; cow follicular 11 ng/kg; Pregnant cow 12 days 48.1 ng/kg; pregnant cows 240 days 67.5 ng/kg (EFSA, 2007)							
	Meat	10 pg/g Control veal, calves, heifers or steers 3-35 ng/kg; pregnant cow 120 days 118 ng/kg; pregnant cow 240 days 274 ng/kg (EFSA, 2007)							
	Liver	Control veal, calves, heifers or steers 5-53 ng/kg; pregnant cow 120 days 13.3 ng/kg; pregnant cow 240 days 32.7 ng/kg (EFSA, 2007)							
Zearanol	**Urine**	cc of α+β-ZALup to 12.3 ng/ml (Erasmuson et al., 1994); Mean: 2.25 ± 0.32 ng/ml (Kennedy et al; 1998); 2-3 µg/L (Kleinova et al., 2002)	conc <1 µg/l (Zollner et al., 2002)		lamb : cc of α+β-ZAL up to 0.77 ng/ml, sheep cc of α+β-ZAL up to 2.1 ng/ml (Erasmuson et al.,1994)	cc of α+β-ZAL up to 0.56 ng/ml (Erasmuson et al., 1994)	α+β-ZAL 2157 ng/ml (Erasmuson et al.,1994)	Erasmuson et al. (1994)	
	Faeces						cc of 27 ng/ml (Songsermsakul et al., 2006)		

	Bile	Kennedy et al; 1998; <50 µg/kg (Dänicke et al., 2002)							
	Fat	<50 µg/kg (Dänicke et al., 2002)							
	Meat	<50 µg/kg (Dänicke et al., 2002)	conc 0.5 – 13.3 µg/kg (Zollner et al., 2002)						
	Liver	<50 µg/kg (Dänicke et al., 2002)	no trace (Zollner et al., 2002)						
Taleranol	**Urine**	cc of α+β-ZALup to 12,3 ng/ml (Erasmuson et al., 1994); 2-3 µg/l (Kleinova et al., 2002)	conc <1 µg/l (Zollner et al., 2002)		lamb : cc of α+β-ZAL up to 0,77 ng/ml, sheep cc of α+β-ZAL up to 2,1 ng/ml (Erasmuson et al.,1994)	cc of α+β-ZAL up to 0,56 ng/ml (Erasmuson et al., 1994)	α+β-ZAL 2157 ng/ml (Erasmuson et al.,1994)		
	Faeces						cc of 27 ng/ml (Songsermsakul et al., 2006)		
	Bile								
	Fat								
	Meat		conc 0.5 – 1 µg/kg (Zollner et al., 2002)						
	Liver		no trace (Zollner et al., 2002)						
Cortisol	**Urine**	Cow mean : 3.8 +/- 3.8 and 10.9 +/- 8.7 µg/L at farm and 14.9 +/- 9.5 and 37.0 +/- 23.8 µg/L at slaughter (Dusi et al., 2012)	endogenous	endogenous	endogenous	endogenous	conc of 10 to 177 ng/ml in serum of domestic mongolian horses (Haffner et al., 2010)	endogenous	endogenous
	Faeces								
	Fat								
	Meat		mean: 2.063 µg/L (Choi et al, 2012)						
	Liver								
Cortisone	**Urine**	Cow, mean conc, 2.5+/-1.9 µg/L and 8.4 +/- 6.8 µg/L at farm and 10.1 +/- 5.5 µg/L and 17.9+/- 7.4 µg/L at slaughter (Dusi et al., 2012).	endogenous	endogenous	endogenous	endogenous	endogenous	endogenous	endogenous
	Faeces								
	Fat								
	Meat								
	Liver								
Prednisone	**Urine**	Arioli et al., 2010							
	Faeces	Arioli et al., 2010							
	Fat								
	Meat								
	Liver								
Prednisolone	**Urine**	Lacting cow, mean conc, 0.83 +/- 0.44 µg/L at farm; 0.83 +/- 0.43 µg/L at slaughter (Dusi et al., 2012); 13 µg/L (Andersen et al., 2008)	0.01 to 2.8 ng/ml (experimental study CER)				racehorse (conc 1ng/ml) (Fidani et al., 2012)		
	Faeces								
	Fat								
	Meat								
	Liver								
Thiouracil	**Urine**	conc ccα to 22.5 µg/L (Le Bizec et al., 2011)	conc ccα to 7.0 µg/L (Le Bizec et al., 2011)		conc. CCα to 14. µg/L (Le Bizec et al., 2011)				
	Faeces								
	Bile								
	Fat								
	Meat								
	Liver								