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From: Secretary-General of the European Commission,
signed by Mr Jordi AYET PUIGARNAU, Director

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To: Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of
the European Union

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Subject: COMMISSION STAFF WORKING DOCUMENT
Accompanying the document
REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT
AND THE COUNCIL
2019 report on the statistics on the use of animals for scientific purposes in
the Member States of the European Union in 2015-2017

Delegations will find attached document SWD(2020) 10 final - PART 2/5.

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PART 2/5

COMMISSION STAFF WORKING DOCUMENT

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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND
THE COUNCIL**

**2019 report on the statistics on the use of animals for scientific purposes in the Member
States of the European Union in 2015-2017**

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SECTION B: EU DATA BETWEEN 2015 AND 2017

IV. Detailed EU tables 2015 - 2017

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EU statistical tables 2015

Part 1: Numbers of animals used for research, testing, routine production and educational purposes in the EU

Table 1: Numbers of animals used for the first time by species (2015)

	Number of animals	%
Mammals		
Rodents		
Mice	5,711,612	59.6
Rats	1,201,189	12.5
Guinea-Pigs	149,328	1.6
Hamsters (Syrian)	20,195	0.2
Hamsters (Chinese)	30	0
Mongolian gerbil	6,199	0.1
Other rodents	26,088	0.3
Rabbits		
Rabbits	346,052	3.6
Carnivores		
Cats	1,975	0
Dogs	14,501	0.2
Ferrets	2,212	0
Other carnivores	3,648	0
Farm animals		
Horses, donkeys and cross-breeds	3,217	0
Pigs	73,895	0.8
Goats	2,233	0
Sheep	20,106	0.2
Cattle	26,763	0.3
Non-human primates		
Prosimians	169	0
Marmoset and tamarins	429	0
Squirrel monkey	13	0
Other species of new world monkeys (Ceboidea)	0	0
Cynomolgus monkey	6,221	0.1
Rhesus monkey	211	0
Vervets (Chlorocebus spp.)	56	0
Baboons	37	0
Other species of old world monkeys (Cercopithecoidea)	0	0
Other mammals		
Other mammals	9,535	0.1
Birds		
Domestic fowl	515,834	5.4
Other birds	119,377	1.2
Reptiles		
Reptiles	2,414	0
Amphibians		
Rana	4,884	0.1
Xenopus	10,837	0.1
Other amphibians	20,190	0.2
Fish		
Zebra fish	338,815	3.5
Other fish	936,252	9.8
Cephalopods		
Cephalopods	15,862	0.2
Totals		
Total	9,590,379	100
%	100	

Table 2: Place of birth by species (other than non-human primates) (2015)

	Animals born in the EU at a registered breeder	Animals born in the EU but not at a registered breeder	Animals born in rest of Europe	Animals born in rest of world	Total	%
Mammals						
Rodents						
Mice	5,466,761	170,399	38,177	36,275	5,711,612	59.6
Rats	1,185,595	9,656	705	5,233	1,201,189	12.5
Guinea-Pigs	148,500	828	0	0	149,328	1.6
Hamsters (Syrian)	19,310	83	7	795	20,195	0.2
Hamsters (Chinese)	30	0	0	0	30	0
Mongolian gerbil	5,841	290	0	68	6,199	0.1
Other rodents	8,501	17,130	57	400	26,088	0.3
Rabbits						
Rabbits	337,709	5,448	173	2,722	346,052	3.6
Carnivores						
Cats	1,053	531	0	391	1,975	0
Dogs	6,109	3,752	52	4,588	14,501	0.2
Ferrets	1,796	148	0	268	2,212	0
Other carnivores	1,088	2,556	4	0	3,648	0
Farm animals						
Horses, donkeys and cross-breeds	700	2,517	0	0	3,217	0
Pigs	35,355	37,327	1,203	10	73,895	0.8
Goats	805	1,428	0	0	2,233	0
Sheep	6,503	13,505	98	0	20,106	0.2
Cattle	8,677	17,993	93	0	26,763	0.3
Other mammals						
Other mammals	2,078	5,967	18	1,472	9,535	0.1
Birds						
Domestic fowl	266,406	244,616	4,800	12	515,834	5.4
Other birds	19,867	92,967	3,244	3,299	119,377	1.2
Reptiles						
Reptiles	459	1,557	42	356	2,414	0
Amphibians						
Rana	3,194	1,540	150	0	4,884	0.1
Xenopus	7,952	312	0	2,573	10,837	0.1
Other amphibians	1,816	17,039	247	1,088	20,190	0.2
Fish						
Zebra fish	320,358	15,458	812	2,187	338,815	3.5
Other fish	594,363	292,494	44,337	5,058	936,252	9.8
Cephalopods						
Cephalopods	15,840	22	0	0	15,862	0.2
Totals						
Total	8,466,666	955,563	94,219	66,795	9,583,243	100
%	88.3	10	1	0.7	100	

Table 3: Source of non-human primates by species (2015)

	Animals born at a registered breeder within EU	Animals born in rest of Europe	Animals born in Asia	Animals born in America	Animals born in Africa	Animals born elsewhere	Total	%
Non-human primates								
New World Monkeys								
Prosimians	158	11	0	0	0	0	169	2.4
Marmoset and tamarins	429	0	0	0	0	0	429	6
Squirrel monkey	10	0	0	3	0	0	13	0.2
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0
Old World Monkeys								
Cynomolgus monkey	146	0	2,052	9	3,923	91	6,221	87.2
Rhesus monkey	175	3	33	0	0	0	211	3
Vervets (Chlorocebus spp.)	4	0	0	52	0	0	56	0.8
Baboons	37	0	0	0	0	0	37	0.5
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0
Totals								
Total	959	14	2,085	64	3,923	91	7,136	100
%	13.4	0.2	29.2	0.9	55	1.3	100	

Table 4: Generation of non-human primates by species (2015)

	F0	F1	F2 or greater	Self-sustaining colony	Total	%
Non-human primates						
New World Monkeys						
Prosimians	0	1	0	168	169	2.4
Marmoset and tamarins	0	0	102	327	429	6
Squirrel monkey	0	8	5	0	13	0.2
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0
Old World Monkeys						
Cynomolgus monkey	1	1,737	2,420	2,063	6,221	87.2
Rhesus monkey	0	22	55	134	211	3
Vervets (Chlorocebus spp.)	0	4	0	52	56	0.8
Baboons	0	1	32	4	37	0.5
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0
Totals						
Total	1	1,773	2,614	2,748	7,136	100
%	0	24.8	36.6	38.5	100	

Part 2: Details of all uses of animals for research, testing, routine production and educational purposes in the EU

Table 5: Uses of animals by species, main categories of scientific purposes and severities (2015)

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Mice	Non-recovery	249,177	121,186	10,856	2	0	380	14,674	4	396,279	6.9
	Mild	1,521,311	551,716	578,720	3,059	3,178	6,338	38,369	36	2,702,727	46.9
	Moderate	1,047,417	663,033	284,691	16,948	200	0	18,851	0	2,031,140	35.2
	Severe	188,709	107,101	326,302	13,673	243	0	630	0	636,658	11.0
	Total	3,006,614	1,443,036	1,200,569	33,682	3,621	6,718	72,524	40	5,766,804	100.0
Rats	Non-recovery	50,257	30,045	8,639	76	0	32	22,163	1	111,213	9.1
	Mild	117,925	120,119	365,129	1,162	562	127	13,426	100	618,550	50.8
	Moderate	132,492	118,106	176,306	36	493	0	6,539	0	433,972	35.7
	Severe	28,512	15,030	9,007	176	96	0	12	0	52,833	4.3
	Total	329,186	283,300	559,081	1,450	1,151	159	42,140	101	1,216,568	100.0
Guinea-Pigs	Non-recovery	907	16,936	1,218	270	0	0	245	17	19,593	13.0
	Mild	2,351	6,091	61,775	1,115	0	0	1,834	0	73,166	48.7
	Moderate	1,172	2,285	38,110	45	0	0	277	19	41,908	27.9
	Severe	85	702	14,690	0	0	0	0	0	15,477	10.3
	Total	4,515	26,014	115,793	1,430	0	0	2,356	36	150,144	100.0
Hamsters (Syrian)	Non-recovery	525	183	0	0	0	0	17	0	725	3.6
	Mild	246	2,089	5,946	7	0	0	94	0	8,382	41.4
	Moderate	929	4,646	1,019	0	0	0	0	0	6,594	32.6
	Severe	77	563	3,725	173	0	0	0	0	4,538	22.4
	Total	1,777	7,481	10,690	180	0	0	111	0	20,239	100.0
Hamsters (Chinese)	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	0	0	30	0	0	0	0	0	30	100.0
	Moderate	0	0	0	0	0	0	0	0	0	0.0
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	0	0	30	0	0	0	0	0	30	100.0
Mongolian gerbil	Non-recovery	268	0	0	0	0	0	26	0	294	4.5
	Mild	644	1,570	1,489	167	0	0	23	0	3,893	59.0
	Moderate	523	949	110	19	0	0	30	0	1,631	24.7
	Severe	112	667	6	0	0	0	0	0	785	11.9
	Total	1,547	3,186	1,605	186	0	0	79	0	6,603	100.0
Other rodents	Non-recovery	559	0	0	0	0	42	83	0	684	2.5
	Mild	5,646	1,977	8,354	38	647	113	175	0	16,950	63.1
	Moderate	8,010	404	82	0	0	160	2	0	8,658	32.2
	Severe	81	509	1	0	0	0	0	0	591	2.2
	Total	14,296	2,890	8,437	38	647	315	260	0	26,883	100.0
Rabbits	Non-recovery	5,793	2,785	3,124	0	0	0	952	0	12,654	3.5
	Mild	5,867	5,401	75,619	165,138	233	0	837	0	253,095	70.1
	Moderate	7,310	6,991	23,119	48,056	0	0	279	0	85,755	23.7
	Severe	2,926	871	1,159	4,738	4	0	0	0	9,698	2.7
	Total	21,896	16,048	103,021	217,932	237	0	2,068	0	361,202	100.0
Cats	Non-recovery	68	0	1	0	0	0	0	0	69	2.2
	Mild	635	565	987	0	0	0	48	0	2,235	70.2
	Moderate	100	325	159	18	0	0	1	0	603	18.9
	Severe	0	225	53	0	0	0	0	0	278	8.7
	Total	803	1,115	1,200	18	0	0	49	0	3,185	100.0
Dogs	Non-recovery	14	219	328	2	6	0	10	0	579	2.7
	Mild	1,264	6,302	7,335	237	6	0	521	0	15,665	72.1
	Moderate	56	1,466	3,382	0	0	0	14	0	4,918	22.6
	Severe	21	365	191	0	0	0	0	0	577	2.7
	Total	1,355	8,352	11,236	239	12	0	545	0	21,739	100.0
Ferrets	Non-recovery	111	0	0	0	0	0	14	0	125	5.3
	Mild	61	745	680	6	0	0	70	0	1,562	66.4
	Moderate	172	295	151	0	0	0	17	0	635	27.0
	Severe	0	22	8	0	0	0	0	0	30	1.3
	Total	344	1,062	839	6	0	0	101	0	2,352	100.0

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Other carnivores	Non-recovery	5	0	0	2	0	0	0	0	7	0.2
	Mild	1,583	696	220	0	170	62	0	0	2,731	73.3
	Moderate	169	176	622	0	0	0	0	0	967	26.0
	Severe	9	10	0	0	0	0	0	0	19	0.5
	Total	1,766	882	842	2	170	62	0	0	3,724	100.0
Horses, donkeys and cross-breeds	Non-recovery	78	35	0	0	0	34	24	0	171	1.4
	Mild	2,418	890	141	7,669	1	0	265	0	11,384	94.3
	Moderate	100	292	12	107	0	0	0	0	511	4.2
	Severe	0	0	0	2	0	0	0	0	2	0.0
	Total	2,596	1,217	153	7,778	1	34	289	0	12,068	100.0
Pigs	Non-recovery	5,366	2,719	9	21	0	0	5,962	0	14,077	18.2
	Mild	14,887	15,664	12,225	255	780	3	2,549	0	46,363	59.9
	Moderate	4,217	7,474	2,456	15	8	0	964	0	15,134	19.6
	Severe	429	1,168	229	0	0	0	0	0	1,826	2.4
	Total	24,899	27,025	14,919	291	788	3	9,475	0	77,400	100.0
Goats	Non-recovery	0	46	0	0	0	0	6	0	52	2.0
	Mild	829	948	115	22	0	0	184	0	2,098	79.4
	Moderate	85	366	6	5	10	0	8	0	480	18.2
	Severe	8	3	0	0	0	0	0	0	11	0.4
	Total	922	1,363	121	27	10	0	198	0	2,641	100.0
Sheep	Non-recovery	96	212	16	0	0	0	571	0	895	1.4
	Mild	6,412	6,717	1,892	40,923	370	62	756	121	57,253	91.1
	Moderate	1,535	2,018	73	136	2	0	149	0	3,913	6.2
	Severe	398	407	0	0	0	0	0	0	805	1.3
	Total	8,441	9,354	1,981	41,059	372	62	1,476	121	62,866	100.0
Cattle	Non-recovery	111	32	0	0	0	0	8	0	151	0.4
	Mild	14,047	8,885	3,489	138	715	0	3,246	6	30,526	84.0
	Moderate	1,610	1,629	479	15	11	0	1,599	0	5,343	14.7
	Severe	23	293	12	0	0	0	9	0	337	0.9
	Total	15,791	10,839	3,980	153	726	0	4,862	6	36,357	100.0
Prosimians	Non-recovery	2	0	0	0	0	0	0	0	2	0.8
	Mild	189	0	0	0	0	0	0	0	189	73.0
	Moderate	65	1	0	0	0	0	0	0	66	25.5
	Severe	2	0	0	0	0	0	0	0	2	0.8
	Total	258	1	0	0	0	0	0	0	259	100.0
Marmoset and tamarins	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	147	24	124	84	0	0	6	0	385	62.7
	Moderate	108	57	38	0	0	0	0	0	203	33.1
	Severe	18	8	0	0	0	0	0	0	26	4.2
	Total	273	89	162	84	0	0	6	0	614	100.0
Squirrel monkey	Non-recovery	4	0	0	0	0	0	0	0	4	30.8
	Mild	2	0	0	0	0	0	0	0	2	15.4
	Moderate	7	0	0	0	0	0	0	0	7	53.8
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	13	0	0	0	0	0	0	0	13	100.0
Other species of new world monkeys (Ceboidea)	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	24	0	0	0	0	0	0	0	24	100.0
	Moderate	0	0	0	0	0	0	0	0	0	0.0
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	24	0	0	0	0	0	0	0	24	100.0
Cynomolgus monkey	Non-recovery	15	74	8	10	0	0	0	0	107	1.1
	Mild	30	531	3,513	2,053	0	0	23	0	6,150	65.4
	Moderate	95	460	2,336	0	0	0	0	0	2,891	30.8
	Severe	0	132	118	1	0	0	0	0	251	2.7
	Total	140	1,197	5,975	2,064	0	0	23	0	9,399	100.0
Rhesus monkey	Non-recovery	21	1	0	0	0	0	0	0	22	4.8
	Mild	81	109	54	32	0	0	5	0	281	61.9
	Moderate	113	38	0	0	0	0	0	0	151	33.3
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	215	148	54	32	0	0	5	0	454	100.0

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Vervets (Chlorocebus spp.)	Non-recovery	0	39	0	0	0	0	0	0	39	69.6
	Mild	0	13	0	0	0	0	0	0	13	23.2
	Moderate	0	4	0	0	0	0	0	0	4	7.1
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	0	56	0	0	0	0	0	0	56	100.0
Baboons	Non-recovery	0	2	0	0	0	0	0	0	2	4.8
	Mild	1	0	0	0	0	0	0	0	1	2.4
	Moderate	11	18	0	0	0	0	0	0	29	69.0
	Severe	0	10	0	0	0	0	0	0	10	23.8
	Total	12	30	0	0	0	0	0	0	42	100.0
Other species of old world monkeys (Cercopithecoidea)	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	8	1	0	0	0	0	0	0	9	100.0
	Moderate	0	0	0	0	0	0	0	0	0	0.0
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	8	1	0	0	0	0	0	0	9	100.0
Other mammals	Non-recovery	997	86	0	0	0	0	0	0	1,083	9.7
	Mild	6,445	1,303	125	34	544	205	73	0	8,729	78.0
	Moderate	990	345	15	0	0	0	0	0	1,350	12.1
	Severe	14	6	0	12	0	0	0	0	32	0.3
	Total	8,446	1,740	140	46	544	205	73	0	11,194	100.0
Domestic fowl	Non-recovery	8,840	3,226	120	379	0	0	607	0	13,172	2.5
	Mild	53,827	60,665	138,520	91,027	2,485	939	6,029	0	353,492	67.8
	Moderate	84,815	15,538	24,207	15,283	34	0	526	0	140,403	26.9
	Severe	914	7,268	5,614	231	58	0	0	0	14,085	2.7
	Total	148,396	86,697	168,461	106,920	2,577	939	7,162	0	521,152	100.0
Other birds	Non-recovery	1,400	20	80	0	0	6	6	0	1,512	1.2
	Mild	44,392	13,725	5,186	521	2,740	573	602	11	67,750	55.7
	Moderate	6,112	3,899	429	41,031	0	45	18	0	51,534	42.4
	Severe	88	160	599	0	1	0	0	0	848	0.7
	Total	51,992	17,804	6,294	41,552	2,741	624	626	11	121,644	100.0
Reptiles	Non-recovery	505	0	0	0	0	0	0	0	505	13.2
	Mild	2,274	0	0	300	93	0	33	0	2,700	70.5
	Moderate	581	0	0	0	0	46	0	0	627	16.4
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	3,360	0	0	300	93	46	33	0	3,832	100.0
Rana	Non-recovery	25	0	0	0	0	0	206	0	231	4.7
	Mild	85	0	0	0	0	0	789	0	874	17.9
	Moderate	4	0	132	0	600	0	1,865	0	2,601	53.3
	Severe	1,178	0	0	0	0	0	0	0	1,178	24.1
	Total	1,292	0	132	0	600	0	2,860	0	4,884	100.0
Xenopus	Non-recovery	528	0	0	0	0	0	188	0	716	3.8
	Mild	13,844	703	719	0	8	0	57	0	15,331	80.7
	Moderate	1,310	551	0	0	840	0	0	0	2,701	14.2
	Severe	241	0	1	0	0	0	0	0	242	1.3
	Total	15,923	1,254	720	0	848	0	245	0	18,990	100.0
Other amphibians	Non-recovery	1,262	0	0	0	5	0	49	0	1,316	6.4
	Mild	3,966	57	0	0	6,692	3,881	200	0	14,796	72.4
	Moderate	2,560	7	60	0	0	12	2	0	2,641	12.9
	Severe	1,476	0	0	0	205	0	0	0	1,681	8.2
	Total	9,264	64	60	0	6,902	3,893	251	0	20,434	100.0
Zebra fish	Non-recovery	7,702	585	635	0	21	0	124	0	9,067	2.6
	Mild	200,713	28,169	20,063	0	3,996	0	1,426	0	254,367	74.1
	Moderate	26,004	22,065	15,495	0	200	0	89	0	63,853	18.6
	Severe	4,172	4,931	6,872	0	3	0	0	0	15,978	4.7
	Total	238,591	55,750	43,065	0	4,220	0	1,639	0	343,265	100.0
Other fish	Non-recovery	15,185	3,694	1,922	0	10,565	3,999	1,303	0	36,668	3.9
	Mild	516,527	63,729	71,130	25	61,392	18,759	11,442	0	743,004	79.1
	Moderate	48,780	40,111	5,524	0	2,899	2,252	191	0	99,757	10.6
	Severe	18,371	19,884	18,216	0	3,718	0	20	0	60,209	6.4
	Total	598,863	127,418	96,792	25	78,574	25,010	12,956	0	939,638	100.0

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Cephalopods	Non-recovery	0	8	0	0	0	0	12	0	20	0.1
	Mild	2	15,840	0	0	0	0	0	0	15,842	99.9
	Moderate	0	0	0	0	0	0	0	0	0	0.0
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	2	15,848	0	0	0	0	12	0	15,862	100.0
All Species	Non-recovery	349,821	182,133	26,956	762	10,597	4,493	47,250	22	622,034	6.4
	Mild	2,538,683	915,244	1,363,580	314,012	84,612	31,062	83,082	274	5,330,549	54.5
	Moderate	1,377,452	893,549	579,013	121,714	5,297	2,515	31,421	19	3,010,980	30.8
	Severe	247,864	160,335	386,803	19,006	4,328	0	671	0	819,007	8.4
	Total	4,513,820	2,151,261	2,356,352	455,494	104,834	38,070	162,424	315	9,782,570	100.0

Table 5.1: Uses of animals in all sub-categories of research and testing by severities (2015)

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total	%
Basic research						
Oncology	16,863	205,653	241,475	52,413	516,404	5.3
Cardiovascular Blood and Lymphatic System	39,624	156,509	127,681	14,792	338,606	3.5
Nervous System	103,055	411,549	289,393	53,816	857,813	8.8
Respiratory System	4,852	30,596	46,781	3,549	85,778	0.9
Gastrointestinal System including Liver	36,535	95,497	67,130	8,871	208,033	2.1
Musculoskeletal System	6,569	52,664	29,437	4,000	92,670	0.9
Immune System	53,310	434,346	245,774	70,922	804,352	8.2
Urogenital/Reproductive System	11,677	96,984	25,900	3,396	137,957	1.4
Sensory Organs (skin, eyes and ears)	8,790	46,750	24,472	6,140	86,152	0.9
Endocrine System/Metabolism	27,929	118,434	60,363	2,402	209,128	2.1
Multisystemic	12,780	211,491	60,786	12,548	297,605	3
Ethology / Animal Behaviour /Animal Biology	7,084	534,729	57,298	6,128	605,239	6.2
Other basic research	20,753	143,481	100,962	8,887	274,083	2.8
Translational and applied research						
Human Cancer	4,050	138,664	320,931	28,675	492,320	5
Human Infectious Disorders	16,479	116,281	107,722	41,720	282,202	2.9
Human Cardiovascular Disorders	11,671	23,742	20,640	6,110	62,163	0.6
Human Nervous and Mental Disorders	18,038	182,111	127,563	18,187	345,899	3.5
Human Respiratory Disorders	6,321	29,296	28,519	2,248	66,384	0.7
Human Gastrointestinal Disorders including Liver	2,072	13,139	14,729	2,270	32,210	0.3
Human Musculoskeletal Disorders	1,323	12,085	15,687	2,179	31,274	0.3
Human Immune Disorders	6,168	36,602	31,252	3,228	77,250	0.8
Human Urogenital/Reproductive Disorders	1,460	5,618	9,769	1,058	17,905	0.2
Human Sensory Organ Disorders (skin, eyes and ears)	2,543	24,547	18,001	1,295	46,386	0.5
Human Endocrine/Metabolism Disorders	6,910	54,770	59,587	2,546	123,813	1.3
Other Human Disorders	75,126	15,772	13,396	1,479	105,773	1.1
Animal Diseases and Disorders	20,537	110,959	69,339	22,978	223,813	2.3
Animal Welfare	999	70,921	6,422	173	78,515	0.8
Diagnosis of diseases	3,560	36,920	23,984	20,499	84,963	0.9
Plant diseases	0	455	24	1	480	0
Non-regulatory toxicology and ecotoxicology	4,876	43,362	25,984	5,689	79,911	0.8
Regulatory use						
Quality control (incl batch safety and potency testing)						
Batch safety testing	0	192,119	26,350	10,348	228,817	2.3
Pyrogenicity testing	923	28,448	17,178	4	46,553	0.5
Batch potency testing	8,757	407,504	310,422	305,552	1,032,235	10.6
Other quality controls	264	21,932	1,325	1,410	24,931	0.3
Toxicity and other safety testing including pharmacology						
Acute and sub-acute toxicity testing methods						
LD50, LC50	4,688	29,893	6,651	17,079	58,311	0.6
Other lethal methods	1,364	753	1,219	494	3,830	0
Non lethal methods	412	18,621	10,784	2,303	32,120	0.3
Skin irritation/corrosion	249	3,603	880	41	4,773	0
Skin sensitisation	3,218	42,305	3,482	544	49,549	0.5
Eye irritation/corrosion	269	523	681	45	1,518	0
Repeated dose toxicity						
up to 28 days	1	45,957	25,616	2,118	73,692	0.8
29 - 90 days	0	20,121	7,224	678	28,023	0.3
> 90 days	884	9,690	7,010	611	18,195	0.2
Carcinogenicity	239	11,691	11,143	950	24,023	0.2
Genotoxicity	135	10,224	1,665	381	12,405	0.1
Reproductive toxicity	586	80,724	14,188	1,428	96,926	1
Developmental toxicity	724	99,384	11,244	1,674	113,026	1.2
Neurotoxicity	6	1,944	4,728	3,122	9,800	0.1
Kinetics	224	42,423	20,853	1,022	64,522	0.7
Pharmaco-dynamics (incl safety pharmacology)	1,073	65,901	37,813	5,977	110,764	1.1
Phototoxicity	0	468	122	6	596	0
Ecotoxicity						
Acute toxicity	2,557	43,678	2,958	10,901	60,094	0.6
Chronic toxicity	0	13,956	4,000	2,205	20,161	0.2
Reproductive ecotoxicity	0	3,637	0	16	3,653	0
Endocrine activity	0	2,050	7,538	322	9,910	0.1
Bioaccumulation	0	2,058	886	6	2,950	0
Other ecotoxicity	0	8,195	21	161	8,377	0.1
Safety testing in food and feed area	0	24,702	90	10,931	35,723	0.4
Target animal safety	0	11,791	3,103	224	15,118	0.2
Other toxicity/safety testing	141	11,383	3,686	318	15,528	0.2
Other efficacy and tolerance testing						
Other efficacy and tolerance testing	242	107,902	36,153	5,932	150,229	1.5
Routine production						
Blood based products	762	178,344	90,831	1,456	271,393	2.8
Monoclonal antibody by mouse ascites method	0	2,027	11,633	13,673	27,333	0.3
Other product types	0	133,641	19,250	3,877	156,768	1.6
Other						

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total	%
Protection of the natural environment in the interests of the health or welfare of human beings or animals	10,597	84,612	5,297	4,328	104,834	1.1
Preservation of species	4,493	31,062	2,515	0	38,070	0.4
Higher education or training for the acquisition, maintenance or improvement of vocational skills	47,250	83,082	31,421	671	162,424	1.7
Forensic enquiries	22	274	19	0	315	0
Total	622,034	5,330,549	3,010,980	819,007	9,782,570	100
%	6.4	54.5	30.8	8.4	100	

Table 6: Basic research related uses by species and type of research (2015)

	Oncology	Cardiovascular Blood and Lymphatic System	Nervous System	Respiratory System	Gastrointestinal System including Liver	Musculoskeletal System	Immune System	Urogenital/Reproductive System	Sensory Organs (skin, eyes and ears)	Endocrine System/Metabolism	Multisystemic	Ethology / Animal Behaviour / Animal Biology	Other basic research	Total	%
Mammals															
Rodents															
Mice	481,130	264,604	619,288	64,378	104,835	65,104	730,529	92,982	68,536	140,699	211,768	23,914	138,847	3,006,614	66.6
Rats	8,219	38,373	157,662	17,464	12,094	8,302	12,199	12,845	6,200	19,790	12,405	12,477	11,156	329,186	7.3
Guinea-Pigs	72	396	350	1,664	247	0	222	37	856	0	354	80	237	4,515	0.1
Hamsters (Syrian)	466	4	275	0	75	0	169	0	0	520	4	28	236	1,777	0
Hamsters (Chinese)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mongolian gerbil	0	0	841	0	104	0	74	0	285	0	0	38	205	1,547	0
Other rodents	226	0	267	0	30	0	1,203	67	87	535	331	3,945	7,605	14,296	0.3
Rabbits															
Rabbits	238	2,149	285	1,184	328	739	1,083	640	838	5,122	943	2,987	5,360	21,896	0.5
Carnivores															
Cats	40	109	81	0	62	31	10	14	61	135	177	55	28	803	0
Dogs	16	54	180	4	98	339	4	75	35	42	270	156	82	1,355	0
Ferrets	0	0	244	18	0	0	0	0	20	0	0	6	56	344	0
Other carnivores	0	0	0	0	0	0	0	330	0	180	9	1,237	10	1,766	0
Farm animals															
Horses, donkeys and cross-breeds	0	29	0	45	101	158	322	422	631	318	53	310	207	2,596	0.1
Pigs	179	1,796	531	556	7,094	430	1,418	845	241	1,195	1,265	7,016	2,333	24,899	0.6
Goats	0	22	2	0	55	0	39	138	0	30	53	259	324	922	0
Sheep	31	548	202	177	508	291	265	379	0	183	447	2,749	2,661	8,441	0.2
Cattle	16	239	52	41	934	0	965	3,113	0	1,398	2,341	6,014	678	15,791	0.3
Non-human primates															
Prosimians	0	0	59	0	0	0	0	0	0	138	0	61	0	258	0
Marmoset and tamarins	0	0	87	42	0	38	0	54	0	0	52	0	0	273	0
Squirrel monkey	0	0	13	0	0	0	0	0	0	0	0	0	0	13	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0	24	0	24	0
Cynomolgus monkey	4	0	101	0	0	6	15	0	0	5	1	4	4	140	0
Rhesus monkey	0	61	121	0	0	0	18	0	0	4	0	0	11	215	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Baboons	0	0	9	0	0	0	3	0	0	0	0	0	0	12	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0
Other mammals															
Other mammals	0	2	200	0	10	726	154	57	9	14	5	7,097	172	8,446	0.2
Birds															
Domestic fowl	1,026	700	2,711	20	24,691	31	4,326	908	211	4,673	7,116	29,257	72,726	148,396	3.3
Other birds	24	593	470	0	780	52	1,897	132	14	446	4,060	38,279	5,245	51,992	1.2
Reptiles															
Reptiles	0	45	332	30	0	0	0	0	0	0	4	2,896	53	3,360	0.1
Amphibians															
Rana	800	0	0	0	0	0	0	0	10	0	0	482	0	1,292	0
Xenopus	437	371	2,990	0	328	45	0	2,021	719	664	858	284	7,206	15,923	0.4
Other amphibians	0	27	19	0	0	751	0	14	202	0	0	5,626	2,625	9,264	0.2
Fish															
Zebra fish	20,341	28,026	67,207	54	922	15,578	24,086	15,808	7,057	11,823	29,073	6,051	12,565	238,591	5.3
Other fish	3,139	458	3,234	101	54,737	49	25,351	7,076	140	21,214	26,016	453,898	3,450	598,863	13.3
Cephalopods															
Cephalopods	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0
Totals															
Total	516,404	338,606	857,813	85,778	208,033	92,670	804,352	137,957	86,152	209,128	297,605	605,239	274,083	4,513,820	100
%	11.4	7.5	19	1.9	4.6	2.1	17.8	3.1	1.9	4.6	6.6	13.4	6.1	100	

Table 7.1: Translational and applied research related uses by species and type of research (Part 1) (2015)

	Human Cancer	Human Infectious Disorders	Human Cardiovascular Disorders	Human Nervous and Mental Disorders	Human Respiratory Disorders	Human Gastrointestinal Disorders including Liver	Human Musculoskeletal Disorders	Human Immune Disorders	Urogenital/Reproductive Disorders	Human
Mammals										
Rodents										
Mice	480,841	239,021	41,262	214,488	35,801	24,619	21,550	70,732		11,394
Rats	7,583	9,986	14,778	112,839	23,188	6,515	6,763	5,785		3,451
Guinea-Pigs	2	930	586	607	5,836	55	280	121		53
Hamsters (Syrian)	390	5,109	134	65	0	0	0	0		4
Hamsters (Chinese)	0	0	0	0	0	0	0	0		0
Mongolian gerbil	216	1,089	0	75	28	0	0	0		0
Other rodents	0	2,101	0	494	0	0	0	80		0
Rabbits										
Rabbits	1,283	1,164	796	143	875	124	1,062	146		18
Carnivores										
Cats	0	0	0	0	0	38	0	0		0
Dogs	54	36	97	747	98	29	86	43		6
Ferrets	0	885	0	0	0	64	0	0		0
Other carnivores	0	4	0	0	0	0	0	0		0
Farm animals										
Horses, donkeys and cross-breeds	0	92	0	0	0	0	25	5		0
Pigs	250	108	2,728	203	417	704	110	274		391
Goats	11	0	18	5	0	0	111	0		7
Sheep	24	1,781	525	207	38	5	784	0		211
Cattle	0	113	39	0	46	0	0	0		16
Non-human primates										
Prosimians	0	0	0	1	0	0	0	0		0
Marmoset and tamarins	0	4	0	38	0	0	0	4		0
Squirrel monkey	0	0	0	0	0	0	0	0		0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0		0
Cynomolgus monkey	3	479	38	129	57	57	5	49		1
Rhesus monkey	3	127	0	12	0	0	0	0		2
Vervets (Chlorocebus spp.)	0	4	0	0	0	0	0	0		0
Baboons	0	0	6	0	0	0	0	0		6
Other species of old world monkeys (Cercopithecoidea)	0	1	0	0	0	0	0	0		0
Other mammals										
Other mammals	34	487	6	15	0	0	0	6		21
Birds										
Domestic fowl	509	97	0	0	0	0	0	2		0
Other birds	0	6,502	0	0	0	0	0	3		0
Reptiles										
Reptiles	0	0	0	0	0	0	0	0		0
Amphibians										
Rana	0	0	0	0	0	0	0	0		0
Xenopus	0	0	44	25	0	0	0	0		0
Other amphibians	0	0	0	18	0	0	0	0		0
Fish										
Zebra fish	1,113	12,082	1,106	15,788	0	0	498	0		2,324
Other fish	4	0	0	0	0	0	0	0		0
Cephalopods										
Cephalopods	0	0	0	0	0	0	0	0		0
Totals										
Total	492,320	282,202	62,163	345,899	66,384	32,210	31,274	77,250		17,905
%	22.9	13.1	2.9	16.1	3.1	1.5	1.5	3.6		0.8

Table 7.2: Translational and applied research related uses by species and type of research (Part 2) (2015)

	Human Sensory Organ Disorders (skin, eyes and ears)	Human Endocrine/Metabolism Disorders	Other Human Disorders	Animal Diseases and Disorders	Animal Welfare	Diagnosis of diseases	Plant diseases	Non-regulatory toxicology and ecotoxicology	Total	%
Mammals										
Rodents										
Mice	38,408	79,739	73,176	44,132	4,092	46,755	6	17,020	1,443,036	67.1
Rats	6,095	41,142	15,021	1,549	723	4,665	419	22,798	283,300	13.2
Guinea-Pigs	403	18	13,705	1,934	243	1,080	0	161	26,014	1.2
Hamsters (Syrian)	0	682	218	790	0	78	0	11	7,481	0.3
Hamsters (Chinese)	0	0	0	0	0	0	0	0	0	0
Mongolian gerbil	12	0	0	1,704	0	0	0	62	3,186	0.1
Other rodents	0	0	0	145	0	0	0	70	2,890	0.1
Rabbits										
Rabbits	1,006	115	1,315	5,968	10	862	44	1,117	16,048	0.7
Carnivores										
Cats	0	0	0	1,028	8	36	0	5	1,115	0.1
Dogs	28	257	291	5,265	19	84	0	1,212	8,352	0.4
Ferrets	0	0	0	40	52	21	0	0	1,062	0
Other carnivores	0	0	0	346	532	0	0	0	882	0
Farm animals										
Horses, donkeys and cross-breeds	0	0	0	731	264	100	0	0	1,217	0.1
Pigs	253	1,395	529	15,412	3,489	136	11	615	27,025	1.3
Goats	0	0	2	1,151	51	7	0	0	1,363	0.1
Sheep	10	0	2	4,508	332	895	0	32	9,354	0.4
Cattle	0	0	264	8,016	2,156	175	0	14	10,839	0.5
Non-human primates										
Prosimians	0	0	0	0	0	0	0	0	1	0
Marmoset and tamarins	0	14	12	0	0	0	0	17	89	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Cebioidea)	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	32	55	1	0	0	0	0	291	1,197	0.1
Rhesus monkey	0	4	0	0	0	0	0	0	148	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	52	56	0
Baboons	0	0	0	0	0	0	0	18	30	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	1	0
Other mammals										
Other mammals	0	17	0	490	45	619	0	0	1,740	0.1
Birds										
Domestic fowl	0	0	271	63,761	19,857	1,825	0	375	86,697	4
Other birds	0	0	165	7,706	492	2,936	0	0	17,804	0.8
Reptiles										
Reptiles	0	0	0	0	0	0	0	0	0	0
Amphibians										
Rana	0	0	0	0	0	0	0	0	0	0
Xenopus	12	0	0	0	0	0	0	1,173	1,254	0.1
Other amphibians	0	0	15	24	7	0	0	0	64	0
Fish										
Zebra fish	127	375	786	888	0	0	0	20,663	55,750	2.6
Other fish	0	0	0	58,217	30,303	24,689	0	14,205	127,418	5.9
Cephalopods										
Cephalopods	0	0	0	8	15,840	0	0	0	15,848	0.7
Totals										
Total	46,386	123,813	105,773	223,813	78,515	84,963	480	79,911	2,151,261	100
%	2.2	5.8	4.9	10.4	3.6	3.9	0	3.7	100	

Table 8: Regulatory uses by species and type of use (2015)

	Quality				Toxicity	Other		Total	%
	Quality: Batch safety testing	Quality: Pyrogenicity testing	Quality: Batch potency testing	Quality: Other quality controls	Toxicity and other safety testing including pharmacology	Other efficacy and tolerance testing			
Mammals									
Rodents									
Mice	131,742	10	715,180	17,685	257,936	78,016	1,200,569	51	
Rats	14,935	0	147,981	1,573	388,116	6,476	559,081	23.7	
Guinea-Pigs	20,617	0	62,455	1,202	30,923	596	115,793	4.9	
Hamsters	2,025	0	5,326	352	1,259	1,728	10,690	0.5	
Hamsters (Syrian)	0	0	0	0	30	0	30	0	
Mongolian gerbil	0	0	0	0	1,581	24	1,605	0.1	
Other rodents	67	0	0	0	8,370	0	8,437	0.4	
Rabbits									
Rabbits	3,375	46,543	19,762	235	30,692	2,414	103,021	4.4	
Carnivores									
Cats	145	0	103	0	723	229	1,200	0.1	
Dogs	285	0	17	0	9,877	1,057	11,236	0.5	
Ferrets	621	0	0	0	171	47	839	0	
Other carnivores	556	0	0	0	142	144	842	0	
Farm animals									
Horses, donkeys and cross-breeds	9	0	4	0	47	93	153	0	
Pigs	2,621	0	2,177	109	4,285	5,727	14,919	0.6	
Goats	6	0	48	0	67	0	121	0	
Sheep	608	0	567	21	683	102	1,981	0.1	
Cattle	297	0	1,584	6	769	1,324	3,980	0.2	
Non-human primates									
Prosimians	0	0	0	0	0	0	0	0	
Marmoset and tamarins	0	0	0	0	162	0	162	0	
Squirrel monkey	0	0	0	0	0	0	0	0	
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	
Cynomolgus monkey	18	0	0	0	5,954	3	5,975	0.3	
Rhesus monkey	0	0	0	0	23	31	54	0	
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	
Baboons	0	0	0	0	0	0	0	0	
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	
Other mammals									
Other mammals	0	0	0	0	77	63	140	0	
Birds									
Domestic fowl	48,806	0	72,451	3,046	16,511	27,647	168,461	7.1	
Other birds	1,884	0	547	180	2,585	1,098	6,294	0.3	
Reptiles									
Reptiles	0	0	0	0	0	0	0	0	
Amphibians									
Rana	0	0	0	0	132	0	132	0	
Xenopus	0	0	0	0	720	0	720	0	
Other amphibians	0	0	0	0	60	0	60	0	
Fish									
Zebra fish	0	0	0	86	42,979	0	43,065	1.8	
Other fish	200	0	4,033	436	68,713	23,410	96,792	4.1	
Cephalopods									
Cephalopods	0	0	0	0	0	0	0	0	
Totals									
Total	228,817	46,553	1,032,235	24,931	873,587	150,229	2,356,352	100	
%	9.7	2	43.8	1.1	37.1	6.4	100		

Table 9.1: Toxicity and other safety testing including pharmacology by species and type of use (Part 1) (2015)

	Acute				Repeated Dose					Carcinogenicity	Genotoxicity	Developmental toxicity	Safety testing in food and feed area
	LDS0, LC50	Other lethal methods	Non lethal methods	Skin irritation / corrosion	Skin sensitisation	Eye irritation / corrosion	up to 28 days	29 - 90 days	> 90 days				
Mammals													
Rodents													
Mice	39,713	1,671	13,492	0	21,683	0	22,683	3,722	2,159	9,083	6,165	644	33,105
Rats	6,638	1,168	12,846	400	69	49	44,025	21,197	12,227	14,940	6,148	104,091	0
Guinea-Pigs	342	0	1,373	19	27,653	22	0	0	0	0	0	0	0
Hamsters (Syrian)	0	0	334	139	7	0	395	0	200	0	4	0	0
Hamsters (Chinese)	0	0	0	0	0	0	0	0	0	0	30	0	0
Mongolian gerbil	0	0	0	0	0	0	0	0	0	0	0	0	0
Other rodents	0	0	0	0	0	0	0	0	0	0	0	0	0
Rabbits													
Rabbits	0	0	1,165	4,182	129	1,447	1,310	740	224	0	58	6,961	32
Carnivores													
Cats	0	0	0	0	0	0	0	9	0	0	0	0	0
Dogs	0	0	671	0	0	0	2,993	1,211	1,431	0	0	14	38
Ferrets	0	0	0	0	0	0	146	0	0	0	0	0	0
Other carnivores	58	0	0	0	0	0	0	0	0	0	0	0	0
Farm animals													
Horses, donkeys and cross-breeds	0	0	0	0	0	0	0	0	0	0	0	0	0
Pigs	0	0	147	33	8	0	716	376	369	0	0	0	91
Goats	0	0	0	0	0	0	0	0	0	0	0	0	0
Sheep	0	0	0	0	0	0	0	0	0	0	0	0	344
Cattle	0	0	0	0	0	0	0	0	0	0	0	0	176
Non-human primates													
Prosimians	0	0	0	0	0	0	0	0	0	0	0	0	0
Marmoset and tamarins	0	0	0	0	0	0	0	6	36	0	0	0	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	0	0	128	0	0	0	1,421	762	1,549	0	0	113	0
Rhesus monkey	0	0	0	0	0	0	3	0	0	0	0	0	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Baboons	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other mammals													
Other mammals	0	0	0	0	0	0	0	0	0	0	0	0	0
Birds													
Domestic fowl	3,570	0	0	0	0	0	0	0	0	0	0	0	1,505
Other birds	80	0	40	0	0	0	0	0	0	0	0	0	0
Reptiles													
Reptiles	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphibians													
Rana	0	0	0	0	0	0	0	0	0	0	0	0	0
Xenopus	0	0	0	0	0	0	0	0	0	0	0	0	0
Other amphibians	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish													
Zebra fish	2,101	991	1,579	0	0	0	0	0	0	0	0	800	0
Other fish	5,809	0	345	0	0	0	0	0	0	0	0	403	432
Cephalopods													
Cephalopods	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals													
Total	58,311	3,830	32,120	4,773	49,549	1,518	73,692	28,023	18,195	24,023	12,405	113,026	35,723
%	6.7	0.4	3.7	0.5	5.7	0.2	8.5	3.2	2.1	2.8	1.4	13	4.1

Table 9.2: Toxicity and other safety testing including pharmacology by species and type of use (Part 2) (2015)

	Target animal safety	Neurotoxicity	Kinetics	Pharmacodynamics (incl safety pharmacology)	Phototoxicity	EcoToxicity						Other toxicity / safety testing	Total	%
						Acute toxicity	Chronic toxicity	Reproductive toxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity			
Mammals														
Rodents														
Mice	632	484	29,729	60,090	420	6,495	81	160	0	0	0	5,725	257,936	29.7
Rats	60	916	27,815	42,105	112	1,864	896	85,462	0	58	0	5,030	388,116	44.6
Guinea-Pigs	0	0	102	1,111	64	137	0	0	0	0	0	100	30,923	3.6
Hamsters (Syrian)	0	0	23	100	0	0	0	0	0	0	0	57	1,259	0.1
Hamsters (Chinese)	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Mongolian gerbil	0	0	0	1,581	0	0	0	0	0	0	0	0	1,581	0.2
Other rodents	314	0	0	0	0	0	0	0	0	0	5,201	2,855	8,370	1
Rabbits														
Rabbits	38	0	838	2,097	0	27	0	11,104	0	0	0	340	30,692	3.5
Carnivores														
Cats	155	0	437	78	0	0	0	0	0	18	0	26	723	0.1
Dogs	173	0	2,066	942	0	0	0	0	0	0	0	338	9,877	1.1
Ferrets	0	0	0	25	0	0	0	0	0	0	0	0	171	0
Other carnivores	84	0	0	0	0	0	0	0	0	0	0	0	142	0
Farm animals														
Horses, donkeys and cross-breeds	28	0	19	0	0	0	0	0	0	0	0	0	47	0
Pigs	871	0	1,072	352	0	0	0	9	0	0	6	235	4,285	0.5
Goats	0	0	66	0	0	0	0	0	0	0	0	1	67	0
Sheep	20	0	242	21	0	0	0	0	0	0	0	56	683	0.1
Cattle	23	0	355	20	0	0	0	0	0	0	0	195	769	0.1
Non-human primates														
Prosimians	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marmoset and tamarins	0	0	37	22	0	0	0	0	0	0	0	61	162	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	0	0	1,013	298	0	0	0	191	0	0	0	479	5,954	0.7
Rhesus monkey	0	0	20	0	0	0	0	0	0	0	0	0	23	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Baboons	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other mammals														
Other mammals	77	0	0	0	0	0	0	0	0	0	0	0	77	0
Birds														
Domestic fowl	10,781	0	610	0	0	15	0	0	0	0	0	30	16,511	1.9
Other birds	312	0	78	0	0	1,125	0	0	0	0	154	0	1,789	0.2
Reptiles														
Reptiles	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphibians														
Rana	0	0	0	0	0	132	0	0	0	0	0	0	132	0
Xenopus	0	0	0	0	0	0	0	0	720	0	0	0	720	0.1
Other amphibians	0	0	0	0	0	0	60	0	0	0	0	0	60	0
Fish														
Zebra fish	120	8,400	0	1,410	0	7,246	8,362	0	8,210	591	812	0	40,622	4.7
Other fish	1,430	0	0	512	0	43,053	10,762	0	980	2,283	2,204	0	68,213	7.8
Cephalopods														
Cephalopods	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals														
Total	15,118	9,800	64,522	110,764	596	60,094	20,161	96,926	9,910	2,950	8,377	15,528	869,934	100
%	1.7	1.1	7.4	12.7	0.1	6.9	2.3	11.1	1.1	0.3	1	1.8	100	

Table 10: Regulatory uses by species and type of legislation (2015)

	Legislation on medicinal products for human use	Legislation on medicinal products for veterinary use and their residues	Medical devices legislation	Industrial chemicals legislation	Plant protection product legislation	Biocides legislation	Food legislation including food contact material	Feed legislation including legislation for the safety of target animals, workers and environment	Other legislation	Total	%
Mammals											
Rodents											
Mice	988,107	124,591	16,001	13,014	10,086	1,966	41,099	3,683	2,022	1,200,569	51
Rats	349,497	12,869	3,976	152,321	31,060	1,488	4,564	223	3,083	559,081	23.7
Guinea-Pigs	73,760	16,106	21,660	2,432	1,412	105	38	0	280	115,793	4.9
Hamsters (Syrian)	1,212	8,866	591	10	0	0	0	0	11	10,690	0.5
Hamsters (Chinese)	0	0	0	30	0	0	0	0	0	30	0
Mongolian gerbil	35	1,570	0	0	0	0	0	0	0	1,605	0.1
Other rodents	67	0	0	0	8,370	0	0	0	0	8,437	0.4
Rabbits											
Rabbits	71,027	14,746	4,527	9,792	1,390	86	35	4	1,414	103,021	4.4
Carnivores											
Cats	58	1,142	0	0	0	0	0	0	0	1,200	0.1
Dogs	8,843	1,906	32	60	158	0	0	12	225	11,236	0.5
Ferrets	792	47	0	0	0	0	0	0	0	839	0
Other carnivores	0	818	0	0	0	0	0	0	24	842	0
Farm animals											
Horses, donkeys and cross-breeds	8	121	0	0	0	0	0	0	24	153	0
Pigs	3,339	10,169	297	0	1	0	98	967	48	14,919	0.6
Goats	52	51	0	0	18	0	0	0	0	121	0
Sheep	13	1,385	172	0	0	0	338	16	57	1,981	0.1
Cattle	0	3,303	0	0	123	0	0	406	148	3,980	0.2
Non-human primates											
Prosimians	0	0	0	0	0	0	0	0	0	0	0
Marmoset and tamarins	162	0	0	0	0	0	0	0	0	162	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	5,962	0	0	0	0	0	0	0	13	5,975	0.3
Rhesus monkey	54	0	0	0	0	0	0	0	0	54	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0
Baboons	0	0	0	0	0	0	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0
Other mammals											
Other mammals	0	140	0	0	0	0	0	0	0	140	0
Birds											
Domestic fowl	1,547	157,170	0	0	525	0	160	9,059	0	168,461	7.1
Other birds	80	3,082	0	24	2,091	0	57	960	0	6,294	0.3
Reptiles											
Reptiles	0	0	0	0	0	0	0	0	0	0	0
Amphibians											
Rana	0	0	0	0	132	0	0	0	0	132	0
Xenopus	0	0	0	0	0	0	0	0	720	720	0
Other amphibians	0	0	0	0	60	0	0	0	0	60	0
Fish											
Zebra fish	7,946	2,511	0	7,122	4,442	1,109	0	1,512	18,423	43,065	1.8
Other fish	5,562	7,978	14	11,145	12,216	142	953	23,410	35,372	96,792	4.1
Cephalopods											
Cephalopods	0	0	0	0	0	0	0	0	0	0	0
Totals											
Total	1,518,123	368,571	47,270	195,950	72,084	4,896	47,342	40,252	61,864	2,356,352	100
%	64.4	15.6	2	8.3	3.1	0.2	2	1.7	2.6	100	

Table 11: Regulatory uses by species and origin of regulatory requirement (2015)

	Legislation satisfying EU requirements	Legislation satisfying national requirements only [within EU]	Legislation satisfying Non-EU requirements only	Total	%
Mammals					
Rodents					
Mice	1,128,543	21,105	50,921	1,200,569	51
Rats	548,222	1,121	9,738	559,081	23.7
Guinea-Pigs	105,812	0	9,981	115,793	4.9
Hamsters (Syrian)	10,353	157	180	10,690	0.5
Hamsters (Chinese)	30	0	0	30	0
Mongolian gerbil	1,605	0	0	1,605	0.1
Other rodents	8,437	0	0	8,437	0.4
Rabbits					
Rabbits	90,220	15	12,786	103,021	4.4
Carnivores					
Cats	1,198	0	2	1,200	0.1
Dogs	11,183	13	40	11,236	0.5
Ferrets	839	0	0	839	0
Other carnivores	818	24	0	842	0
Farm animals					
Horses, donkeys and cross-breeds	153	0	0	153	0
Pigs	13,607	69	1,243	14,919	0.6
Goats	121	0	0	121	0
Sheep	1,974	1	6	1,981	0.1
Cattle	3,966	2	12	3,980	0.2
Non-human primates					
Prosimians	0	0	0	0	0
Marmoset and tamarins	162	0	0	162	0
Squirrel monkey	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0
Cynomolgus monkey	5,963	0	12	5,975	0.3
Rhesus monkey	54	0	0	54	0
Vervets (Chlorocebus spp.)	0	0	0	0	0
Baboons	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0
Other mammals					
Other mammals	140	0	0	140	0
Birds					
Domestic fowl	162,369	341	5,751	168,461	7.1
Other birds	6,072	206	16	6,294	0.3
Reptiles					
Reptiles	0	0	0	0	0
Amphibians					
Rana	132	0	0	132	0
Xenopus	720	0	0	720	0
Other amphibians	60	0	0	60	0
Fish					
Zebra fish	39,955	3,110	0	43,065	1.8
Other fish	79,909	15,410	1,473	96,792	4.1
Cephalopods					
Cephalopods	0	0	0	0	0
Totals					
Total	2,222,617	41,574	92,161	2,356,352	100
%	94.3	1.8	3.9	100	

Table 12: Routine production uses by species and product type (2015)

	Blood based products	Other product types	Monoclonal antibody by mouse ascites method	Total	%
Mammals					
Rodents					
Mice	2,955	3,660	27,067	33,682	7.4
Rats	1,161	263	26	1,450	0.3
Guinea-Pigs	1,397	33	0	1,430	0.3
Hamsters (Syrian)	180	0	0	180	0
Hamsters (Chinese)	0	0	0	0	0
Mongolian gerbil	19	167	0	186	0
Other rodents	38	0	0	38	0
Rabbits					
Rabbits	174,320	43,372	240	217,932	47.8
Carnivores					
Cats	0	18	0	18	0
Dogs	239	0	0	239	0.1
Ferrets	6	0	0	6	0
Other carnivores	2	0	0	2	0
Farm animals					
Horses, donkeys and cross-breeds	7,760	18	0	7,778	1.7
Pigs	34	257	0	291	0.1
Goats	27	0	0	27	0
Sheep	39,517	1,542	0	41,059	9
Cattle	8	145	0	153	0
Non-human primates					
Prosimians	0	0	0	0	0
Marmoset and tamarins	84	0	0	84	0
Squirrel monkey	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0
Cynomolgus monkey	2,036	28	0	2,064	0.5
Rhesus monkey	32	0	0	32	0
Vervets (Chlorocebus spp.)	0	0	0	0	0
Baboons	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0
Other mammals					
Other mammals	31	15	0	46	0
Birds					
Domestic fowl	497	106,423	0	106,920	23.5
Other birds	41,050	502	0	41,552	9.1
Reptiles					
Reptiles	0	300	0	300	0.1
Amphibians					
Rana	0	0	0	0	0
Xenopus	0	0	0	0	0
Other amphibians	0	0	0	0	0
Fish					
Zebra fish	0	0	0	0	0
Other fish	0	25	0	25	0
Cephalopods					
Cephalopods	0	0	0	0	0
Totals					
Total	271,393	156,768	27,333	455,494	100
%	59.6	34.4	6	100	

Table 13: Reuses of animals by species and main categories of scientific purposes in research, testing routine production and education (2015)

	Reuse	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Mice	Yes	16,924	11,745	19,717	72	2	1,840	4,892	0	55,192	1.0
	No	2,989,690	1,431,291	1,180,852	33,610	3,619	4,878	67,632	40	5,711,612	99.0
	Total	3,006,614	1,443,036	1,200,569	33,682	3,621	6,718	72,524	40	5,766,804	100.0
Rats	Yes	3,592	5,596	3,347	169	0	0	2,645	30	15,379	1.3
	No	325,594	277,704	555,734	1,281	1,151	159	39,495	71	1,201,189	98.7
	Total	329,186	283,300	559,081	1,450	1,151	159	42,140	101	1,216,568	100.0
Guinea-Pigs	Yes	19	71	469	28	0	0	229	0	816	0.5
	No	4,496	25,943	115,324	1,402	0	0	2,127	36	149,328	99.5
	Total	4,515	26,014	115,793	1,430	0	0	2,356	36	150,144	100.0
Hamsters (Syrian)	Yes	28	0	0	0	0	0	16	0	44	0.2
	No	1,749	7,481	10,690	180	0	0	95	0	20,195	99.8
	Total	1,777	7,481	10,690	180	0	0	111	0	20,239	100.0
Hamsters (Chinese)	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	0	0	30	0	0	0	0	0	30	100.0
	Total	0	0	30	0	0	0	0	0	30	100.0
Mongolian gerbil	Yes	145	259	0	0	0	0	0	0	404	6.1
	No	1,402	2,927	1,605	186	0	0	79	0	6,199	93.9
	Total	1,547	3,186	1,605	186	0	0	79	0	6,603	100.0
Other rodents	Yes	757	0	0	0	22	0	16	0	795	3.0
	No	13,539	2,890	8,437	38	625	315	244	0	26,088	97.0
	Total	14,296	2,890	8,437	38	647	315	260	0	26,883	100.0
Rabbits	Yes	441	895	12,477	1,004	12	0	321	0	15,150	4.2
	No	21,455	15,153	90,544	216,928	225	0	1,747	0	346,052	95.8
	Total	21,896	16,048	103,021	217,932	237	0	2,068	0	361,202	100.0
Cats	Yes	282	389	492	0	0	0	47	0	1,210	38.0
	No	521	726	708	18	0	0	2	0	1,975	62.0
	Total	803	1,115	1,200	18	0	0	49	0	3,185	100.0
Dogs	Yes	460	3,163	2,971	231	6	0	407	0	7,238	33.3
	No	895	5,189	8,265	8	6	0	138	0	14,501	66.7
	Total	1,355	8,352	11,236	239	12	0	545	0	21,739	100.0
Ferrets	Yes	15	46	0	0	0	0	79	0	140	6.0
	No	329	1,016	839	6	0	0	22	0	2,212	94.0
	Total	344	1,062	839	6	0	0	101	0	2,352	100.0
Other carnivores	Yes	36	0	24	2	0	14	0	0	76	2.0
	No	1,730	882	818	0	170	48	0	0	3,648	98.0
	Total	1,766	882	842	2	170	62	0	0	3,724	100.0
Horses, donkeys and cross-breeds	Yes	555	370	46	7,679	1	34	166	0	8,851	73.3
	No	2,041	847	107	99	0	0	123	0	3,217	26.7
	Total	2,596	1,217	153	7,778	1	34	289	0	12,068	100.0
Pigs	Yes	658	1,314	507	1	8	3	1,014	0	3,505	4.5
	No	24,241	25,711	14,412	290	780	0	8,461	0	73,895	95.5
	Total	24,899	27,025	14,919	291	788	3	9,475	0	77,400	100.0
Goats	Yes	235	8	0	3	0	0	162	0	408	15.4
	No	687	1,355	121	24	10	0	36	0	2,233	84.6
	Total	922	1,363	121	27	10	0	198	0	2,641	100.0
Sheep	Yes	1,446	1,344	264	39,249	53	62	342	0	42,760	68.0
	No	6,995	8,010	1,717	1,810	319	0	1,134	121	20,106	32.0
	Total	8,441	9,354	1,981	41,059	372	62	1,476	121	62,866	100.0
Cattle	Yes	4,128	1,309	592	2	17	0	3,546	0	9,594	26.4
	No	11,663	9,530	3,388	151	709	0	1,316	6	26,763	73.6
	Total	15,791	10,839	3,980	153	726	0	4,862	6	36,357	100.0
Prosimians	Yes	90	0	0	0	0	0	0	0	90	34.7
	No	168	1	0	0	0	0	0	0	169	65.3

	Reuse	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
	Total	258	1	0	0	0	0	0	0	259	100.0
Marmoset and tamarins	Yes	26	9	60	84	0	0	6	0	185	30.1
	No	247	80	102	0	0	0	0	0	429	69.9
	Total	273	89	162	84	0	0	6	0	614	100.0
Squirrel monkey	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	13	0	0	0	0	0	0	0	13	100.0
	Total	13	0	0	0	0	0	0	0	13	100.0
Other species of new world monkeys (Ceboidea)	Yes	24	0	0	0	0	0	0	0	24	100.0
	No	0	0	0	0	0	0	0	0	0	0.0
	Total	24	0	0	0	0	0	0	0	24	100.0
Cynomolgus monkey	Yes	53	434	1,498	1,170	0	0	23	0	3,178	33.8
	No	87	763	4,477	894	0	0	0	0	6,221	66.2
	Total	140	1,197	5,975	2,064	0	0	23	0	9,399	100.0
Rhesus monkey	Yes	125	30	51	32	0	0	5	0	243	53.5
	No	90	118	3	0	0	0	0	0	211	46.5
	Total	215	148	54	32	0	0	5	0	454	100.0
Vervets (Chlorocebus spp.)	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	0	56	0	0	0	0	0	0	56	100.0
	Total	0	56	0	0	0	0	0	0	56	100.0
Baboons	Yes	3	2	0	0	0	0	0	0	5	11.9
	No	9	28	0	0	0	0	0	0	37	88.1
	Total	12	30	0	0	0	0	0	0	42	100.0
Other species of old world monkeys (Cercopithecoidea)	Yes	8	1	0	0	0	0	0	0	9	100.0
	No	0	0	0	0	0	0	0	0	0	0.0
	Total	8	1	0	0	0	0	0	0	9	100.0
Other mammals	Yes	1,206	453	0	0	0	0	0	0	1,659	14.8
	No	7,240	1,287	140	46	544	205	73	0	9,535	85.2
	Total	8,446	1,740	140	46	544	205	73	0	11,194	100.0
Domestic fowl	Yes	688	812	2,030	173	253	0	1,362	0	5,318	1.0
	No	147,708	85,885	166,431	106,747	2,324	939	5,800	0	515,834	99.0
	Total	148,396	86,697	168,461	106,920	2,577	939	7,162	0	521,152	100.0
Other birds	Yes	1,213	354	236	0	4	0	460	0	2,267	1.9
	No	50,779	17,450	6,058	41,552	2,737	624	166	11	119,377	98.1
	Total	51,992	17,804	6,294	41,552	2,741	624	626	11	121,644	100.0
Reptiles	Yes	1,099	0	0	300	0	0	19	0	1,418	37.0
	No	2,261	0	0	0	93	46	14	0	2,414	63.0
	Total	3,360	0	0	300	93	46	33	0	3,832	100.0
Rana	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	1,292	0	132	0	600	0	2,860	0	4,884	100.0
	Total	1,292	0	132	0	600	0	2,860	0	4,884	100.0
Xenopus	Yes	7,443	694	0	0	0	0	16	0	8,153	42.9
	No	8,480	560	720	0	848	0	229	0	10,837	57.1
	Total	15,923	1,254	720	0	848	0	245	0	18,990	100.0
Other amphibians	Yes	115	9	0	0	120	0	0	0	244	1.2
	No	9,149	55	60	0	6,782	3,893	251	0	20,190	98.8
	Total	9,264	64	60	0	6,902	3,893	251	0	20,434	100.0
Zebra fish	Yes	4,450	0	0	0	0	0	0	0	4,450	1.3
	No	234,141	55,750	43,065	0	4,220	0	1,639	0	338,815	98.7
	Total	238,591	55,750	43,065	0	4,220	0	1,639	0	343,265	100.0
Other fish	Yes	3,337	0	0	0	0	0	49	0	3,386	0.4
	No	595,526	127,418	96,792	25	78,574	25,010	12,907	0	936,252	99.6
	Total	598,863	127,418	96,792	25	78,574	25,010	12,956	0	939,638	100.0
Cephalopods	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	2	15,848	0	0	0	0	12	0	15,862	100.0
	Total	2	15,848	0	0	0	0	12	0	15,862	100.0
All Species	Yes	49,601	29,307	44,781	50,199	498	1,953	15,822	30	192,191	2.0
	No	4,464,219	2,121,954	2,311,571	405,295	104,336	36,117	146,602	285	9,590,379	98.0
	Total	4,513,820	2,151,261	2,356,352	455,494	104,834	38,070	162,424	315	9,782,570	100.0

Table 14: Genetic status of animals used by species and main categories of scientific purposes (2015)

	Genetic status	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Mice	Not altered	1,341,777	991,245	1,152,221	33,666	3,621	583	66,939	4	3,590,056	62.3
	Non harmful	1,411,193	331,031	46,407	16	0	6,063	5,059	0	1,799,769	31.2
	Harmful	253,644	120,760	1,941	0	0	72	526	36	376,979	6.5
	Total	3,006,614	1,443,036	1,200,569	33,682	3,621	6,718	72,524	40	5,766,804	100.0
Rats	Not altered	310,741	274,782	555,923	1,450	1,151	159	41,984	101	1,186,291	97.5
	Non harmful	14,917	3,755	3,024	0	0	0	120	0	21,816	1.8
	Harmful	3,528	4,763	134	0	0	0	36	0	8,461	0.7
	Total	329,186	283,300	559,081	1,450	1,151	159	42,140	101	1,216,568	100.0
Guinea-Pigs	Not altered	4,515	25,923	115,793	1,430	0	0	2,356	36	150,053	99.9
	Non harmful	0	91	0	0	0	0	0	0	91	0.1
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	4,515	26,014	115,793	1,430	0	0	2,356	36	150,144	100.0
Hamsters (Syrian)	Not altered	1,777	7,481	10,690	180	0	0	111	0	20,239	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	1,777	7,481	10,690	180	0	0	111	0	20,239	100.0
Hamsters (Chinese)	Not altered	0	0	30	0	0	0	0	0	30	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	0	0	30	0	0	0	0	0	30	100.0
Mongolian gerbil	Not altered	1,547	3,186	1,605	186	0	0	79	0	6,603	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	1,547	3,186	1,605	186	0	0	79	0	6,603	100.0
Other rodents	Not altered	14,296	2,890	8,437	38	647	315	260	0	26,883	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	14,296	2,890	8,437	38	647	315	260	0	26,883	100.0
Rabbits	Not altered	21,851	15,968	103,021	180,133	237	0	2,067	0	323,277	89.5
	Non harmful	22	34	0	37,799	0	0	0	0	37,855	10.5
	Harmful	23	46	0	0	0	0	1	0	70	0.0
	Total	21,896	16,048	103,021	217,932	237	0	2,068	0	361,202	100.0
Cats	Not altered	803	1,115	1,200	18	0	0	49	0	3,185	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	803	1,115	1,200	18	0	0	49	0	3,185	100.0
Dogs	Not altered	1,338	8,350	11,236	239	12	0	545	0	21,720	99.9
	Non harmful	8	0	0	0	0	0	0	0	8	0.0
	Harmful	9	2	0	0	0	0	0	0	11	0.1
	Total	1,355	8,352	11,236	239	12	0	545	0	21,739	100.0
Ferrets	Not altered	344	1,062	839	6	0	0	101	0	2,352	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	344	1,062	839	6	0	0	101	0	2,352	100.0
Other carnivores	Not altered	1,766	882	842	2	170	62	0	0	3,724	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	1,766	882	842	2	170	62	0	0	3,724	100.0
Horses, donkeys and cross-breeds	Not altered	2,596	1,217	153	7,778	1	34	289	0	12,068	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	2,596	1,217	153	7,778	1	34	289	0	12,068	100.0

	Genetic status	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Pigs	Not altered	24,821	26,759	14,919	291	788	3	9,475	0	77,056	99.6
	Non harmful	48	135	0	0	0	0	0	0	183	0.2
	Harmful	30	131	0	0	0	0	0	0	161	0.2
	Total	24,899	27,025	14,919	291	788	3	9,475	0	77,400	100.0
Goats	Not altered	922	1,363	121	27	10	0	198	0	2,641	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	922	1,363	121	27	10	0	198	0	2,641	100.0
Sheep	Not altered	8,434	9,354	1,981	41,059	372	62	1,476	121	62,859	100.0
	Non harmful	7	0	0	0	0	0	0	0	7	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	8,441	9,354	1,981	41,059	372	62	1,476	121	62,866	100.0
Cattle	Not altered	15,790	10,839	3,980	153	726	0	4,862	6	36,356	100.0
	Non harmful	1	0	0	0	0	0	0	0	1	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	15,791	10,839	3,980	153	726	0	4,862	6	36,357	100.0
Prosimians	Not altered	258	1	0	0	0	0	0	0	259	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	258	1	0	0	0	0	0	0	259	100.0
Marmoset and tamarins	Not altered	273	89	162	84	0	0	6	0	614	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	273	89	162	84	0	0	6	0	614	100.0
Squirrel monkey	Not altered	13	0	0	0	0	0	0	0	13	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	13	0	0	0	0	0	0	0	13	100.0
Other species of new world monkeys (Ceboidae)	Not altered	24	0	0	0	0	0	0	0	24	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	24	0	0	0	0	0	0	0	24	100.0
Cynomolgus monkey	Not altered	140	1,197	5,975	2,064	0	0	23	0	9,399	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	140	1,197	5,975	2,064	0	0	23	0	9,399	100.0
Rhesus monkey	Not altered	215	148	54	32	0	0	5	0	454	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	215	148	54	32	0	0	5	0	454	100.0
Vervets (Chlorocebus spp.)	Not altered	0	56	0	0	0	0	0	0	56	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	0	56	0	0	0	0	0	0	56	100.0
Baboons	Not altered	12	30	0	0	0	0	0	0	42	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	12	30	0	0	0	0	0	0	42	100.0
Other species of old world monkeys (Cercopithecoidea)	Not altered	8	1	0	0	0	0	0	0	9	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	8	1	0	0	0	0	0	0	9	100.0
Other mammals	Not altered	8,446	1,740	140	46	544	205	73	0	11,194	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	8,446	1,740	140	46	544	205	73	0	11,194	100.0
Domestic fowl	Not altered	148,143	86,678	168,461	106,920	2,577	939	7,162	0	520,880	99.9
	Non harmful	139	19	0	0	0	0	0	0	158	0.0
	Harmful	114	0	0	0	0	0	0	0	114	0.0
	Total	148,396	86,697	168,461	106,920	2,577	939	7,162	0	521,152	100.0

	Genetic status	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Other birds	Not altered	51,992	17,804	6,294	41,552	2,741	624	626	11	121,644	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	51,992	17,804	6,294	41,552	2,741	624	626	11	121,644	100.0
Reptiles	Not altered	3,360	0	0	300	93	46	33	0	3,832	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	3,360	0	0	300	93	46	33	0	3,832	100.0
Rana	Not altered	1,292	0	132	0	600	0	2,860	0	4,884	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	1,292	0	132	0	600	0	2,860	0	4,884	100.0
Xenopus	Not altered	14,326	1,163	720	0	848	0	245	0	17,302	91.1
	Non harmful	1,597	91	0	0	0	0	0	0	1,688	8.9
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	15,923	1,254	720	0	848	0	245	0	18,990	100.0
Other amphibians	Not altered	9,143	64	60	0	6,902	3,893	251	0	20,313	99.4
	Non harmful	121	0	0	0	0	0	0	0	121	0.6
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	9,264	64	60	0	6,902	3,893	251	0	20,434	100.0
Zebra fish	Not altered	92,424	24,740	42,465	0	1,758	0	1,381	0	162,768	47.4
	Non harmful	135,171	30,883	600	0	2,462	0	258	0	169,374	49.3
	Harmful	10,996	127	0	0	0	0	0	0	11,123	3.2
	Total	238,591	55,750	43,065	0	4,220	0	1,639	0	343,265	100.0
Other fish	Not altered	595,637	122,491	96,792	25	78,574	25,010	12,956	0	931,485	99.1
	Non harmful	2,620	4,927	0	0	0	0	0	0	7,547	0.8
	Harmful	606	0	0	0	0	0	0	0	606	0.1
	Total	598,863	127,418	96,792	25	78,574	25,010	12,956	0	939,638	100.0
Cephalopods	Not altered	2	15,848	0	0	0	0	12	0	15,862	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	2	15,848	0	0	0	0	12	0	15,862	100.0
All Species	Harmful	268,950	125,829	2,075	0	0	72	563	36	397,525	4.1
	Non harmful	1,565,844	370,966	50,031	37,815	2,462	6,063	5,437	0	2,038,618	20.8
	Not altered	2,679,026	1,654,466	2,304,246	417,679	102,372	31,935	156,424	279	7,346,427	75.1
	Total	4,513,820	2,151,261	2,356,352	455,494	104,834	38,070	162,424	315	9,782,570	100.0

Part 3: Numbers and uses of animals for the creation and maintenance of genetically altered animals in the EU

Table 15: Use of animals for the creation of new genetically altered animal lines by research type species and severity (2015)

	Severity	Basic research	Translational and applied research	Total	%
Mice	Non-recovery	12,455	3,643	16,098	3.4
	Mild	382,665	13,727	396,392	83.0
	Moderate	52,476	9,094	61,570	12.9
	Severe	2,949	774	3,723	0.8
	Total	450,545	27,238	477,783	100.0
Rats	Non-recovery	146	0	146	3.3
	Mild	1,363	438	1,801	41.1
	Moderate	1,895	264	2,159	49.3
	Severe	275	0	275	6.3
	Total	3,679	702	4,381	100.0
Rabbits	Non-recovery	90	0	90	33.1
	Mild	0	0	0	0.0
	Moderate	101	81	182	66.9
	Severe	0	0	0	0.0
	Total	191	81	272	100.0
Pigs	Non-recovery	0	14	14	4.0
	Mild	138	12	150	42.9
	Moderate	166	0	166	47.4
	Severe	20	0	20	5.7
	Total	324	26	350	100.0
Sheep	Non-recovery	0	0	0	0.0
	Mild	15	0	15	48.4
	Moderate	16	0	16	51.6
	Severe	0	0	0	0.0
	Total	31	0	31	100.0
Other mammals	Non-recovery	0	0	0	0.0
	Mild	0	0	0	0.0
	Moderate	4	0	4	100.0
	Severe	0	0	0	0.0
	Total	4	0	4	100.0
Domestic fowl	Non-recovery	0	0	0	0.0
	Mild	177	102	279	100.0
	Moderate	0	0	0	0.0
	Severe	0	0	0	0.0
	Total	177	102	279	100.0
Xenopus	Non-recovery	0	0	0	0.0
	Mild	6,976	0	6,976	96.1
	Moderate	283	0	283	3.9
	Severe	0	0	0	0.0
	Total	7,259	0	7,259	100.0
Zebra fish	Non-recovery	657	0	657	0.5
	Mild	104,439	1,512	105,951	85.2
	Moderate	12,584	130	12,714	10.2
	Severe	4,724	313	5,037	4.1
	Total	122,404	1,955	124,359	100.0
Other fish	Non-recovery	26	0	26	1.0
	Mild	2,516	0	2,516	98.4
	Moderate	14	0	14	0.5
	Severe	0	0	0	0.0
	Total	2,556	0	2,556	100.0
All Species	Non-recovery	13,374	3,657	17,031	2.8
	Mild	498,289	15,791	514,080	83.3
	Moderate	67,539	9,569	77,108	12.5
	Severe	7,968	1,087	9,055	1.5
	Total	587,170	30,104	617,274	100.0

Table 16: Use of animals for the creation of new genetically altered animal lines by research type species and severity (2015)

		Reuse	Basic research	Translational and applied research	Total	%
Mice	Yes		1,864	151	2,015	0.4
	No		448,681	27,087	475,768	99.6
	Total		450,545	27,238	477,783	100.0
Rats	Yes		0	0	0	0.0
	No		3,679	702	4,381	100.0
	Total		3,679	702	4,381	100.0
Rabbits	Yes		0	0	0	0.0
	No		191	81	272	100.0
	Total		191	81	272	100.0
Pigs	Yes		5	0	5	1.4
	No		319	26	345	98.6
	Total		324	26	350	100.0
Sheep	Yes		0	0	0	0.0
	No		31	0	31	100.0
	Total		31	0	31	100.0
Other mammals	Yes		0	0	0	0.0
	No		4	0	4	100.0
	Total		4	0	4	100.0
Domestic fowl	Yes		0	0	0	0.0
	No		177	102	279	100.0
	Total		177	102	279	100.0
Xenopus	Yes		5	0	5	0.1
	No		7,254	0	7,254	99.9
	Total		7,259	0	7,259	100.0
Zebra fish	Yes		24,216	0	24,216	19.5
	No		98,188	1,955	100,143	80.5
	Total		122,404	1,955	124,359	100.0
Other fish	Yes		0	0	0	0.0
	No		2,556	0	2,556	100.0
	Total		2,556	0	2,556	100.0
All Species	Yes		26,090	151	26,241	4.3
	No		561,080	29,953	591,033	95.7
	Total		587,170	30,104	617,274	100.0

Table 17: Uses of animals for the creation of new genetically altered animal lines in basic research by species and type of research (2015)

	Oncology	Cardiovascular Blood and Lymphatic System	Nervous System	Respiratory System	Gastrointestinal System including Liver	Musculoskeletal System	Immune System	Urogenital/Reprod uctive System	Sensory Organs (skin, eyes and ears)	Endocrine System/Metabolis m	Multisystemic	Ethology / Animal Behaviour /Animal Biology	Other basic research	Total	%
Mammals															
Rodents															
Mice	59,475	11,835	34,962	17,196	7,257	4,114	29,805	16,561	6,702	13,612	137,627	266	111,133	450,545	76.7
Rats	133	133	700	0	72	0	100	0	43	0	1,702	0	796	3,679	0.6
Guinea-Pigs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other rodents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rabbits															
Rabbits	0	59	0	0	0	62	0	70	0	0	0	0	0	191	0
Farm animals															
Pigs	0	0	4	40	0	0	95	0	0	6	179	0	0	324	0.1
Sheep	0	0	0	0	8	5	0	2	0	0	16	0	0	31	0
Non-human primates															
Marmoset and tamarins	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other mammals															
Other mammals	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0
Birds															
Domestic fowl	0	0	0	0	0	0	0	60	0	0	117	0	0	177	0
Amphibians															
Xenopus	0	541	0	0	0	0	0	0	0	0	6,200	0	518	7,259	1.2
Fish															
Zebra fish	3,139	19,911	20,531	0	380	15,988	3,598	2,069	549	2,879	39,075	1,800	12,485	122,404	20.8
Other fish	0	0	26	0	0	248	0	0	1,565	0	701	0	16	2,556	0.4
Totals															
Total	62,747	32,479	56,223	17,236	7,717	20,417	33,598	18,766	8,859	16,497	185,617	2,066	124,948	587,170	100
%	10.7	5.5	9.6	2.9	1.3	3.5	5.7	3.2	1.5	2.8	31.6	0.4	21.3	100	

Table 18.1: Uses of animals for the creation of new genetically altered animal lines in basic, translational and applied research by species and type of research (Part 1) (2015)

	Human Cancer	Human Infectious Disorders	Human Cardiovascular Disorders	Human Nervous and Mental Disorders	Human Respiratory Disorders	Human Gastrointestinal Disorders including Liver	Human Musculoskeletal Disorders	Human Immune Disorders
Mammals								
Rodents								
Mice	15,348	396	4,887	2,301	263	574	304	836
Rats	44	0	0	264	0	0	44	0
Guinea-Pigs	0	0	0	0	0	0	0	0
Other rodents	0	0	0	0	0	0	0	0
Rabbits								
Rabbits	0	0	0	0	0	0	0	0
Farm animals								
Pigs	0	0	0	4	0	0	5	0
Sheep	0	0	0	0	0	0	0	0
Non-human primates								
Marmoset and tamarins	0	0	0	0	0	0	0	0
Other mammals								
Other mammals	0	0	0	0	0	0	0	0
Birds								
Domestic fowl	0	0	0	0	0	0	0	0
Amphibians								
Xenopus	0	0	0	0	0	0	0	0
Fish								
Zebra fish	0	1,256	0	0	0	0	0	0
Other fish	0	0	0	0	0	0	0	0
Totals								
Total	15,392	1,652	4,887	2,569	263	574	353	836
%	51.5	5.5	16.4	8.6	0.9	1.9	1.2	2.8

Table 18.2: Uses of animals for the creation of new genetically altered animal lines in basic translational and applied research by species and type of research (Part 2) (2015)

	Human Urogenital/Reproductive Disorders	Human Sensory Organ Disorders (skin, eyes and ears)	Human Endocrine/Metabolism Disorders	Other Human Disorders	Animal Diseases and Disorders	Animal Welfare	Diagnosis of diseases	Non-regulatory toxicology and ecotoxicology	Total	%
Mammals										
Rodents										
Mice	262	377	815	84	577	0	157	57	27,238	90.5
Rats	0	0	0	0	167	111	72	0	702	2.3
Guinea-Pigs	0	0	0	0	0	0	0	0	0	0
Other rodents	0	0	0	0	0	0	0	0	0	0
Rabbits										
Rabbits	0	0	0	0	81	0	0	0	81	0.3
Farm animals										
Pigs	0	0	17	0	0	0	0	0	26	0.1
Sheep	0	0	0	0	0	0	0	0	0	0
Non-human primates										
Marmoset and tamarins	0	0	0	0	0	0	0	0	0	0
Other mammals										
Other mammals	0	0	0	0	0	0	0	0	0	0
Birds										
Domestic fowl	0	0	0	11	91	0	0	0	102	0.3
Amphibians										
Xenopus	0	0	0	0	0	0	0	0	0	0
Fish										
Zebra fish	0	695	0	4	0	0	0	0	1,955	6.5
Other fish	0	0	0	0	0	0	0	0	0	0
Totals										
Total	262	1,072	832	99	916	111	229	57	30,104	100
%	0.9	3.6	2.8	0.3	3	0.4	0.8	0.2	100	

Table 19: Uses of animals for the maintenance of colonies of established genetically altered animal lines by species, severity and genetic status (2015)

	Severity	Genetically altered with a harmful phenotype	Genetically altered without a harmful phenotype	Not genetically altered	Total	%
Mice	Non-recovery	49	700	105	854	0.1
	Mild	291,597	430,173	52,600	774,370	85.0
	Moderate	45,136	32,800	3,843	81,779	9.0
	Severe	29,156	24,346	219	53,721	5.9
	Total	365,938	488,019	56,767	910,724	100.0
Rats	Non-recovery	0	104	0	104	1.2
	Mild	4,916	2,035	507	7,458	82.8
	Moderate	203	253	0	456	5.1
	Severe	842	134	9	985	10.9
	Total	5,961	2,526	516	9,003	100.0
Dogs	Non-recovery	0	0	0	0	0.0
	Mild	0	0	0	0	0.0
	Moderate	0	0	0	0	0.0
	Severe	7	0	0	7	100.0
	Total	7	0	0	7	100.0
Domestic fowl	Non-recovery	0	0	0	0	0.0
	Mild	0	231	0	231	71.7
	Moderate	58	0	0	58	18.0
	Severe	33	0	0	33	10.2
	Total	91	231	0	322	100.0
Xenopus	Non-recovery	0	0	0	0	0.0
	Mild	0	56	0	56	29.8
	Moderate	0	91	0	91	48.4
	Severe	0	41	0	41	21.8
	Total	0	188	0	188	100.0
Zebra fish	Non-recovery	0	4,679	153	4,832	6.0
	Mild	3,065	52,585	4,600	60,250	74.7
	Moderate	567	2,426	94	3,087	3.8
	Severe	199	11,896	368	12,463	15.5
	Total	3,831	71,586	5,215	80,632	100.0
Other fish	Non-recovery	0	0	0	0	0.0
	Mild	0	0	0	0	0.0
	Moderate	32	278	0	310	100.0
	Severe	0	0	0	0	0.0
	Total	32	278	0	310	100.0
All Species	Non-recovery	49	5,483	258	5,790	0.6
	Mild	299,578	485,080	57,707	842,365	84.1
	Moderate	45,996	35,848	3,937	85,781	8.6
	Severe	30,237	36,417	596	67,250	6.7
	Total	375,860	562,828	62,498	1,001,186	100.0

Table 20: Uses of animals for the maintenance of colonies of established genetically altered animal lines by species, reuse and genetic status (2015)

		Reuse	Not genetically altered	Genetically altered without a harmful phenotype	Genetically altered with a harmful phenotype	Total	%
Mice	Yes		0	0	0	0	0.0
	No		56,767	488,019	365,938	910,724	100.0
	Total		56,767	488,019	365,938	910,724	100.0
Rats	Yes		0	0	0	0	0.0
	No		516	2,526	5,961	9,003	100.0
	Total		516	2,526	5,961	9,003	100.0
Dogs	Yes		0	0	0	0	0.0
	No		0	0	7	7	100.0
	Total		0	0	7	7	100.0
Domestic fowl	Yes		0	0	0	0	0.0
	No		0	231	91	322	100.0
	Total		0	231	91	322	100.0
Xenopus	Yes		0	188	0	188	100.0
	No		0	0	0	0	0.0
	Total		0	188	0	188	100.0
Zebra fish	Yes		1,750	2,217	38	4,005	5.0
	No		3,465	69,369	3,793	76,627	95.0
	Total		5,215	71,586	3,831	80,632	100.0
Other fish	Yes		0	0	0	0	0.0
	No		0	278	32	310	100.0
	Total		0	278	32	310	100.0
All Species	Yes		1,750	2,405	38	4,193	0.4
	No		60,748	560,423	375,822	996,993	99.6
	Total		62,498	562,828	375,860	1,001,186	100.0

EU statistical tables 2016

Part 1: Numbers of animals used for research, testing, routine production and educational purposes in the EU

Table 1: Numbers of animals used for the first time by species (2016)

	Number of animals	%
Mammals		
Rodents		
Mice	5,989,413	61
Rats	1,173,135	11.9
Guinea-Pigs	150,985	1.5
Hamsters (Syrian)	18,614	0.2
Hamsters (Chinese)	519	0
Mongolian gerbil	5,645	0.1
Other rodents	13,712	0.1
Rabbits		
Rabbits	350,405	3.6
Carnivores		
Cats	1,951	0
Dogs	15,691	0.2
Ferrets	1,530	0
Other carnivores	1,444	0
Farm animals		
Horses, donkeys and cross-breeds	3,474	0
Pigs	80,029	0.8
Goats	1,365	0
Sheep	21,240	0.2
Cattle	22,782	0.2
Non-human primates		
Prosimians	44	0
Marmoset and tamarins	285	0
Squirrel monkey	8	0
Other species of new world monkeys (Ceboidea)	0	0
Cynomolgus monkey	6,503	0.1
Rhesus monkey	318	0
Vervets (Chlorocebus spp.)	19	0
Baboons	62	0
Other species of old world monkeys (Cercopithecoidea)	0	0
Other mammals		
Other mammals	3,637	0
Birds		
Domestic fowl	500,920	5.1
Other birds	94,804	1
Reptiles		
Reptiles	3,240	0
Amphibians		
Rana	4,482	0
Xenopus	18,511	0.2
Other amphibians	19,558	0.2
Fish		
Zebra fish	513,011	5.2
Other fish	791,726	8.1
Cephalopods		
Cephalopods	8,884	0.1
Totals		
Total	9,817,946	100
%	100	

Table 2: Place of birth by species (other than non-human primates) (2016)

	Animals born in the EU at a registered breeder	Animals born in the EU but not at a registered breeder	Animals born in rest of Europe	Animals born in rest of world	Total	%
Mammals						
Rodents						
Mice	5,740,868	191,446	20,197	36,902	5,989,413	61
Rats	1,147,202	17,123	3,641	5,169	1,173,135	12
Guinea-Pigs	149,831	1,076	0	78	150,985	1.5
Hamsters (Syrian)	18,055	77	0	482	18,614	0.2
Hamsters (Chinese)	519	0	0	0	519	0
Mongolian gerbil	5,367	255	6	17	5,645	0.1
Other rodents	1,749	11,733	104	126	13,712	0.1
Rabbits						
Rabbits	341,786	6,283	210	2,126	350,405	3.6
Carnivores						
Cats	897	694	5	355	1,951	0
Dogs	5,527	5,424	33	4,707	15,691	0.2
Ferrets	1,298	82	6	144	1,530	0
Other carnivores	423	961	23	37	1,444	0
Farm animals						
Horses, donkeys and cross-breeds	576	2,894	2	2	3,474	0
Pigs	40,755	39,257	17	0	80,029	0.8
Goats	591	646	128	0	1,365	0
Sheep	8,311	12,872	57	0	21,240	0.2
Cattle	8,541	14,140	101	0	22,782	0.2
Other mammals						
Other mammals	623	2,823	187	4	3,637	0
Birds						
Domestic fowl	366,599	134,321	0	0	500,920	5.1
Other birds	27,337	60,933	5,168	1,366	94,804	1
Reptiles						
Reptiles	1,239	1,650	82	269	3,240	0
Amphibians						
Rana	2,466	2,016	0	0	4,482	0
Xenopus	16,096	708	177	1,530	18,511	0.2
Other amphibians	2,478	15,523	1,363	194	19,558	0.2
Fish						
Zebra fish	488,212	23,535	0	1,264	513,011	5.2
Other fish	489,106	226,656	50,712	25,252	791,726	8.1
Cephalopods						
Cephalopods	8,400	484	0	0	8,884	0.1
Totals						
Total	8,874,852	773,612	82,219	80,024	9,810,707	100
%	90.5	7.9	0.8	0.8	100	

Table 3: Source of non-human primates by species (2016)

	Animals born at a registered breeder within EU	Animals born in rest of Europe	Animals born in Asia	Animals born in America	Animals born in Africa	Animals born elsewhere	Total	%
Non-human primates								
New World Monkeys								
Prosimians	44	0	0	0	0	0	44	0.6
Marmoset and tamarins	285	0	0	0	0	0	285	3.9
Squirrel monkey	2	0	0	6	0	0	8	0.1
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0
Old World Monkeys								
Cynomolgus monkey	97	2	2,045	0	4,340	19	6,503	89.8
Rhesus monkey	159	0	143	0	16	0	318	4.4
Vervets (Chlorocebus spp.)	0	0	0	6	13	0	19	0.3
Baboons	57	0	0	0	5	0	62	0.9
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0
Totals								
Total	644	2	2,188	12	4,374	19	7,239	100
%	8.9	0	30.2	0.2	60.4	0.3	100	

Table 4: Generation of non-human primates by species (2016)

	F0	F1	F2 or greater	Self-sustaining colony	Total	%
Non-human primates						
New World Monkeys						
Prosimians	0	0	7	37	44	0.6
Marmoset and tamarins	0	0	19	266	285	3.9
Squirrel monkey	0	6	2	0	8	0.1
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0
Old World Monkeys						
Cynomolgus monkey	1	1,451	3,210	1,841	6,503	89.8
Rhesus monkey	0	47	144	127	318	4.4
Vervets (Chlorocebus spp.)	0	2	17	0	19	0.3
Baboons	4	22	36	0	62	0.9
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0
Totals						
Total	5	1,528	3,435	2,271	7,239	100
%	0.1	21.1	47.5	31.4	100	

Part 2: Details of all uses of animals for research, testing, routine production and educational purposes in the EU

Table 5: Uses of animals by species, main categories of scientific purposes and severities (2016)

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Mice	Non-recovery	308,547	48,480	3,808	78	591	718	14,214	4	376,440	6.2
	Mild	1,571,423	575,186	554,409	1,859	771	13,676	46,507	128	2,763,959	45.7
	Moderate	1,160,958	679,490	247,412	22,432	839	0	15,063	0	2,126,194	35.2
	Severe	232,177	204,637	312,304	27,703	51	16	466	0	777,354	12.9
	Total	3,273,105	1,507,793	1,117,933	52,072	2,252	14,410	76,250	132	6,043,947	100.0
Rats	Non-recovery	64,754	22,406	11,851	71	0	65	24,369	1	123,517	10.4
	Mild	96,936	115,346	361,982	1,421	552	159	14,475	30	590,901	49.6
	Moderate	135,599	99,351	166,458	167	1,084	0	4,588	23	407,270	34.2
	Severe	37,560	14,766	13,402	483	2,895	0	16	0	69,122	5.8
	Total	334,849	251,869	553,693	2,142	4,531	224	43,448	54	1,190,810	100.0
Guinea-Pigs	Non-recovery	18,286	1,388	1,704	242	0	0	371	0	21,991	14.5
	Mild	3,616	4,381	64,014	440	0	0	1,207	0	73,658	48.6
	Moderate	1,568	2,918	32,523	89	0	0	285	0	37,383	24.6
	Severe	38	548	18,077	12	0	0	0	0	18,675	12.3
	Total	23,508	9,235	116,318	783	0	0	1,863	0	151,707	100.0
Hamsters (Syrian)	Non-recovery	127	10	0	0	0	0	11	0	148	0.8
	Mild	431	2,988	6,719	11	0	0	204	0	10,353	55.4
	Moderate	1,988	1,095	554	0	0	0	4	0	3,641	19.5
	Severe	307	589	3,396	238	0	0	0	0	4,530	24.3
	Total	2,853	4,682	10,669	249	0	0	219	0	18,672	100.0
Hamsters (Chinese)	Non-recovery	0	0	0	0	0	0	2	0	2	0.4
	Mild	0	287	91	0	0	0	0	0	378	72.8
	Moderate	0	0	138	0	0	0	0	0	138	26.6
	Severe	0	0	1	0	0	0	0	0	1	0.2
	Total	0	287	230	0	0	0	2	0	519	100.0
Mongolian gerbil	Non-recovery	308	6	0	0	0	0	33	0	347	5.7
	Mild	467	715	1,952	167	0	0	42	0	3,343	55.1
	Moderate	784	1,285	8	31	0	0	10	0	2,118	34.9
	Severe	2	261	1	0	0	0	0	0	264	4.3
	Total	1,561	2,267	1,961	198	0	0	85	0	6,072	100.0
Other rodents	Non-recovery	489	37	0	0	0	0	2	0	528	3.8
	Mild	8,134	383	3,184	0	316	38	17	0	12,072	85.9
	Moderate	995	55	50	0	128	0	0	0	1,228	8.7
	Severe	35	84	100	0	0	2	0	0	221	1.6
	Total	9,653	559	3,334	0	444	40	19	0	14,049	100.0
Rabbits	Non-recovery	2,793	2,917	7,884	0	0	0	848	0	14,442	4.0
	Mild	16,076	4,054	53,617	132,741	174	0	1,019	0	207,681	57.0
	Moderate	5,550	6,446	27,776	50,850	22	0	230	0	90,874	25.0
	Severe	2,539	2,029	1,633	44,934	0	0	0	0	51,135	14.0
	Total	26,958	15,446	90,910	228,525	196	0	2,097	0	364,132	100.0
Cats	Non-recovery	27	0	0	0	0	0	0	0	27	0.7
	Mild	733	1,116	819	27	0	0	214	0	2,909	78.7
	Moderate	45	406	171	0	0	0	0	0	622	16.8
	Severe	0	97	40	0	0	0	0	0	137	3.7
	Total	805	1,619	1,030	27	0	0	214	0	3,695	100.0
Dogs	Non-recovery	64	138	447	2	0	0	1	0	652	2.8
	Mild	1,472	7,764	7,427	141	0	0	372	0	17,176	73.2
	Moderate	254	1,272	3,666	29	0	0	30	0	5,251	22.4
	Severe	0	80	293	0	0	0	0	0	373	1.6
	Total	1,790	9,254	11,833	172	0	0	403	0	23,452	100.0

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Ferrets	Non-recovery	96	2	11	0	0	0	8	0	117	7.3
	Mild	38	407	410	14	0	0	54	0	923	57.3
	Moderate	55	300	40	0	0	0	2	0	397	24.7
	Severe	7	166	0	0	0	0	0	0	173	10.7
	Total	196	875	461	14	0	0	64	0	1,610	100.0
Other carnivores	Non-recovery	0	0	0	3	0	0	0	0	3	0.2
	Mild	282	294	195	0	68	47	0	0	886	48.2
	Moderate	500	38	336	0	1	4	0	0	879	47.8
	Severe	15	53	0	0	0	1	0	0	69	3.8
	Total	797	385	531	3	69	52	0	0	1,837	100.0
Horses, donkeys and cross-breeds	Non-recovery	0	26	0	0	0	0	23	0	49	0.4
	Mild	2,278	1,650	218	8,070	2	20	258	0	12,496	95.2
	Moderate	127	237	68	110	10	0	20	0	572	4.4
	Severe	0	0	0	7	0	0	0	0	7	0.1
	Total	2,405	1,913	286	8,187	12	20	301	0	13,124	100.0
Pigs	Non-recovery	4,128	1,826	40	70	0	0	7,491	0	13,555	16.3
	Mild	10,209	20,186	10,138	162	447	0	1,505	62	42,709	51.3
	Moderate	4,299	13,493	3,477	5	75	0	2,323	0	23,672	28.5
	Severe	511	2,470	265	8	0	0	0	0	3,254	3.9
	Total	19,147	37,975	13,920	245	522	0	11,319	62	83,190	100.0
Goats	Non-recovery	0	165	0	0	0	0	7	0	172	7.8
	Mild	998	96	72	76	30	0	145	0	1,417	63.9
	Moderate	239	268	14	0	20	0	64	0	605	27.3
	Severe	16	3	4	0	0	0	0	0	23	1.0
	Total	1,253	532	90	76	50	0	216	0	2,217	100.0
Sheep	Non-recovery	118	441	53	0	0	0	630	0	1,242	1.8
	Mild	6,779	7,096	1,530	44,966	2	0	613	90	61,076	90.0
	Moderate	2,164	2,078	240	145	27	0	154	0	4,808	7.1
	Severe	192	450	112	0	12	0	0	2	768	1.1
	Total	9,253	10,065	1,935	45,111	41	0	1,397	92	67,894	100.0
Cattle	Non-recovery	15	0	0	0	0	0	23	0	38	0.1
	Mild	9,118	9,994	2,531	134	1,992	28	3,995	25	27,817	83.5
	Moderate	850	1,529	527	15	34	0	2,189	0	5,144	15.4
	Severe	57	208	26	0	7	0	6	0	304	0.9
	Total	10,040	11,731	3,084	149	2,033	28	6,213	25	33,303	100.0
Prosimians	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	117	0	0	0	0	0	0	0	117	99.2
	Moderate	0	1	0	0	0	0	0	0	1	0.8
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	117	1	0	0	0	0	0	0	118	100.0
Marmoset and tamarins	Non-recovery	32	0	0	0	0	0	0	0	32	8.5
	Mild	73	48	0	16	0	0	1	0	138	36.7
	Moderate	136	41	18	0	0	0	0	0	195	51.9
	Severe	2	9	0	0	0	0	0	0	11	2.9
	Total	243	98	18	16	0	0	1	0	376	100.0
Squirrel monkey	Non-recovery	7	0	0	0	0	0	0	0	7	87.5
	Mild	0	0	0	0	0	0	0	0	0	0.0
	Moderate	1	0	0	0	0	0	0	0	1	12.5
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	8	0	0	0	0	0	0	0	8	100.0
Cynomolgus monkey	Non-recovery	26	9	12	4	0	0	17	0	68	0.7
	Mild	424	680	3,108	1,018	0	0	19	0	5,249	56.6
	Moderate	111	524	3,167	0	0	0	9	0	3,811	41.1
	Severe	0	7	146	0	0	0	0	0	153	1.6
	Total	561	1,220	6,433	1,022	0	0	45	0	9,281	100.0
Rhesus monkey	Non-recovery	11	0	0	0	0	0	0	0	11	1.9
	Mild	104	92	54	3	0	0	5	0	258	45.6
	Moderate	138	116	42	0	0	0	0	0	296	52.3
	Severe	1	0	0	0	0	0	0	0	1	0.2
	Total	254	208	96	3	0	0	5	0	566	100.0

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Vervets Chlorocebus spp	Non-recovery	0	0	0	13	0	0	0	0	13	31.7
	Mild	6	18	0	0	0	0	0	0	24	58.5
	Moderate	0	4	0	0	0	0	0	0	4	9.8
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	6	22	0	13	0	0	0	0	41	100.0
Baboons	Non-recovery	2	0	0	0	0	0	0	0	2	2.0
	Mild	46	3	0	0	0	0	0	0	49	49.0
	Moderate	15	22	0	0	0	0	0	0	37	37.0
	Severe	8	4	0	0	0	0	0	0	12	12.0
	Total	71	29	0	0	0	0	0	0	100	100.0
Other species of old world monkeys (Cercopithecoidea)	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	8	18	0	0	0	0	0	0	26	100.0
	Moderate	0	0	0	0	0	0	0	0	0	0.0
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	8	18	0	0	0	0	0	0	26	100.0
Other mammals	Non-recovery	99	10	0	0	0	0	0	0	109	2.8
	Mild	2,121	157	0	12	182	259	84	0	2,815	72.1
	Moderate	925	28	0	9	0	0	3	0	965	24.7
	Severe	1	0	8	8	0	0	0	0	17	0.4
	Total	3,146	195	8	29	182	259	87	0	3,906	100.0
Domestic fowl	Non-recovery	5,165	1,024	120	377	0	0	317	0	7,003	1.4
	Mild	82,586	77,224	123,546	90,123	3,012	709	2,155	536	379,891	74.9
	Moderate	47,122	21,681	21,456	15,158	0	0	838	0	106,255	20.9
	Severe	2,298	6,624	4,660	211	269	0	200	0	14,262	2.8
	Total	137,171	106,553	149,782	105,869	3,281	709	3,510	536	507,411	100.0
Other birds	Non-recovery	946	50	0	0	0	0	109	0	1,105	1.1
	Mild	51,121	14,527	7,251	354	1,527	839	516	14	76,149	78.2
	Moderate	8,091	610	514	9,875	20	16	90	0	19,216	19.7
	Severe	53	359	527	0	0	0	0	0	939	1.0
	Total	60,211	15,546	8,292	10,229	1,547	855	715	14	97,409	100.0
Reptiles	Non-recovery	246	0	0	0	0	0	0	0	246	2.9
	Mild	6,017	0	0	300	65	0	27	0	6,409	74.7
	Moderate	1,831	16	0	0	0	0	0	0	1,847	21.5
	Severe	73	0	0	0	0	0	0	0	73	0.9
	Total	8,167	16	0	300	65	0	27	0	8,575	100.0
Rana	Non-recovery	0	0	0	0	850	0	1,056	0	1,906	42.5
	Mild	51	0	0	0	0	0	220	0	271	6.0
	Moderate	0	0	0	0	600	0	1,000	0	1,600	35.7
	Severe	625	0	80	0	0	0	0	0	705	15.7
	Total	676	0	80	0	1,450	0	2,276	0	4,482	100.0
Xenopus	Non-recovery	456	0	0	0	0	0	102	0	558	2.0
	Mild	23,594	1,296	0	0	8	0	25	0	24,923	89.3
	Moderate	955	285	0	0	600	0	4	0	1,844	6.6
	Severe	374	0	205	0	0	0	0	0	579	2.1
	Total	25,379	1,581	205	0	608	0	131	0	27,904	100.0
Other amphibians	Non-recovery	151	0	0	0	557	0	117	0	825	4.1
	Mild	3,076	3,219	72	0	1,733	6,202	164	0	14,466	72.6
	Moderate	3,714	0	0	0	0	69	0	0	3,783	19.0
	Severe	688	19	0	0	0	146	0	0	853	4.3
	Total	7,629	3,238	72	0	2,290	6,417	281	0	19,927	100.0
Zebra fish	Non-recovery	12,794	993	400	0	140	0	328	0	14,655	2.8
	Mild	308,999	19,907	15,700	0	566	127	1,067	0	346,366	66.8
	Moderate	65,328	61,458	11,207	0	144	0	0	0	138,137	26.6
	Severe	4,082	4,373	10,771	0	5	0	0	0	19,231	3.7
	Total	391,203	86,731	38,078	0	855	127	1,395	0	518,389	100.0
Other fish	Non-recovery	27,864	5,489	1,505	0	3,027	2,074	1,035	0	40,994	5.1
	Mild	389,915	28,218	51,364	0	20,153	43,240	10,686	0	543,576	67.9
	Moderate	39,875	41,798	4,719	0	22,303	3,395	176	0	112,266	14.0
	Severe	17,504	48,069	25,962	0	12,492	2	0	0	104,029	13.0
	Total	475,158	123,574	83,550	0	57,975	48,711	11,897	0	800,865	100.0

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Cephalopods	Non-recovery	0	29	0	0	0	0	15	0	44	0.5
	Mild	352	8,488	0	0	0	0	0	0	8,840	99.5
	Moderate	0	0	0	0	0	0	0	0	0	0.0
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	352	8,517	0	0	0	0	15	0	8,884	100.0
All Species	Non-recovery	447,551	85,446	27,835	860	5,165	2,857	51,129	5	620,848	6.2
	Mild	2,597,600	905,838	1,270,403	282,055	31,600	65,344	85,596	885	5,239,321	52.2
	Moderate	1,484,217	936,845	524,581	98,915	25,907	3,484	27,082	23	3,101,054	30.9
	Severe	299,165	285,905	392,013	73,604	15,731	167	688	2	1,067,275	10.6
	Total	4,828,533	2,214,034	2,214,832	455,434	78,403	71,852	164,495	915	10,028,498	100.0

Table 5.1: Uses of animals in all sub-categories of research and testing by severities (2016)

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total	%
Basic research						
Oncology	18,053	221,369	276,394	56,301	572,117	5.7
Cardiovascular Blood and Lymphatic System	44,899	157,648	128,554	20,535	351,636	3.5
Nervous System	100,504	422,312	345,194	72,443	940,453	9.4
Respiratory System	5,961	32,168	34,551	2,897	75,577	0.8
Gastrointestinal System including Liver	23,199	69,479	51,109	9,964	153,751	1.5
Musculoskeletal System	2,729	51,884	33,571	5,203	93,387	0.9
Immune System	46,007	410,447	239,413	57,429	753,296	7.5
Urogenital/Reproductive System	14,288	69,827	23,952	4,227	112,294	1.1
Sensory Organs (skin, eyes and ears)	6,715	39,853	23,183	2,809	72,560	0.7
Endocrine System/Metabolism	30,750	172,010	82,806	16,161	301,727	3
Multisystemic	25,389	300,429	86,195	11,214	423,227	4.2
Ethology / Animal Behaviour /Animal Biology	8,762	458,325	87,390	9,565	564,042	5.6
Other basic research	120,295	191,849	71,905	30,417	414,466	4.1
Translational and applied research						
Human Cancer	3,991	192,456	304,964	36,850	538,261	5.4
Human Infectious Disorders	6,570	108,222	132,578	35,728	283,098	2.8
Human Cardiovascular Disorders	12,029	21,025	26,146	5,305	64,505	0.6
Human Nervous and Mental Disorders	16,522	150,818	119,040	20,707	307,087	3.1
Human Respiratory Disorders	4,012	30,615	27,559	3,671	65,857	0.7
Human Gastrointestinal Disorders including Liver	3,041	16,688	18,545	5,413	43,687	0.4
Human Musculoskeletal Disorders	444	14,179	18,390	3,129	36,142	0.4
Human Immune Disorders	3,952	25,683	37,496	4,424	71,555	0.7
Human Urogenital/Reproductive Disorders	1,318	5,748	5,382	231	12,679	0.1
Human Sensory Organ Disorders (skin, eyes and ears)	2,185	27,707	22,294	791	52,977	0.5
Human Endocrine/Metabolism Disorders	5,868	58,661	40,233	2,942	107,704	1.1
Other Human Disorders	7,978	8,268	17,307	4,975	38,528	0.4
Animal Diseases and Disorders	7,019	115,958	72,702	64,307	259,986	2.6
Animal Welfare	1,681	57,019	14,321	733	73,754	0.7
Diagnosis of diseases	4,627	22,664	51,776	91,671	170,738	1.7
Plant diseases	0	42	84	0	126	0
Non-regulatory toxicology and ecotoxicology	4,209	50,085	28,028	5,028	87,350	0.9
Regulatory use						
Quality control (incl batch safety and potency testing)						
Batch safety testing	2	127,240	15,546	9,655	152,443	1.5
Pyrogenicity testing	606	16,985	21,840	3	39,434	0.4
Batch potency testing	9,518	395,222	247,356	292,917	945,013	9.4
Other quality controls	300	63,430	11,096	6,454	81,280	0.8
Toxicity and other safety testing including pharmacology						
Acute and sub-acute toxicity testing methods						
LD50, LCS0	1,885	29,619	9,252	22,396	63,152	0.6
Other lethal methods	0	513	2,595	2,050	5,158	0.1
Non lethal methods	2,508	16,542	10,952	1,404	31,406	0.3
Skin irritation/corrosion	175	2,501	536	10	3,222	0
Skin sensitisation	3,588	43,284	3,782	991	51,645	0.5
Eye irritation/corrosion	131	516	364	64	1,075	0
Repeated dose toxicity						
up to 28 days	0	34,908	18,760	1,655	55,323	0.6
29 - 90 days	96	21,041	12,439	982	34,558	0.3
> 90 days	3,187	11,816	6,439	397	21,839	0.2
Carcinogenicity	20	2,506	2,629	173	5,328	0.1
Genotoxicity	156	7,407	1,741	293	9,597	0.1
Reproductive toxicity	342	78,858	17,144	6,471	102,815	1
Developmental toxicity	1,401	82,578	26,871	6,585	117,435	1.2
Neurotoxicity	3	1,799	1,138	126	3,066	0
Kinetics	10	39,085	21,178	644	60,917	0.6
Pharmaco-dynamics (incl safety pharmacology)	1,109	68,601	40,924	3,574	114,208	1.1
Phototoxicity	33	340	94	2	469	0
Ecotoxicity						
Acute toxicity	2,305	31,655	2,510	10,111	46,581	0.5
Chronic toxicity	0	13,568	6,472	3,195	23,235	0.2
Reproductive ecotoxicity	0	2,583	1,486	6	4,075	0
Endocrine activity	0	7,597	0	172	7,769	0.1
Bioaccumulation	0	3,111	1,147	0	4,258	0
Other ecotoxicity	0	1,685	341	235	2,261	0
Safety testing in food and feed area	0	25,786	528	13,996	40,310	0.4
Target animal safety	0	11,698	287	37	12,022	0.1
Other toxicity/safety testing	171	5,328	3,520	940	9,959	0.1
Other efficacy and tolerance testing						
Other efficacy and tolerance testing	289	122,601	35,614	6,475	164,979	1.6
Routine production						
Blood based products	646	160,868	60,197	38,517	260,228	2.6
Monoclonal antibody by mouse ascites method	0	814	20,475	27,645	48,934	0.5
Other product types	214	120,373	18,243	7,442	146,272	1.5
Other						

	Non-recovery	Mild [up to and including]	Moderate	Severe	Total	%
Protection of the natural environment in the interests of the health or welfare of human beings or animals	5,165	31,600	25,907	15,731	78,403	0.8
Preservation of species	2,857	65,344	3,484	167	71,852	0.7
Higher education or training for the acquisition, maintenance or improvement of vocational skills	51,129	85,596	27,082	688	164,495	1.6
Forensic enquiries	5	885	23	2	915	0
Total	620,848	5,239,321	3,101,054	1,067,275	10,028,498	100
%	6.2	52.2	30.9	10.6	100	

Table 6: Basic research related uses by species and type of research (2016)

	Oncology	Cardiovascular Blood and Lymphatic System	Nervous System	Respiratory System	Gastrointestinal System including Liver	Musculoskeletal System	Immune System	Urogenital/Reproductive System	Sensory Organs (skin, eyes and ears)	Endocrine System/Metabolism	Multisystemic	Ethology / Animal Behaviour / Animal Biology	Other basic research	Total	%
Mammals															
Rodents															
Mice	530,789	262,594	630,425	59,649	107,302	75,232	685,471	83,617	57,134	177,404	322,640	25,055	255,793	3,273,105	67.8
Rats	5,544	37,296	163,296	11,429	14,249	5,692	7,346	7,907	6,426	19,442	12,915	17,038	26,269	334,849	6.9
Guinea-Pigs	26	286	364	1,308	213	77	1,971	4	549	487	136	116	17,971	23,508	0.5
Hamsters (Syrian)	230	183	296	0	113	0	107	26	0	45	282	25	1,546	2,853	0.1
Hamsters (Chinese)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mongolian gerbil	0	0	536	0	14	17	124	0	541	0	0	0	329	1,561	0
Other rodents	81	0	408	74	27	20	989	74	105	364	374	6,331	806	9,653	0.2
Rabbits															
Rabbits	177	1,399	546	1,408	289	801	2,913	505	456	260	553	9,850	7,801	26,958	0.6
Carnivores															
Cats	0	24	71	4	156	76	32	14	14	58	230	89	37	805	0
Dogs	0	81	85	2	252	364	157	57	9	15	242	44	482	1,790	0
Ferrets	0	0	145	15	8	0	0	0	6	0	14	8	0	196	0
Other carnivores	0	0	0	0	30	0	323	6	0	0	11	419	8	797	0
Farm animals															
Horses, donkeys and cross-breeds	0	81	0	315	30	147	250	486	3	645	0	291	157	2,405	0
Pigs	258	1,708	358	434	5,691	421	1,793	308	77	844	753	5,068	1,434	19,147	0.4
Goats	0	44	9	0	184	0	37	77	0	47	62	749	44	1,253	0
Sheep	20	518	108	149	903	271	291	650	2	262	501	2,156	3,422	9,253	0.2
Cattle	0	202	5	95	500	3	620	307	0	1,868	1,852	3,650	938	10,040	0.2
Non-human primates															
Prosimians	0	0	21	0	0	0	0	0	9	0	0	87	0	117	0
Marmoset and tamarins	1	0	71	60	0	0	0	0	0	23	88	0	0	243	0
Squirrel monkey	0	0	8	0	0	0	0	0	0	0	0	0	0	8	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	0	0	150	0	0	0	6	0	0	0	28	0	377	561	0
Rhesus monkey	0	54	146	0	0	0	0	0	0	0	32	0	22	254	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0	0	6	6	0
Baboons	0	3	4	0	0	2	26	0	0	0	2	34	0	71	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0	8	0	8	0
Other mammals															
Other mammals	0	0	155	0	12	0	17	136	35	26	34	2,489	242	3,146	0.1
Birds															
Domestic fowl	0	86	4,002	0	16,244	92	6,401	16	479	3,293	4,687	76,657	25,214	137,171	2.8
Other birds	0	459	441	0	160	40	900	55	31	521	54	47,231	10,319	60,211	1.2
Reptiles															
Reptiles	0	43	268	0	0	0	73	0	3	0	39	7,331	410	8,167	0.2
Amphibians															
Rana	0	0	400	0	0	0	0	0	22	0	0	231	23	676	0
Xenopus	1,456	398	4,532	0	0	254	8	2,492	195	4,051	2,037	3,504	6,452	25,379	0.5
Other amphibians	0	0	0	0	0	470	10	410	22	0	0	3,760	2,957	7,629	0.2
Fish															
Zebra fish	31,513	45,789	132,591	419	424	9,015	22,605	14,017	5,946	74,203	24,291	14,640	15,750	391,203	8.1
Other fish	2,022	388	1,012	216	6,950	393	20,826	1,118	496	17,869	51,370	336,841	35,657	475,158	9.8
Cephalopods															
Cephalopods	0	0	0	0	0	0	0	12	0	0	0	340	0	352	0
Totals															
Total	572,117	351,636	940,453	75,577	153,751	93,387	753,296	112,294	72,560	301,727	423,227	564,042	414,466	4,828,533	100
%	11.8	7.3	19.5	1.6	3.2	1.9	15.6	2.3	1.5	6.2	8.8	11.7	8.6	100	

Table 7.1: Translational and applied research related uses by species and type of research (Part 1) (2016)

	Human Cancer	Human Infectious Disorders	Human Cardiovascular Disorders	Human Nervous and Mental Disorders	Human Respiratory Disorders	Human Gastrointestinal Disorders including Liver	Human Musculoskeletal Disorders	Human Immune Disorders	Urogenital/Reproductive Disorders	Human
Mammals										
Rodents										
Mice	528,247	214,815	44,272	195,670	40,621	34,274	24,367	65,790		9,270
Rats	6,413	4,236	15,489	101,259	20,944	8,318	8,653	4,763		2,419
Guinea-Pigs	148	1,111	444	430	3,392	42	8	152		106
Hamsters (Syrian)	387	2,325	32	47	0	0	0	0		36
Hamsters (Chinese)	0	287	0	0	0	0	0	0		0
Mongolian gerbil	0	1,406	0	88	0	0	0	0		0
Other rodents	0	312	0	0	71	0	0	0		0
Rabbits										
Rabbits	1,985	847	937	100	311	247	1,082	239		31
Carnivores										
Cats	0	0	0	0	0	0	0	0		0
Dogs	45	32	87	416	21	45	91	85		4
Ferrets	0	689	0	0	4	98	0	2		0
Other carnivores	0	0	0	0	0	0	0	0		0
Farm animals										
Horses, donkeys and cross-breeds	0	8	0	0	0	0	8	6		0
Pigs	175	379	2,594	220	342	416	216	220		507
Goats	6	15	18	4	0	0	43	0		1
Sheep	26	157	520	115	0	7	710	47		238
Cattle	0	75	4	0	40	0	0	0		0
Non-human primates										
Prosimians	0	0	0	1	0	0	0	0		0
Marmoset and tamarins	8	0	0	24	0	0	0	16		2
Squirrel monkey	0	0	0	0	0	0	0	0		0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0		0
Cynomolgus monkey	14	397	31	106	10	0	21	64		58
Rhesus monkey	0	168	0	11	0	0	0	0		3
Vervets (Chlorocebus spp.)	0	22	0	0	0	0	0	0		0
Baboons	0	22	3	0	0	0	0	0		4
Other species of old world monkeys (Cercopithecoidea)	0	18	0	0	0	0	0	0		0
Other mammals										
Other mammals	58	9	10	8	3	0	0	0		0
Birds										
Domestic fowl	404	325	0	0	90	240	0	10		0
Other birds	0	6,166	0	0	8	0	0	0		0
Reptiles										
Reptiles	0	0	0	0	0	0	0	0		0
Amphibians										
Rana	0	0	0	0	0	0	0	0		0
Xenopus	0	0	0	25	0	0	0	0		0
Other amphibians	0	0	0	0	0	0	0	0		0
Fish										
Zebra fish	345	49,277	64	8,544	0	0	943	161		0
Other fish	0	0	0	19	0	0	0	0		0
Cephalopods										
Cephalopods	0	0	0	0	0	0	0	0		0
Totals										
Total	538,261	283,098	64,505	307,087	65,857	43,687	36,142	71,555		12,679
%	24.3	12.8	2.9	13.9	3	2	1.6	3.2		0.6

Table 7.2: Translational and applied research related uses by species and type of research (Part 2) (2016)

	Human Sensory Organ Disorders (skin, eyes and ears)	Human Endocrine/Metabolism Disorders	Other Human Disorders	Animal Diseases and Disorders	Animal Welfare	Diagnosis of diseases	Plant diseases	Non-regulatory toxicology and ecotoxicology	Total	%
Mammals										
Rodents										
Mice	43,784	70,396	24,306	30,301	1,135	157,985	28	22,532	1,507,793	68.1
Rats	6,709	34,075	12,093	1,842	412	3,967	56	20,221	251,869	11.4
Guinea-Pigs	438	0	186	993	0	1,411	0	374	9,235	0.4
Hamsters (Syrian)	0	698	0	1,036	0	9	0	112	4,682	0.2
Hamsters (Chinese)	0	0	0	0	0	0	0	0	287	0
Mongolian gerbil	0	0	0	773	0	0	0	0	2,267	0.1
Other rodents	0	0	0	86	0	0	0	90	559	0
Rabbits										
Rabbits	1,436	158	309	6,398	319	632	42	373	15,446	0.7
Carnivores										
Cats	0	0	0	1,486	34	96	0	3	1,619	0.1
Dogs	17	154	13	6,216	47	94	0	1,887	9,254	0.4
Ferrets	0	0	0	81	0	1	0	0	875	0
Other carnivores	0	0	0	218	167	0	0	0	385	0
Farm animals										
Horses, donkeys and cross-breeds	0	0	0	1,535	227	129	0	0	1,913	0.1
Pigs	476	1,589	245	17,018	12,824	507	0	247	37,975	1.7
Goats	0	0	0	219	169	55	0	2	532	0
Sheep	4	49	55	5,854	1,365	861	0	57	10,065	0.5
Cattle	0	290	0	8,981	2,118	209	0	14	11,731	0.5
Non-human primates										
Prosimians	0	0	0	0	0	0	0	0	1	0
Marmoset and tamarins	0	0	24	0	0	0	0	24	98	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	61	17	38	0	0	0	0	403	1,220	0.1
Rhesus monkey	24	2	0	0	0	0	0	0	208	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	22	0
Baboons	0	0	0	0	0	0	0	0	29	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	18	0
Other mammals										
Other mammals	0	0	8	82	0	17	0	0	195	0
Birds										
Domestic fowl	28	0	0	72,941	30,251	2,149	0	115	106,553	4.8
Other birds	0	0	0	6,671	2,447	86	0	168	15,546	0.7
Reptiles										
Reptiles	0	0	0	16	0	0	0	0	16	0
Amphibians										
Rana	0	0	0	0	0	0	0	0	0	0
Xenopus	0	117	0	19	0	0	0	1,420	1,581	0.1
Other amphibians	0	0	24	79	0	0	0	3,135	3,238	0.1
Fish										
Zebra fish	0	120	1,227	648	99	0	0	25,303	86,731	3.9
Other fish	0	39	0	96,464	13,740	2,530	0	10,782	123,574	5.6
Cephalopods										
Cephalopods	0	0	0	29	8,400	0	0	88	8,517	0.4
Totals										
Total	52,977	107,704	38,528	259,986	73,754	170,738	126	87,350	2,214,034	100
%	2.4	4.9	1.7	11.7	3.3	7.7	0	3.9	100	

Table 8: Regulatory uses by species and type of use (2016)

	Quality				Toxicity	Other		Total	%
	Quality: Batch safety testing	Quality: Pyrogenicity testing	Quality: Batch potency testing	Quality: Other quality controls	Toxicity and other safety testing including pharmacology	Other efficacy and tolerance testing			
Mammals									
Rodents									
Mice	96,993	1,050	633,305	50,300	242,767	93,518	1,117,933	50.5	
Rats	11,666	0	151,394	1,603	381,032	7,998	553,693	25	
Guinea-Pigs	16,574	0	63,566	2,160	33,808	210	116,318	5.3	
Hamsters	14	0	5,889	2,959	1,017	790	10,669	0.5	
Hamsters (Syrian)	0	0	0	0	230	0	230	0	
Mongolian gerbil	0	0	0	0	1,930	31	1,961	0.1	
Other rodents	0	0	0	0	3,304	30	3,334	0.2	
Rabbits									
Rabbits	2,078	38,384	19,144	3,143	23,831	4,330	90,910	4.1	
Carnivores									
Cats	65	0	40	98	485	342	1,030	0	
Dogs	148	0	87	403	10,071	1,124	11,833	0.5	
Ferrets	277	0	127	0	17	40	461	0	
Other carnivores	223	0	155	0	33	120	531	0	
Farm animals									
Horses, donkeys and cross-breeds	10	0	50	0	126	100	286	0	
Pigs	1,891	0	2,291	867	4,543	4,328	13,920	0.6	
Goats	8	0	48	0	18	16	90	0	
Sheep	321	0	723	237	261	393	1,935	0.1	
Cattle	193	0	1,120	87	596	1,088	3,084	0.1	
Non-human primates									
Prosimians	0	0	0	0	0	0	0	0	
Marmoset and tamarins	0	0	0	0	18	0	18	0	
Squirrel monkey	0	0	0	0	0	0	0	0	
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	
Cynomolgus monkey	0	0	0	0	6,364	69	6,433	0.3	
Rhesus monkey	0	0	0	0	90	6	96	0	
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	
Baboons	0	0	0	0	0	0	0	0	
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	
Other mammals									
Other mammals	0	0	0	0	8	0	8	0	
Birds									
Domestic fowl	21,675	0	63,791	17,622	12,476	34,218	149,782	6.8	
Other birds	229	0	368	885	4,694	2,116	8,292	0.4	
Reptiles									
Reptiles	0	0	0	0	0	0	0	0	
Amphibians									
Rana	0	0	0	0	80	0	80	0	
Xenopus	0	0	0	0	205	0	205	0	
Other amphibians	0	0	0	0	72	0	72	0	
Fish									
Zebra fish	0	0	0	188	37,890	0	38,078	1.7	
Other fish	78	0	2,915	728	65,717	14,112	83,550	3.8	
Cephalopods									
Cephalopods	0	0	0	0	0	0	0	0	
Totals									
Total	152,443	39,434	945,013	81,280	831,683	164,979	2,214,832	100	
%	6.9	1.8	42.7	3.7	37.6	7.4	100		

Table 9.1: Toxicity and other safety testing including pharmacology by species and type of use (Part 1) (2016)

	Acute			Skin irritation / corrosion	Skin sensitisation	Eye irritation / corrosion	Repeated Dose			Carcinogenicity	Genotoxicity	Developmental toxicity	Safety testing in food and feed area
	LDS0, LC50	Other lethal methods	Non lethal methods				up to 28 days	29 - 90 days	> 90 days				
Mammals													
Rodents													
Mice	36,392	1,325	10,112	0	19,931	0	13,164	7,260	2,270	1,793	4,420	164	37,378
Rats	5,384	1,060	16,785	163	0	0	36,800	22,595	15,417	3,535	5,148	101,403	0
Guinea-Pigs	10	0	634	0	31,638	21	4	0	108	0	0	0	0
Hamsters (Syrian)	0	0	472	215	15	0	59	56	80	0	29	0	0
Hamsters (Chinese)	0	0	0	0	0	0	0	230	0	0	0	0	0
Mongolian gerbil	0	0	0	0	0	0	0	0	0	0	0	0	0
Other rodents	70	0	0	0	0	0	0	0	0	0	0	0	0
Rabbits													
Rabbits	12	0	701	2,832	54	1,054	730	927	352	0	0	9,678	9
Carnivores													
Cats	0	0	0	0	0	0	0	0	12	0	0	0	0
Dogs	0	0	534	0	0	0	2,465	1,371	1,802	0	0	0	0
Ferrets	0	0	0	0	0	0	0	0	0	0	0	0	0
Other carnivores	0	0	0	0	0	0	0	0	0	0	0	0	0
Farm animals													
Horses, donkeys and cross-breeds	0	0	0	0	0	0	0	0	0	0	0	0	0
Pigs	0	0	111	12	7	0	681	523	242	0	0	0	148
Goats	0	0	0	0	0	0	0	0	0	0	0	0	0
Sheep	0	0	0	0	0	0	0	0	0	0	0	0	148
Cattle	0	0	0	0	0	0	0	0	0	0	0	0	26
Non-human primates													
Prosimians	0	0	0	0	0	0	0	0	0	0	0	0	0
Marmoset and tamarins	0	0	0	0	0	0	9	0	0	0	0	0	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	11	0	409	0	0	0	1,399	1,572	1,522	0	0	0	0
Rhesus monkey	0	0	0	0	0	0	12	24	34	0	0	0	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0	0	0
Baboons	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other mammals													
Other mammals	8	0	0	0	0	0	0	0	0	0	0	0	0
Birds													
Domestic fowl	3,960	0	0	0	0	0	0	0	0	0	0	0	1,747
Other birds	272	0	159	0	0	0	0	0	0	0	0	0	854
Reptiles													
Reptiles	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphibians													
Rana	0	0	0	0	0	0	0	0	0	0	0	0	0
Xenopus	0	0	0	0	0	0	0	0	0	0	0	0	0
Other amphibians	0	0	0	0	0	0	0	0	0	0	0	0	0
Fish													
Zebra fish	1,502	2,773	624	0	0	0	0	0	0	0	0	6,190	0
Other fish	15,531	0	865	0	0	0	0	0	0	0	0	0	0
Cephalopods													
Cephalopods	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals													
Total	63,152	5,158	31,406	3,222	51,645	1,075	55,323	34,558	21,839	5,328	9,597	117,435	40,310
%	7.6	0.6	3.8	0.4	6.2	0.1	6.7	4.2	2.6	0.6	1.2	14.2	4.9

Table 9.2: Toxicity and other safety testing including pharmacology by species and type of use (Part 2) (2016)

	Target animal safety	Neurotoxicity	Kinetics	Pharmacodynamics (incl safety pharmacology)	Phototoxicity	EcoToxicity						Other toxicity / safety testing	Total	%
						Acute toxicity	Chronic toxicity	Reproductive toxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity			
Mammals														
Rodents														
Mice	188	246	29,209	64,776	403	8,236	254	939	0	0	0	4,307	242,767	29.3
Rats	0	396	25,246	42,834	0	1,810	819	97,247	0	0	0	4,390	381,032	46
Guinea-Pigs	0	0	70	1,039	66	186	0	0	0	0	0	32	33,808	4.1
Hamsters (Syrian)	0	0	4	81	0	0	0	0	0	0	0	6	1,017	0.1
Hamsters (Chinese)	0	0	0	0	0	0	0	0	0	0	0	0	230	0
Mongolian gerbil	0	0	0	1,930	0	0	0	0	0	0	0	0	1,930	0.2
Other rodents	3,054	0	0	0	0	0	0	0	0	0	180	0	3,304	0.4
Rabbits														
Rabbits	76	0	746	1,835	0	9	5	4,598	0	24	0	180	23,822	2.9
Carnivores														
Cats	83	0	378	12	0	0	0	0	0	0	0	0	485	0.1
Dogs	158	0	2,274	977	0	0	0	0	0	0	0	490	10,071	1.2
Ferrets	0	0	0	6	0	0	0	0	0	0	0	11	17	0
Other carnivores	33	0	0	0	0	0	0	0	0	0	0	0	33	0
Farm animals														
Horses, donkeys and cross-breeds	8	0	90	0	0	0	0	0	0	0	28	0	126	0
Pigs	973	0	1,197	480	0	0	0	0	0	0	48	121	4,543	0.5
Goats	0	0	16	0	0	0	0	0	0	0	0	2	18	0
Sheep	0	0	88	0	0	0	0	0	0	18	0	7	261	0
Cattle	125	0	315	15	0	0	0	0	0	0	0	115	596	0.1
Non-human primates														
Prosimians	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marmoset and tamarins	0	0	9	0	0	0	0	0	0	0	0	0	18	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	0	18	983	223	0	0	0	31	0	0	0	196	6,364	0.8
Rhesus monkey	0	0	20	0	0	0	0	0	0	0	0	0	90	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Baboons	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other mammals														
Other mammals	0	0	0	0	0	0	0	0	0	0	0	0	8	0
Birds														
Domestic fowl	6,404	0	263	0	0	0	0	0	0	0	0	102	12,476	1.5
Other birds	274	0	9	0	0	607	158	0	0	0	0	0	2,333	0.3
Reptiles														
Reptiles	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphibians														
Rana	0	0	0	0	0	80	0	0	0	0	0	0	80	0
Xenopus	0	0	0	0	0	205	0	0	0	0	0	0	205	0
Other amphibians	0	0	0	0	0	72	0	0	0	0	0	0	72	0
Fish														
Zebra fish	0	2,406	0	0	0	6,337	9,414	0	6,080	526	573	0	36,425	4.4
Other fish	646	0	0	0	0	29,039	12,585	0	1,689	3,690	1,432	0	65,477	7.9
Cephalopods														
Cephalopods	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals														
Total	12,022	3,066	60,917	114,208	469	46,581	23,235	102,815	7,769	4,258	2,261	9,959	827,608	100
%	1.5	0.4	7.4	13.8	0.1	5.6	2.8	12.4	0.9	0.5	0.3	1.2	100	

Table 10: Regulatory uses by species and type of legislation (2016)

	Legislation on medicinal products for human use	Legislation on medicinal products for veterinary use and their residues	Medical devices legislation	Industrial chemicals legislation	Plant protection product legislation	Biocides legislation	Food legislation including food contact material	Feed legislation including legislation for the safety of target animals, workers and environment	Other legislation	Total	%
Mammals											
Rodents											
Mice	910,195	129,381	15,234	14,994	4,307	1,609	40,150	1,488	575	1,117,933	50.5
Rats	343,737	12,431	2,867	164,098	21,405	3,860	3,250	444	1,601	553,693	25
Guinea-Pigs	70,801	16,028	25,208	3,029	1,085	85	0	0	82	116,318	5.3
Hamsters (Syrian)	905	9,058	706	0	0	0	0	0	0	10,669	0.5
Hamsters (Chinese)	230	0	0	0	0	0	0	0	0	230	0
Mongolian gerbil	0	1,961	0	0	0	0	0	0	0	1,961	0.1
Other rodents	0	0	0	0	3,234	70	0	0	30	3,334	0.2
Rabbits											
Rabbits	65,163	14,701	3,073	5,710	954	68	9	0	1,232	90,910	4.1
Carnivores											
Cats	50	980	0	0	0	0	0	0	0	1,030	0
Dogs	8,839	2,316	22	106	206	0	0	0	344	11,833	0.5
Ferrets	450	0	0	0	0	0	0	0	11	461	0
Other carnivores	0	518	0	0	0	0	0	0	13	531	0
Farm animals											
Horses, donkeys and cross-breeds	49	237	0	0	0	0	0	0	0	286	0
Pigs	3,215	9,233	210	44	0	0	16	1,073	129	13,920	0.6
Goats	50	24	0	0	16	0	0	0	0	90	0
Sheep	42	1,673	90	0	0	0	110	17	3	1,935	0.1
Cattle	0	2,914	0	0	18	0	0	50	102	3,084	0.1
Non-human primates											
Prosimians	0	0	0	0	0	0	0	0	0	0	0
Marmoset and tamarins	18	0	0	0	0	0	0	0	0	18	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	6,433	0	0	0	0	0	0	0	0	6,433	0.3
Rhesus monkey	96	0	0	0	0	0	0	0	0	96	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0
Baboons	0	0	0	0	0	0	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0
Other mammals											
Other mammals	0	0	0	0	0	8	0	0	0	8	0
Birds											
Domestic fowl	1,904	124,752	0	0	230	0	20	20,100	2,776	149,782	6.8
Other birds	0	3,555	0	0	3,623	0	0	1,114	0	8,292	0.4
Reptiles											
Reptiles	0	0	0	0	0	0	0	0	0	0	0
Amphibians											
Rana	0	0	0	0	80	0	0	0	0	80	0
Xenopus	0	0	0	0	205	0	0	0	0	205	0
Other amphibians	0	0	0	0	72	0	0	0	0	72	0
Fish											
Zebra fish	1,880	872	1,040	12,977	14,474	805	0	0	6,030	38,078	1.7
Other fish	8,399	6,420	494	13,814	11,593	583	0	12,300	29,947	83,550	3.8
Cephalopods											
Cephalopods	0	0	0	0	0	0	0	0	0	0	0
Totals											
Total	1,422,456	337,054	48,944	214,772	61,502	7,088	43,555	36,586	42,875	2,214,832	100
%	64.2	15.2	2.2	9.7	2.8	0.3	2	1.7	1.9	100	

Table 11: Regulatory uses by species and origin of regulatory requirement (2016)

	Legislation satisfying EU requirements	Legislation satisfying national requirements only [within EU]	Legislation satisfying Non-EU requirements only	Total	%
Mammals					
Rodents					
Mice	1,032,534	16,404	68,995	1,117,933	50.5
Rats	546,510	1,111	6,072	553,693	25
Guinea-Pigs	109,983	62	6,273	116,318	5.3
Hamsters (Syrian)	10,663	0	6	10,669	0.5
Hamsters (Chinese)	230	0	0	230	0
Mongolian gerbil	1,961	0	0	1,961	0.1
Other rodents	3,304	30	0	3,334	0.2
Rabbits					
Rabbits	68,514	139	22,257	90,910	4.1
Carnivores					
Cats	1,024	0	6	1,030	0
Dogs	11,737	19	77	11,833	0.5
Ferrets	461	0	0	461	0
Other carnivores	493	13	25	531	0
Farm animals					
Horses, donkeys and cross-breeds	284	0	2	286	0
Pigs	12,315	2	1,603	13,920	0.6
Goats	90	0	0	90	0
Sheep	1,928	3	4	1,935	0.1
Cattle	2,963	91	30	3,084	0.1
Non-human primates					
Prosimians	0	0	0	0	0
Marmoset and tamarins	18	0	0	18	0
Squirrel monkey	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0
Cynomolgus monkey	6,411	0	22	6,433	0.3
Rhesus monkey	96	0	0	96	0
Vervets (Chlorocebus spp.)	0	0	0	0	0
Baboons	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0
Other mammals					
Other mammals	8	0	0	8	0
Birds					
Domestic fowl	144,335	130	5,317	149,782	6.8
Other birds	8,276	0	16	8,292	0.4
Reptiles					
Reptiles	0	0	0	0	0
Amphibians					
Rana	80	0	0	80	0
Xenopus	205	0	0	205	0
Other amphibians	72	0	0	72	0
Fish					
Zebra fish	36,518	1,560	0	38,078	1.7
Other fish	57,540	25,867	143	83,550	3.8
Cephalopods					
Cephalopods	0	0	0	0	0
Totals					
Total	2,058,553	45,431	110,848	2,214,832	100
%	92.9	2.1	5	100	

Table 12: Routine production uses by species and product type (2016)

	Blood based products	Other product types	Monoclonal antibody by mouse ascites method	Total	%
Mammals					
Rodents					
Mice	1,192	2,591	48,289	52,072	11.4
Rats	1,684	442	16	2,142	0.5
Guinea-Pigs	772	11	0	783	0.2
Hamsters (Syrian)	238	11	0	249	0.1
Hamsters (Chinese)	0	0	0	0	0
Mongolian gerbil	0	198	0	198	0
Other rodents	0	0	0	0	0
Rabbits					
Rabbits	191,190	36,706	629	228,525	50.2
Carnivores					
Cats	6	21	0	27	0
Dogs	170	2	0	172	0
Ferrets	14	0	0	14	0
Other carnivores	3	0	0	3	0
Farm animals					
Horses, donkeys and cross-breeds	8,187	0	0	8,187	1.8
Pigs	20	225	0	245	0.1
Goats	61	15	0	76	0
Sheep	44,014	1,097	0	45,111	9.9
Cattle	123	26	0	149	0
Non-human primates					
Prosimians	0	0	0	0	0
Marmoset and tamarins	16	0	0	16	0
Squirrel monkey	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0
Cynomolgus monkey	958	64	0	1,022	0.2
Rhesus monkey	0	3	0	3	0
Vervets (Chlorocebus spp.)	0	13	0	13	0
Baboons	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0
Other mammals					
Other mammals	10	19	0	29	0
Birds					
Domestic fowl	1,655	104,214	0	105,869	23.2
Other birds	9,915	314	0	10,229	2.2
Reptiles					
Reptiles	0	300	0	300	0.1
Amphibians					
Rana	0	0	0	0	0
Xenopus	0	0	0	0	0
Other amphibians	0	0	0	0	0
Fish					
Zebra fish	0	0	0	0	0
Other fish	0	0	0	0	0
Cephalopods					
Cephalopods	0	0	0	0	0
Totals					
Total	260,228	146,272	48,934	455,434	100
%	57.1	32.1	10.7	100	

Table 13: Reuses of animals by species and main categories of scientific purposes in research, testing routine production and education (2016)

	Reuse	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Mice	Yes	14,006	8,806	26,148	180	0	0	5,394	0	54,534	0.9
	No	3,259,099	1,498,987	1,091,785	51,892	2,252	14,410	70,856	132	5,989,413	99.1
	Total	3,273,105	1,507,793	1,117,933	52,072	2,252	14,410	76,250	132	6,043,947	100.0
Rats	Yes	6,462	4,959	3,250	138	0	0	2,826	40	17,675	1.5
	No	328,387	246,910	550,443	2,004	4,531	224	40,622	14	1,173,135	98.5
	Total	334,849	251,869	553,693	2,142	4,531	224	43,448	54	1,190,810	100.0
Guinea-Pigs	Yes	31	50	518	5	0	0	118	0	722	0.5
	No	23,477	9,185	115,800	778	0	0	1,745	0	150,985	99.5
	Total	23,508	9,235	116,318	783	0	0	1,863	0	151,707	100.0
Hamsters (Syrian)	Yes	25	4	6	11	0	0	12	0	58	0.3
	No	2,828	4,678	10,663	238	0	0	207	0	18,614	99.7
	Total	2,853	4,682	10,669	249	0	0	219	0	18,672	100.0
Hamsters (Chinese)	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	0	287	230	0	0	0	2	0	519	100.0
	Total	0	287	230	0	0	0	2	0	519	100.0
Mongolian gerbil	Yes	30	397	0	0	0	0	0	0	427	7.0
	No	1,531	1,870	1,961	198	0	0	85	0	5,645	93.0
	Total	1,561	2,267	1,961	198	0	0	85	0	6,072	100.0
Other rodents	Yes	337	0	0	0	0	0	0	0	337	2.4
	No	9,316	559	3,334	0	444	40	19	0	13,712	97.6
	Total	9,653	559	3,334	0	444	40	19	0	14,049	100.0
Rabbits	Yes	133	278	12,022	932	5	0	357	0	13,727	3.8
	No	26,825	15,168	78,888	227,593	191	0	1,740	0	350,405	96.2
	Total	26,958	15,446	90,910	228,525	196	0	2,097	0	364,132	100.0
Cats	Yes	426	703	403	6	0	0	206	0	1,744	47.2
	No	379	916	627	21	0	0	8	0	1,951	52.8
	Total	805	1,619	1,030	27	0	0	214	0	3,695	100.0
Dogs	Yes	881	2,985	3,436	143	0	0	316	0	7,761	33.1
	No	909	6,269	8,397	29	0	0	87	0	15,691	66.9
	Total	1,790	9,254	11,833	172	0	0	403	0	23,452	100.0
Ferrets	Yes	2	24	0	0	0	0	54	0	80	5.0
	No	194	851	461	14	0	0	10	0	1,530	95.0
	Total	196	875	461	14	0	0	64	0	1,610	100.0
Other carnivores	Yes	346	4	40	3	0	0	0	0	393	21.4
	No	451	381	491	0	69	52	0	0	1,444	78.6
	Total	797	385	531	3	69	52	0	0	1,837	100.0
Horses, donkeys and cross-breeds	Yes	1,131	247	26	8,077	2	0	167	0	9,650	73.5
	No	1,274	1,666	260	110	10	20	134	0	3,474	26.5
	Total	2,405	1,913	286	8,187	12	20	301	0	13,124	100.0
Pigs	Yes	347	1,168	606	0	75	0	965	0	3,161	3.8
	No	18,800	36,807	13,314	245	447	0	10,354	62	80,029	96.2
	Total	19,147	37,975	13,920	245	522	0	11,319	62	83,190	100.0
Goats	Yes	766	5	0	6	30	0	45	0	852	38.4
	No	487	527	90	70	20	0	171	0	1,365	61.6
	Total	1,253	532	90	76	50	0	216	0	2,217	100.0
Sheep	Yes	3,576	316	246	42,277	0	0	239	0	46,654	68.7
	No	5,677	9,749	1,689	2,834	41	0	1,158	92	21,240	31.3
	Total	9,253	10,065	1,935	45,111	41	0	1,397	92	67,894	100.0
Cattle	Yes	2,600	2,645	336	19	1,653	0	3,268	0	10,521	31.6
	No	7,440	9,086	2,748	130	380	28	2,945	25	22,782	68.4
	Total	10,040	11,731	3,084	149	2,033	28	6,213	25	33,303	100.0
Prosimians	Yes	74	0	0	0	0	0	0	0	74	62.7
	No	43	1	0	0	0	0	0	0	44	37.3

	Reuse	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
	Total	117	1	0	0	0	0	0	0	118	100.0
Marmoset and tamarins	Yes	40	26	9	16	0	0	0	0	91	24.2
	No	203	72	9	0	0	0	1	0	285	75.8
	Total	243	98	18	16	0	0	1	0	376	100.0
Squirrel monkey	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	8	0	0	0	0	0	0	0	8	100.0
	Total	8	0	0	0	0	0	0	0	8	100.0
Cynomolgus monkey	Yes	42	671	1,054	968	0	0	43	0	2,778	29.9
	No	519	549	5,379	54	0	0	2	0	6,503	70.1
	Total	561	1,220	6,433	1,022	0	0	45	0	9,281	100.0
Rhesus monkey	Yes	128	87	26	3	0	0	4	0	248	43.8
	No	126	121	70	0	0	0	1	0	318	56.2
	Total	254	208	96	3	0	0	5	0	566	100.0
Vervets Chlorocebus spp	Yes	0	22	0	0	0	0	0	0	22	53.7
	No	6	0	0	13	0	0	0	0	19	46.3
	Total	6	22	0	13	0	0	0	0	41	100.0
Baboons	Yes	20	18	0	0	0	0	0	0	38	38.0
	No	51	11	0	0	0	0	0	0	62	62.0
	Total	71	29	0	0	0	0	0	0	100	100.0
Other species of old world monkeys (Cercopithecoidea)	Yes	8	18	0	0	0	0	0	0	26	100.0
	No	0	0	0	0	0	0	0	0	0	0.0
	Total	8	18	0	0	0	0	0	0	26	100.0
Other mammals	Yes	211	50	0	0	5	0	3	0	269	6.9
	No	2,935	145	8	29	177	259	84	0	3,637	93.1
	Total	3,146	195	8	29	182	259	87	0	3,906	100.0
Domestic fowl	Yes	2,670	494	2,284	63	0	0	980	0	6,491	1.3
	No	134,501	106,059	147,498	105,806	3,281	709	2,530	536	500,920	98.7
	Total	137,171	106,553	149,782	105,869	3,281	709	3,510	536	507,411	100.0
Other birds	Yes	1,763	185	140	0	108	0	409	0	2,605	2.7
	No	58,448	15,361	8,152	10,229	1,439	855	306	14	94,804	97.3
	Total	60,211	15,546	8,292	10,229	1,547	855	715	14	97,409	100.0
Reptiles	Yes	5,026	0	0	300	0	0	9	0	5,335	62.2
	No	3,141	16	0	0	65	0	18	0	3,240	37.8
	Total	8,167	16	0	300	65	0	27	0	8,575	100.0
Rana	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	676	0	80	0	1,450	0	2,276	0	4,482	100.0
	Total	676	0	80	0	1,450	0	2,276	0	4,482	100.0
Xenopus	Yes	8,786	585	0	0	0	0	22	0	9,393	33.7
	No	16,593	996	205	0	608	0	109	0	18,511	66.3
	Total	25,379	1,581	205	0	608	0	131	0	27,904	100.0
Other amphibians	Yes	106	24	0	0	239	0	0	0	369	1.9
	No	7,523	3,214	72	0	2,051	6,417	281	0	19,558	98.1
	Total	7,629	3,238	72	0	2,290	6,417	281	0	19,927	100.0
Zebra fish	Yes	5,244	0	134	0	0	0	0	0	5,378	1.0
	No	385,959	86,731	37,944	0	855	127	1,395	0	513,011	99.0
	Total	391,203	86,731	38,078	0	855	127	1,395	0	518,389	100.0
Other fish	Yes	8,948	50	92	0	0	0	49	0	9,139	1.1
	No	466,210	123,524	83,458	0	57,975	48,711	11,848	0	791,726	98.9
	Total	475,158	123,574	83,550	0	57,975	48,711	11,897	0	800,865	100.0
Cephalopods	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	352	8,517	0	0	0	0	15	0	8,884	100.0
	Total	352	8,517	0	0	0	0	15	0	8,884	100.0
All Species	Yes	64,165	24,821	50,776	53,147	2,117	0	15,486	40	210,552	2.1
	No	4,764,368	2,189,213	2,164,056	402,287	76,286	71,852	149,009	875	9,817,946	97.9
	Total	4,828,533	2,214,034	2,214,832	455,434	78,403	71,852	164,495	915	10,028,498	100.0

Table 14: Genetic status of animals used by species and main categories of scientific purposes (2016)

	Genetic status	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Mice	Not altered	1,448,135	1,026,697	1,067,308	51,402	2,203	333	67,499	64	3,663,641	60.6
	Non harmful	1,546,445	356,991	49,339	670	49	13,876	8,224	40	1,975,634	32.7
	Harmful	278,525	124,105	1,286	0	0	201	527	28	404,672	6.7
	Total	3,273,105	1,507,793	1,117,933	52,072	2,252	14,410	76,250	132	6,043,947	100.0
Rats	Not altered	317,730	243,625	551,023	1,840	4,517	82	43,185	54	1,162,056	97.6
	Non harmful	13,013	3,988	2,620	302	14	142	251	0	20,330	1.7
	Harmful	4,106	4,256	50	0	0	0	12	0	8,424	0.7
	Total	334,849	251,869	553,693	2,142	4,531	224	43,448	54	1,190,810	100.0
Guinea-Pigs	Not altered	23,508	9,235	116,318	783	0	0	1,863	0	151,707	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	23,508	9,235	116,318	783	0	0	1,863	0	151,707	100.0
Hamsters (Syrian)	Not altered	2,853	4,682	10,669	249	0	0	219	0	18,672	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	2,853	4,682	10,669	249	0	0	219	0	18,672	100.0
Hamsters (Chinese)	Not altered	0	287	230	0	0	0	2	0	519	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	0	287	230	0	0	0	2	0	519	100.0
Mongolian gerbil	Not altered	1,561	2,267	1,961	198	0	0	85	0	6,072	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	1,561	2,267	1,961	198	0	0	85	0	6,072	100.0
Other rodents	Not altered	9,653	559	3,334	0	444	40	19	0	14,049	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	9,653	559	3,334	0	444	40	19	0	14,049	100.0
Rabbits	Not altered	26,899	15,446	90,910	200,806	196	0	2,097	0	336,354	92.4
	Non harmful	29	0	0	27,719	0	0	0	0	27,748	7.6
	Harmful	30	0	0	0	0	0	0	0	30	0.0
	Total	26,958	15,446	90,910	228,525	196	0	2,097	0	364,132	100.0
Cats	Not altered	805	1,619	1,030	27	0	0	214	0	3,695	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	805	1,619	1,030	27	0	0	214	0	3,695	100.0
Dogs	Not altered	1,777	9,223	11,833	172	0	0	403	0	23,408	99.8
	Non harmful	0	14	0	0	0	0	0	0	14	0.1
	Harmful	13	17	0	0	0	0	0	0	30	0.1
	Total	1,790	9,254	11,833	172	0	0	403	0	23,452	100.0
Ferrets	Not altered	196	875	461	14	0	0	64	0	1,610	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	196	875	461	14	0	0	64	0	1,610	100.0
Other carnivores	Not altered	797	385	531	3	69	52	0	0	1,837	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	797	385	531	3	69	52	0	0	1,837	100.0
Horses, donkeys and cross-breeds	Not altered	2,405	1,913	286	8,187	12	20	301	0	13,124	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	2,405	1,913	286	8,187	12	20	301	0	13,124	100.0
Pigs	Not altered	19,069	37,704	13,920	245	522	0	11,319	62	82,841	99.6
	Non harmful	54	124	0	0	0	0	0	0	178	0.2
	Harmful	24	147	0	0	0	0	0	0	171	0.2

	Genetic status	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
	Total	19,147	37,975	13,920	245	522	0	11,319	62	83,190	100.0
Goats	Not altered	1,253	532	90	76	50	0	216	0	2,217	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	1,253	532	90	76	50	0	216	0	2,217	100.0
Sheep	Not altered	9,233	10,065	1,935	45,111	41	0	1,397	92	67,874	100.0
	Non harmful	20	0	0	0	0	0	0	0	20	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	9,253	10,065	1,935	45,111	41	0	1,397	92	67,894	100.0
Cattle	Not altered	10,040	11,731	3,084	149	2,033	28	6,213	25	33,303	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	10,040	11,731	3,084	149	2,033	28	6,213	25	33,303	100.0
Prosimians	Not altered	117	1	0	0	0	0	0	0	118	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	117	1	0	0	0	0	0	0	118	100.0
Marmoset and tamarins	Not altered	243	98	18	16	0	0	1	0	376	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	243	98	18	16	0	0	1	0	376	100.0
Squirrel monkey	Not altered	8	0	0	0	0	0	0	0	8	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	8	0	0	0	0	0	0	0	8	100.0
Cynomolgus monkey	Not altered	561	1,220	6,433	1,022	0	0	45	0	9,281	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	561	1,220	6,433	1,022	0	0	45	0	9,281	100.0
Rhesus monkey	Not altered	254	208	96	3	0	0	5	0	566	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	254	208	96	3	0	0	5	0	566	100.0
Vervets Chlorocebus spp	Not altered	6	22	0	13	0	0	0	0	41	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	6	22	0	13	0	0	0	0	41	100.0
Baboons	Not altered	71	29	0	0	0	0	0	0	100	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	71	29	0	0	0	0	0	0	100	100.0
Other species of old world monkeys (Cercopithecoidea)	Not altered	8	18	0	0	0	0	0	0	26	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	8	18	0	0	0	0	0	0	26	100.0
Other mammals	Not altered	3,146	195	8	29	182	259	87	0	3,906	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	3,146	195	8	29	182	259	87	0	3,906	100.0
Domestic fowl	Not altered	136,789	106,214	149,782	105,869	3,281	709	3,510	536	506,690	99.9
	Non harmful	354	339	0	0	0	0	0	0	693	0.1
	Harmful	28	0	0	0	0	0	0	0	28	0.0
	Total	137,171	106,553	149,782	105,869	3,281	709	3,510	536	507,411	100.0
Other birds	Not altered	60,211	15,546	8,292	10,229	1,547	855	715	14	97,409	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	60,211	15,546	8,292	10,229	1,547	855	715	14	97,409	100.0
Reptiles	Not altered	8,167	16	0	300	65	0	27	0	8,575	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0

	Genetic status	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
	Total	8,167	16	0	300	65	0	27	0	8,575	100.0
Rana	Not altered	676	0	80	0	1,450	0	2,276	0	4,482	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	676	0	80	0	1,450	0	2,276	0	4,482	100.0
Xenopus	Not altered	20,363	1,508	205	0	608	0	131	0	22,815	81.8
	Non harmful	4,452	73	0	0	0	0	0	0	4,525	16.2
	Harmful	564	0	0	0	0	0	0	0	564	2.0
	Total	25,379	1,581	205	0	608	0	131	0	27,904	100.0
Other amphibians	Not altered	7,194	3,238	72	0	2,290	6,417	281	0	19,492	97.8
	Non harmful	435	0	0	0	0	0	0	0	435	2.2
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	7,629	3,238	72	0	2,290	6,417	281	0	19,927	100.0
Zebra fish	Not altered	115,779	33,684	38,078	0	855	68	1,056	0	189,520	36.6
	Non harmful	259,374	48,473	0	0	0	59	339	0	308,245	59.5
	Harmful	16,050	4,574	0	0	0	0	0	0	20,624	4.0
	Total	391,203	86,731	38,078	0	855	127	1,395	0	518,389	100.0
Other fish	Not altered	471,548	119,675	83,395	0	57,975	48,711	11,897	0	793,201	99.0
	Non harmful	3,078	3,899	155	0	0	0	0	0	7,132	0.9
	Harmful	532	0	0	0	0	0	0	0	532	0.1
	Total	475,158	123,574	83,550	0	57,975	48,711	11,897	0	800,865	100.0
Cephalopods	Not altered	352	8,517	0	0	0	0	15	0	8,884	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	352	8,517	0	0	0	0	15	0	8,884	100.0
All Species	Harmful	299,872	133,099	1,336	0	0	201	539	28	435,075	4.3
	Non harmful	1,827,254	413,901	52,114	28,691	63	14,077	8,814	40	2,344,954	23.4
	Not altered	2,701,407	1,667,034	2,161,382	426,743	78,340	57,574	155,142	847	7,248,469	72.3
	Total	4,828,533	2,214,034	2,214,832	455,434	78,403	71,852	164,495	915	10,028,498	100.0

Part 3: Numbers and uses of animals for the creation and maintenance of genetically altered animals in the EU

Table 15: Use of animals for the creation of new genetically altered animal lines by research type species and severity (2016)

	Severity	Basic research	Translational and applied research	Total	%
Mice	Non-recovery	11,199	1,429	12,628	3.5
	Mild	253,536	16,280	269,816	75.0
	Moderate	56,436	12,345	68,781	19.1
	Severe	7,988	681	8,669	2.4
	Total	329,159	30,735	359,894	100.0
Rats	Non-recovery	519	12	531	8.8
	Mild	2,990	416	3,406	56.4
	Moderate	1,670	53	1,723	28.5
	Severe	347	32	379	6.3
	Total	5,526	513	6,039	100.0
Guinea-Pigs	Non-recovery	47	0	47	100.0
	Mild	0	0	0	0.0
	Moderate	0	0	0	0.0
	Severe	0	0	0	0.0
	Total	47	0	47	100.0
Other rodents	Non-recovery	6	0	6	100.0
	Mild	0	0	0	0.0
	Moderate	0	0	0	0.0
	Severe	0	0	0	0.0
	Total	6	0	6	100.0
Rabbits	Non-recovery	223	371	594	61.4
	Mild	0	0	0	0.0
	Moderate	17	356	373	38.6
	Severe	0	0	0	0.0
	Total	240	727	967	100.0
Pigs	Non-recovery	0	0	0	0.0
	Mild	184	12	196	69.0
	Moderate	61	0	61	21.5
	Severe	27	0	27	9.5
	Total	272	12	284	100.0
Sheep	Non-recovery	0	0	0	0.0
	Mild	24	0	24	12.6
	Moderate	167	0	167	87.4
	Severe	0	0	0	0.0
	Total	191	0	191	100.0
Domestic fowl	Non-recovery	0	0	0	0.0
	Mild	401	114	515	100.0
	Moderate	0	0	0	0.0
	Severe	0	0	0	0.0
	Total	401	114	515	100.0
Xenopus	Non-recovery	0	0	0	0.0
	Mild	965	85	1,050	95.5
	Moderate	50	0	50	4.5
	Severe	0	0	0	0.0
	Total	1,015	85	1,100	100.0
Zebra fish	Non-recovery	1,643	0	1,643	1.3
	Mild	107,496	1,779	109,275	89.5
	Moderate	8,868	0	8,868	7.3
	Severe	2,033	263	2,296	1.9
	Total	120,040	2,042	122,082	100.0
Other fish	Non-recovery	558	0	558	5.2
	Mild	10,040	0	10,040	93.5
	Moderate	139	0	139	1.3
	Severe	0	0	0	0.0
	Total	10,737	0	10,737	100.0

	Severity	Basic research	Translational and applied research	Total	%
All Species	Non-recovery	14,195	1,812	16,007	3.2
	Mild	375,636	18,686	394,322	78.6
	Moderate	67,408	12,754	80,162	16.0
	Severe	10,395	976	11,371	2.3
	Total	467,634	34,228	501,862	100.0

Table 16: Use of animals for the creation of new genetically altered animal lines by research type species and severity (2016)

		Reuse	Basic research	Translational and applied research	Total	%
Mice	Yes		2,396	21	2,417	0.7
	No		326,763	30,714	357,477	99.3
	Total		329,159	30,735	359,894	100.0
Rats	Yes		0	0	0	0.0
	No		5,526	513	6,039	100.0
	Total		5,526	513	6,039	100.0
Guinea-Pigs	Yes		0	0	0	0.0
	No		47	0	47	100.0
	Total		47	0	47	100.0
Other rodents	Yes		0	0	0	0.0
	No		6	0	6	100.0
	Total		6	0	6	100.0
Rabbits	Yes		0	0	0	0.0
	No		240	727	967	100.0
	Total		240	727	967	100.0
Pigs	Yes		0	0	0	0.0
	No		272	12	284	100.0
	Total		272	12	284	100.0
Sheep	Yes		0	0	0	0.0
	No		191	0	191	100.0
	Total		191	0	191	100.0
Domestic fowl	Yes		0	0	0	0.0
	No		401	114	515	100.0
	Total		401	114	515	100.0
Xenopus	Yes		0	0	0	0.0
	No		1,015	85	1,100	100.0
	Total		1,015	85	1,100	100.0
Zebra fish	Yes		6,289	0	6,289	5.2
	No		113,751	2,042	115,793	94.8
	Total		120,040	2,042	122,082	100.0
Other fish	Yes		0	0	0	0.0
	No		10,737	0	10,737	100.0
	Total		10,737	0	10,737	100.0
All Species	Yes		8,685	21	8,706	1.7
	No		458,949	34,207	493,156	98.3
	Total		467,634	34,228	501,862	100.0

Table 17: Uses of animals for the creation of new genetically altered animal lines in basic research by species and type of research (2016)

	Oncology	Cardiovascular Blood and Lymphatic System	Nervous System	Respiratory System	Gastrointestinal System including Liver	Musculoskeletal System	Immune System	Urogenital/Reprod uctive System	Sensory Organs (skin, eyes and ears)	Endocrine System/Metabolis m	Multisystemic	Ethology / Animal Behaviour /Animal Biology	Other basic research	Total	%
Mammals															
Rodents															
Mice	60,864	13,916	52,874	213	6,317	5,259	35,124	12,918	8,165	13,900	87,472	207	31,930	329,159	70.4
Rats	0	1,272	1,697	0	1	0	283	34	0	0	1,336	0	903	5,526	1.2
Guinea-Pigs	0	0	0	0	0	0	0	47	0	0	0	0	0	47	0
Other rodents	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0
Rabbits															
Rabbits	0	76	0	0	0	116	0	24	0	0	0	0	24	240	0.1
Farm animals															
Pigs	0	3	27	0	0	0	135	0	0	13	94	0	0	272	0.1
Sheep	0	0	2	22	0	0	0	0	0	0	167	0	0	191	0
Non-human primates															
Marmoset and tamarins	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other mammals															
Other mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Birds															
Domestic fowl	0	0	0	0	0	0	98	54	0	0	249	0	0	401	0.1
Amphibians															
Xenopus	0	201	176	0	0	0	0	0	300	198	0	0	140	1,015	0.2
Fish															
Zebra fish	2,879	24,519	23,840	0	540	2,245	9,585	5,934	11,439	2,164	25,629	2,300	8,966	120,040	25.7
Other fish	126	6	558	0	0	0	0	1,573	7,601	0	860	0	13	10,737	2.3
Totals															
Total	63,869	39,993	79,174	235	6,858	7,620	45,225	20,584	27,505	16,275	115,807	2,513	41,976	467,634	100
%	13.7	8.6	16.9	0.1	1.5	1.6	9.7	4.4	5.9	3.5	24.8	0.5	9	100	

Table 18.1: Uses of animals for the creation of new genetically altered animal lines in basic, translational and applied research by species and type of research (Part 1) (2016)

	Human Cancer	Human Infectious Disorders	Human Cardiovascular Disorders	Human Nervous and Mental Disorders	Human Respiratory Disorders	Human Gastrointestinal Disorders including Liver	Human Musculoskeletal Disorders	Human Immune Disorders
Mammals								
Rodents								
Mice	14,063	386	2,391	2,950	407	1,117	481	745
Rats	99	0	0	0	0	0	88	0
Guinea-Pigs	0	0	0	0	0	0	0	0
Other rodents	0	0	0	0	0	0	0	0
Rabbits								
Rabbits	0	0	0	0	0	0	0	0
Farm animals								
Pigs	0	0	0	0	0	0	0	0
Sheep	0	0	0	0	0	0	0	0
Non-human primates								
Marmoset and tamarins	0	0	0	0	0	0	0	0
Other mammals								
Other mammals	0	0	0	0	0	0	0	0
Birds								
Domestic fowl	0	0	0	0	0	0	0	0
Amphibians								
Xenopus	0	0	0	0	0	0	0	0
Fish								
Zebra fish	0	461	100	0	0	0	396	0
Other fish	0	0	0	0	0	0	0	0
Totals								
Total	14,162	847	2,491	2,950	407	1,117	965	745
%	41.7	2.5	7.3	8.7	1.2	3.3	2.8	2.2

Table 18.2: Uses of animals for the creation of new genetically altered animal lines in basic translational and applied research by species and type of research (Part 2) (2016)

	Human Urogenital/Reproductive Disorders	Human Sensory Organ Disorders (skin, eyes and ears)	Human Endocrine/Metabolism Disorders	Other Human Disorders	Animal Diseases and Disorders	Animal Welfare	Diagnosis of diseases	Non-regulatory toxicology and ecotoxicology	Total	%
Mammals										
Rodents										
Mice	481	487	5,682	1,107	197	0	239	2	30,735	89.8
Rats	0	234	0	0	0	92	0	0	513	1.5
Guinea-Pigs	0	0	0	0	0	0	0	0	0	0
Other rodents	0	0	0	0	0	0	0	0	0	0
Rabbits										
Rabbits	0	0	565	0	162	0	0	0	727	2.1
Farm animals										
Pigs	0	0	0	0	12	0	0	0	12	0
Sheep	0	0	0	0	0	0	0	0	0	0
Non-human primates										
Marmoset and tamarins	0	0	0	0	0	0	0	0	0	0
Other mammals										
Other mammals	0	0	0	0	0	0	0	0	0	0
Birds										
Domestic fowl	0	0	0	20	94	0	0	0	114	0.3
Amphibians										
Xenopus	0	85	0	0	0	0	0	0	85	0.2
Fish										
Zebra fish	0	1,073	0	12	0	0	0	0	2,042	6
Other fish	0	0	0	0	0	0	0	0	0	0
Totals										
Total	481	1,879	6,247	1,139	465	92	239	2	34,228	100
%	1.4	5.5	18.3	3.3	1.4	0.3	0.7	0	100	

Table 19: Uses of animals for the maintenance of colonies of established genetically altered animal lines by species, severity and genetic status (2016)

	Severity	Genetically altered with a harmful phenotype	Genetically altered without a harmful phenotype	Not genetically altered	Total	%
Mice	Non-recovery	244	425	47	716	0.1
	Mild	133,810	372,090	32,786	538,686	86.3
	Moderate	22,041	15,269	8,357	45,667	7.3
	Severe	29,336	9,515	68	38,919	6.2
	Total	185,431	397,299	41,258	623,988	100.0
Rats	Non-recovery	0	0	0	0	0.0
	Mild	3,887	3,101	258	7,246	78.0
	Moderate	436	56	1,059	1,551	16.7
	Severe	428	47	22	497	5.3
	Total	4,751	3,204	1,339	9,294	100.0
Dogs	Non-recovery	0	0	0	0	0.0
	Mild	0	0	0	0	0.0
	Moderate	0	0	0	0	0.0
	Severe	17	0	0	17	100.0
	Total	17	0	0	17	100.0
Other mammals	Non-recovery	0	0	0	0	0.0
	Mild	0	0	4	4	100.0
	Moderate	0	0	0	0	0.0
	Severe	0	0	0	0	0.0
	Total	0	0	4	4	100.0
Domestic fowl	Non-recovery	0	0	0	0	0.0
	Mild	0	345	32	377	64.8
	Moderate	135	0	0	135	23.2
	Severe	70	0	0	70	12.0
	Total	205	345	32	582	100.0
Xenopus	Non-recovery	0	0	0	0	0.0
	Mild	0	141	79	220	84.9
	Moderate	0	14	0	14	5.4
	Severe	0	25	0	25	9.7
	Total	0	180	79	259	100.0
Zebra fish	Non-recovery	0	286	29	315	0.5
	Mild	3,018	55,371	4,217	62,606	93.7
	Moderate	480	2,694	187	3,361	5.0
	Severe	3	503	6	512	0.8
	Total	3,501	58,854	4,439	66,794	100.0
Other fish	Non-recovery	0	0	0	0	0.0
	Mild	1	0	0	1	0.2
	Moderate	0	570	0	570	99.8
	Severe	0	0	0	0	0.0
	Total	1	570	0	571	100.0
All Species	Non-recovery	244	711	76	1,031	0.1
	Mild	140,716	431,048	37,376	609,140	86.8
	Moderate	23,092	18,603	9,603	51,298	7.3
	Severe	29,854	10,090	96	40,040	5.7
	Total	193,906	460,452	47,151	701,509	100.0

Table 20: Uses of animals for the maintenance of colonies of established genetically altered animal lines by species, reuse and genetic status (2016)

		Reuse	Not genetically altered	Genetically altered without a harmful phenotype	Genetically altered with a harmful phenotype	Total	%
Mice	Yes		0	191	0	191	0.0
	No		41,258	397,108	185,431	623,797	100.0
	Total		41,258	397,299	185,431	623,988	100.0
Rats	Yes		0	0	0	0	0.0
	No		1,339	3,204	4,751	9,294	100.0
	Total		1,339	3,204	4,751	9,294	100.0
Dogs	Yes		0	0	0	0	0.0
	No		0	0	17	17	100.0
	Total		0	0	17	17	100.0
Other mammals	Yes		0	0	0	0	0.0
	No		4	0	0	4	100.0
	Total		4	0	0	4	100.0
Domestic fowl	Yes		0	0	0	0	0.0
	No		32	345	205	582	100.0
	Total		32	345	205	582	100.0
Xenopus	Yes		69	41	0	110	42.5
	No		10	139	0	149	57.5
	Total		79	180	0	259	100.0
Zebra fish	Yes		303	369	0	672	1.0
	No		4,136	58,485	3,501	66,122	99.0
	Total		4,439	58,854	3,501	66,794	100.0
Other fish	Yes		0	0	0	0	0.0
	No		0	570	1	571	100.0
	Total		0	570	1	571	100.0
All Species	Yes		372	601	0	973	0.1
	No		46,779	459,851	193,906	700,536	99.9
	Total		47,151	460,452	193,906	701,509	100.0

EU statistical tables 2017

Part 1: Numbers of animals used for research, testing, routine production and educational purposes in the EU

Table 1: Numbers of animals used for the first time by species (2017)

	Number of animals	%
Mammals		
Rodents		
Mice	5,707,471	60.8
Rats	1,146,299	12.2
Guinea-Pigs	144,824	1.5
Hamsters (Syrian)	12,700	0.1
Hamsters (Chinese)	187	0
Mongolian gerbil	5,239	0.1
Other rodents	25,172	0.3
Rabbits		
Rabbits	351,961	3.7
Carnivores		
Cats	1,879	0
Dogs	13,688	0.1
Ferrets	2,016	0
Other carnivores	2,386	0
Farm animals		
Horses, donkeys and cross-breeds	2,414	0
Pigs	71,522	0.8
Goats	1,563	0
Sheep	18,812	0.2
Cattle	30,643	0.3
Non-human primates		
Prosimians	98	0
Marmoset and tamarins	465	0
Squirrel monkey	8	0
Other species of new world monkeys (Ceboidea)	3	0
Cynomolgus monkey	7,227	0.1
Rhesus monkey	353	0
Vervets (Chlorocebus spp.)	33	0
Baboons	25	0
Other species of old world monkeys (Cercopithecoidea)	23	0
Other mammals		
Other mammals	26,335	0.3
Birds		
Domestic fowl	464,553	4.9
Other birds	99,410	1.1
Reptiles		
Reptiles	2,937	0
Amphibians		
Rana	3,485	0
Xenopus	13,539	0.1
Other amphibians	10,683	0.1
Fish		
Zebra fish	499,763	5.3
Other fish	719,932	7.7
Cephalopods		
Cephalopods	514	0
Totals		
Total	9,388,162	100
%	100	

Table 2: Place of birth by species (other than non-human primates) (2017)

	Animals born in the EU at a registered breeder	Animals born in the EU but not at a registered breeder	Animals born in rest of Europe	Animals born in rest of world	Total	%
Mammals						
Rodents						
Mice	5,444,375	204,383	14,171	44,542	5,707,471	60.8
Rats	1,125,076	14,131	1,909	5,183	1,146,299	12.2
Guinea-Pigs	143,202	1,622	0	0	144,824	1.5
Hamsters (Syrian)	11,573	0	9	1,118	12,700	0.1
Hamsters (Chinese)	175	0	0	12	187	0
Mongolian gerbil	4,998	230	0	11	5,239	0.1
Other rodents	9,415	15,104	98	555	25,172	0.3
Rabbits						
Rabbits	348,078	2,242	148	1,493	351,961	3.8
Carnivores						
Cats	893	828	0	158	1,879	0
Dogs	4,740	4,408	0	4,540	13,688	0.1
Ferrets	1,836	100	24	56	2,016	0
Other carnivores	829	1,550	7	0	2,386	0
Farm animals						
Horses, donkeys and cross-breeds	510	1,904	0	0	2,414	0
Pigs	37,465	33,994	54	9	71,522	0.8
Goats	497	1,055	11	0	1,563	0
Sheep	8,069	10,472	271	0	18,812	0.2
Cattle	9,174	21,234	235	0	30,643	0.3
Other mammals						
Other mammals	1,855	6,399	4	18,077	26,335	0.3
Birds						
Domestic fowl	345,031	119,522	0	0	464,553	5
Other birds	38,965	59,241	563	641	99,410	1.1
Reptiles						
Reptiles	53	2,357	259	268	2,937	0
Amphibians						
Rana	2,462	1,023	0	0	3,485	0
Xenopus	9,627	598	96	3,218	13,539	0.1
Other amphibians	3,630	6,924	73	56	10,683	0.1
Fish						
Zebra fish	467,011	28,081	2,376	2,295	499,763	5.3
Other fish	417,282	224,826	52,644	25,180	719,932	7.7
Cephalopods						
Cephalopods	450	60	0	4	514	0
Totals						
Total	8,437,271	762,288	72,952	107,416	9,379,927	100
%	90	8.1	0.8	1.1	100	

Table 3: Source of non-human primates by species (2017)

	Animals born at a registered breeder within EU	Animals born in rest of Europe	Animals born in Asia	Animals born in America	Animals born in Africa	Animals born elsewhere	Total	%
Non-human primates								
New World Monkeys								
Prosimians	98	0	0	0	0	0	98	1.2
Marmoset and tamarins	377	0	0	0	42	46	465	5.6
Squirrel monkey	5	0	0	2	0	1	8	0.1
Other species of new world monkeys (Ceboidea)	3	0	0	0	0	0	3	0
Old World Monkeys								
Cynomolgus monkey	218	5	2,591	0	4,290	123	7,227	87.8
Rhesus monkey	317	0	14	19	3	0	353	4.3
Vervets (Chlorocebus spp.)	0	0	0	33	0	0	33	0.4
Baboons	25	0	0	0	0	0	25	0.3
Other species of old world monkeys (Cercopithecoidea)	14	0	9	0	0	0	23	0.3
Totals								
Total	1,057	5	2,614	54	4,335	170	8,235	100
%	12.8	0.1	31.7	0.7	52.6	2.1	100	

Table 4: Generation of non-human primates by species (2017)

	F0	F1	F2 or greater	Self-sustaining colony	Total	%
Non-human primates						
New World Monkeys						
Prosimians	0	0	0	98	98	1.2
Marmoset and tamarins	0	0	244	221	465	5.6
Squirrel monkey	0	2	6	0	8	0.1
Other species of new world monkeys (Ceboidea)	0	0	3	0	3	0
Old World Monkeys						
Cynomolgus monkey	0	1,335	3,956	1,936	7,227	87.8
Rhesus monkey	0	7	109	237	353	4.3
Vervets (Chlorocebus spp.)	0	14	19	0	33	0.4
Baboons	0	5	8	12	25	0.3
Other species of old world monkeys (Cercopithecoidea)	0	0	23	0	23	0.3
Totals						
Total	0	1,363	4,368	2,504	8,235	100
%	0	16.6	53	30.4	100	

Part 2: Details of all uses of animals for research, testing, routine production and educational purposes in the EU

Table 5: Uses of animals by species, main categories of scientific purposes and severities (2017)

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Mice	Non-recovery	325,637	41,412	2,526	59	3	0	17,895	0	387,532	6.7
	Mild	1,301,419	553,601	533,064	2,536	2,360	13,313	45,524	8	2,451,825	42.6
	Moderate	1,161,119	716,532	223,700	15,291	330	39	21,420	0	2,138,431	37.2
	Severe	246,193	219,421	280,515	31,664	54	0	486	0	778,333	13.5
	Total	3,034,368	1,530,966	1,039,805	49,550	2,747	13,352	85,325	8	5,756,121	100.0
Rats	Non-recovery	66,361	23,448	5,187	1,203	6	0	22,105	0	118,310	10.2
	Mild	83,756	86,567	368,165	1,319	127	0	13,407	0	553,341	47.5
	Moderate	130,341	109,438	173,627	23	1,004	0	5,582	0	420,015	36.1
	Severe	43,573	15,886	11,590	150	1,247	0	55	0	72,501	6.2
	Total	324,031	235,339	558,569	2,695	2,384	0	41,149	0	1,164,167	100.0
Guinea-Pigs	Non-recovery	18,948	878	282	266	0	0	265	0	20,639	14.1
	Mild	1,352	4,240	63,258	498	10	0	1,619	0	70,977	48.6
	Moderate	1,735	2,190	34,927	229	0	0	207	0	39,288	26.9
	Severe	140	227	14,765	0	0	0	1	0	15,133	10.4
	Total	22,175	7,535	113,232	993	10	0	2,092	0	146,037	100.0
Hamsters (Syrian)	Non-recovery	143	23	0	0	0	0	34	0	200	1.6
	Mild	461	1,089	4,314	54	0	0	228	0	6,146	48.3
	Moderate	678	1,677	347	34	0	0	5	0	2,741	21.5
	Severe	208	1,222	2,149	12	0	0	45	0	3,636	28.6
	Total	1,490	4,011	6,810	100	0	0	312	0	12,723	100.0
Hamsters (Chinese)	Non-recovery	0	0	0	0	0	0	5	0	5	2.7
	Mild	3	0	59	0	0	0	0	0	62	33.2
	Moderate	0	90	0	0	0	0	0	0	90	48.1
	Severe	0	30	0	0	0	0	0	0	30	16.0
	Total	3	120	59	0	0	0	5	0	187	100.0
Mongolian gerbil	Non-recovery	323	0	0	0	0	0	53	0	376	7.0
	Mild	570	911	1,438	81	0	10	49	0	3,059	56.8
	Moderate	600	1,074	6	28	0	0	7	0	1,715	31.8
	Severe	1	198	36	0	0	0	0	0	235	4.4
	Total	1,494	2,183	1,480	109	0	10	109	0	5,385	100.0
Other rodents	Non-recovery	344	15	33	0	1	0	37	0	430	1.7
	Mild	13,314	398	9,057	0	53	52	248	0	23,122	90.8
	Moderate	821	44	108	0	35	25	0	0	1,033	4.1
	Severe	754	7	26	0	80	0	0	0	867	3.4
	Total	15,233	464	9,224	0	169	77	285	0	25,452	100.0
Rabbits	Non-recovery	3,256	2,088	12,304	20	0	0	812	0	18,480	5.1
	Mild	12,849	3,936	56,131	170,117	316	0	924	0	244,273	67.0
	Moderate	3,825	4,826	24,511	57,180	13	0	235	0	90,590	24.9
	Severe	3,584	1,011	1,369	5,122	2	0	0	0	11,088	3.0
	Total	23,514	11,861	94,315	232,439	331	0	1,971	0	364,431	100.0
Cats	Non-recovery	35	0	0	0	0	0	0	0	35	1.0
	Mild	686	1,008	1,087	10	0	0	73	0	2,864	85.8
	Moderate	29	114	285	0	0	0	0	0	428	12.8
	Severe	0	11	0	0	0	0	0	0	11	0.3
	Total	750	1,133	1,372	10	0	0	73	0	3,338	100.0
Dogs	Non-recovery	43	92	89	10	0	0	5	0	239	1.1
	Mild	1,347	7,176	6,271	308	15	0	505	0	15,622	73.1
	Moderate	229	839	4,072	11	0	0	50	0	5,201	24.4
	Severe	4	87	205	1	0	0	0	0	297	1.4
	Total	1,623	8,194	10,637	330	15	0	560	0	21,359	100.0

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Ferrets	Non-recovery	6	0	0	6	0	0	8	0	20	0.9
	Mild	90	526	476	57	0	0	64	0	1,213	57.4
	Moderate	218	577	0	0	0	0	0	0	795	37.6
	Severe	5	79	0	0	0	0	0	0	84	4.0
	Total	319	1,182	476	63	0	0	72	0	2,112	100.0
Other carnivores	Non-recovery	83	0	0	0	0	0	0	0	83	3.3
	Mild	213	291	183	20	39	107	0	0	853	33.9
	Moderate	580	294	573	0	40	14	0	0	1,501	59.7
	Severe	0	33	0	0	44	0	0	0	77	3.1
	Total	876	618	756	20	123	121	0	0	2,514	100.0
Horses, donkeys and cross-breeds	Non-recovery	0	17	0	0	0	0	19	0	36	0.3
	Mild	1,691	1,484	276	9,575	6	0	268	0	13,300	97.6
	Moderate	63	67	44	33	0	0	69	0	276	2.0
	Severe	0	2	0	10	0	0	0	0	12	0.1
	Total	1,754	1,570	320	9,618	6	0	356	0	13,624	100.0
Pigs	Non-recovery	4,303	2,512	560	47	0	0	7,282	0	14,704	19.4
	Mild	8,629	18,424	8,091	401	374	2	1,462	36	37,419	49.3
	Moderate	4,420	9,277	3,825	12	234	0	2,283	0	20,051	26.4
	Severe	970	2,502	221	0	0	0	8	0	3,701	4.9
	Total	18,322	32,715	12,697	460	608	2	11,035	36	75,875	100.0
Goats	Non-recovery	17	110	0	0	0	0	3	0	130	5.7
	Mild	817	322	105	44	0	0	184	0	1,472	64.9
	Moderate	285	264	12	2	0	0	42	0	605	26.7
	Severe	25	32	4	0	0	0	0	0	61	2.7
	Total	1,144	728	121	46	0	0	229	0	2,268	100.0
Sheep	Non-recovery	140	403	0	0	0	0	599	0	1,142	1.7
	Mild	7,060	5,284	1,076	45,608	105	0	724	88	59,945	91.5
	Moderate	1,049	1,950	278	49	14	0	159	0	3,499	5.3
	Severe	308	617	8	8	0	0	0	0	941	1.4
	Total	8,557	8,254	1,362	45,665	119	0	1,482	88	65,527	100.0
Cattle	Non-recovery	30	2	0	0	0	0	50	0	82	0.2
	Mild	14,321	8,436	3,288	595	2,445	0	3,078	26	32,189	86.4
	Moderate	439	1,789	468	6	8	0	2,120	0	4,830	13.0
	Severe	7	160	1	0	0	0	7	0	175	0.5
	Total	14,797	10,387	3,757	601	2,453	0	5,255	26	37,276	100.0
Prosimians	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	87	0	0	0	0	0	0	0	87	50.3
	Moderate	86	0	0	0	0	0	0	0	86	49.7
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	173	0	0	0	0	0	0	0	173	100.0
Marmoset and tamarins	Non-recovery	2	2	0	0	0	0	0	0	4	0.6
	Mild	107	71	53	86	0	0	1	0	318	49.2
	Moderate	73	81	162	0	0	0	0	0	316	48.9
	Severe	0	8	0	0	0	0	0	0	8	1.2
	Total	182	162	215	86	0	0	1	0	646	100.0
Squirrel monkey	Non-recovery	6	0	0	0	0	0	0	0	6	75.0
	Mild	0	0	0	0	0	0	0	0	0	0.0
	Moderate	1	1	0	0	0	0	0	0	2	25.0
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	7	1	0	0	0	0	0	0	8	100.0
Other species of new world monkeys (Ceboidea)	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	3	0	0	0	0	0	0	0	3	100.0
	Moderate	0	0	0	0	0	0	0	0	0	0.0
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	3	0	0	0	0	0	0	0	3	100.0
Cynomolgus monkey	Non-recovery	11	8	0	4	0	0	3	0	26	0.3
	Mild	302	711	3,437	1,049	0	0	8	0	5,507	55.0
	Moderate	216	307	3,780	0	0	0	6	0	4,309	43.1
	Severe	0	99	66	0	0	0	0	0	165	1.6
	Total	529	1,125	7,283	1,053	0	0	17	0	10,007	100.0

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Rhesus monkey	Non-recovery	21	1	0	0	0	0	0	0	22	3.5
	Mild	81	162	11	29	0	0	4	0	287	45.7
	Moderate	143	169	0	0	0	0	0	0	312	49.7
	Severe	5	2	0	0	0	0	0	0	7	1.1
	Total	250	334	11	29	0	0	4	0	628	100.0
Vervets (Chlorocebus spp.)	Non-recovery	11	0	0	0	0	0	0	0	11	20.8
	Mild	11	15	0	5	0	0	0	0	31	58.5
	Moderate	0	11	0	0	0	0	0	0	11	20.8
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	22	26	0	5	0	0	0	0	53	100.0
Baboons	Non-recovery	0	1	0	0	0	0	0	0	1	2.2
	Mild	10	10	0	0	0	0	0	0	20	43.5
	Moderate	0	19	0	0	0	0	0	0	19	41.3
	Severe	0	6	0	0	0	0	0	0	6	13.0
	Total	10	36	0	0	0	0	0	0	46	100.0
Other species of old world monkeys (Cercopithecoidea)	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	14	12	0	0	0	0	0	0	26	74.3
	Moderate	0	9	0	0	0	0	0	0	9	25.7
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	14	21	0	0	0	0	0	0	35	100.0
Other mammals	Non-recovery	60	0	0	0	0	0	0	0	60	0.2
	Mild	4,074	21,523	0	1	71	274	121	0	26,064	96.3
	Moderate	893	7	0	0	0	0	0	0	900	3.3
	Severe	9	10	0	0	23	0	0	0	42	0.2
	Total	5,036	21,540	0	1	94	274	121	0	27,066	100.0
Domestic fowl	Non-recovery	5,886	839	261	189	0	0	387	0	7,562	1.6
	Mild	70,751	81,809	112,004	87,000	2,406	343	1,705	315	356,333	75.5
	Moderate	30,401	15,663	29,352	15,089	353	0	2,120	0	92,978	19.7
	Severe	1,347	8,712	4,871	127	0	0	82	0	15,139	3.2
	Total	108,385	107,023	146,488	102,405	2,759	343	4,294	315	472,012	100.0
Other birds	Non-recovery	625	671	0	0	0	0	54	0	1,350	1.3
	Mild	49,265	10,880	4,288	303	2,567	690	464	0	68,457	66.9
	Moderate	7,187	805	563	22,518	0	6	172	0	31,251	30.5
	Severe	279	736	153	0	0	0	120	0	1,288	1.3
	Total	57,356	13,092	5,004	22,821	2,567	696	810	0	102,346	100.0
Reptiles	Non-recovery	237	18	0	0	0	0	0	0	255	3.9
	Mild	1,912	63	0	0	8	70	100	0	2,153	32.8
	Moderate	4,118	36	0	0	0	0	0	0	4,154	63.3
	Severe	0	0	0	0	0	0	0	0	0	0.0
	Total	6,267	117	0	0	8	70	100	0	6,562	100.0
Rana	Non-recovery	0	0	0	0	0	0	138	0	138	3.9
	Mild	290	0	0	0	0	0	257	0	547	15.6
	Moderate	400	108	0	0	200	0	1,906	0	2,614	74.7
	Severe	108	0	91	0	0	0	0	0	199	5.7
	Total	798	108	91	0	200	0	2,301	0	3,498	100.0
Xenopus	Non-recovery	1,268	0	0	0	0	0	257	0	1,525	7.1
	Mild	12,845	3,530	0	0	2	0	107	0	16,484	76.9
	Moderate	650	116	0	210	900	0	38	0	1,914	8.9
	Severe	867	0	653	0	0	0	0	0	1,520	7.1
	Total	15,630	3,646	653	210	902	0	402	0	21,443	100.0
Other amphibians	Non-recovery	95	336	0	0	1,565	0	190	0	2,186	20.0
	Mild	3,401	623	0	0	246	336	15	0	4,621	42.2
	Moderate	2,691	60	0	0	0	62	0	0	2,813	25.7
	Severe	1,235	32	59	0	0	0	0	0	1,326	12.1
	Total	7,422	1,051	59	0	1,811	398	205	0	10,946	100.0
Zebra fish	Non-recovery	19,020	400	188	0	2	0	296	0	19,906	3.9
	Mild	288,687	69,735	13,369	0	2,414	140	1,344	0	375,689	74.5
	Moderate	39,965	26,291	14,892	0	0	0	41	0	81,189	16.1
	Severe	6,664	3,811	16,924	0	0	0	0	0	27,399	5.4
	Total	354,336	100,237	45,373	0	2,416	140	1,681	0	504,183	100.0

	Severity	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Other fish	Non-recovery	17,181	3,788	4	0	1,649	2,245	692	0	25,559	3.5
	Mild	244,988	35,901	99,525	49	54,888	52,866	2,695	0	490,912	67.9
	Moderate	41,294	17,304	8,144	0	42,704	8,286	125	0	117,857	16.3
	Severe	27,298	36,729	19,017	0	5,791	13	0	0	88,848	12.3
	Total	330,761	93,722	126,690	49	105,032	63,410	3,512	0	723,176	100.0
Cephalopods	Non-recovery	0	0	0	0	0	0	0	0	0	0.0
	Mild	22	450	0	0	24	0	4	0	500	97.3
	Moderate	0	5	0	0	0	0	0	0	5	1.0
	Severe	0	0	0	0	9	0	0	0	9	1.8
	Total	22	455	0	0	33	0	4	0	514	100.0
All Species	Non-recovery	464,092	77,064	21,434	1,804	3,226	2,245	51,189	0	621,054	6.5
	Mild	2,125,428	919,188	1,289,026	319,745	68,476	68,203	75,182	473	4,865,721	50.8
	Moderate	1,434,549	912,034	523,676	110,715	45,835	8,432	36,587	0	3,071,828	32.1
	Severe	333,584	291,670	352,723	37,094	7,250	13	804	0	1,023,138	10.7
	Total	4,357,653	2,199,956	2,186,859	469,358	124,787	78,893	163,762	473	9,581,741	100.0

Table 5.1: Uses of animals in all sub-categories of research and testing by severities (2017)

	Non-recovery	Mild	Moderate	Severe	Total	%
Basic research						
Oncology	30,689	229,180	296,237	56,238	612,344	6.4
Cardiovascular Blood and Lymphatic System	60,428	131,992	101,476	17,780	311,676	3.3
Nervous System	105,674	433,216	342,511	87,874	969,275	10.1
Respiratory System	8,594	27,781	30,959	6,612	73,946	0.8
Gastrointestinal System including Liver	16,627	52,466	49,801	10,699	129,593	1.4
Musculoskeletal System	4,388	42,345	35,170	8,500	90,403	0.9
Immune System	57,067	365,100	250,156	74,584	746,907	7.8
Urogenital/Reproductive System	9,048	57,656	27,085	1,686	95,475	1
Sensory Organs (skin, eyes and ears)	7,430	39,000	16,115	2,956	65,501	0.7
Endocrine System/Metabolism	21,328	101,642	71,957	20,285	215,212	2.2
Multisystemic	11,865	127,470	65,864	10,063	215,262	2.2
Ethology / Animal Behaviour /Animal Biology	6,499	356,298	83,480	9,198	455,475	4.8
Other basic research	124,455	161,282	63,738	27,109	376,584	3.9
Translational and applied research						
Human Cancer	4,005	198,550	342,158	39,888	584,601	6.1
Human Infectious Disorders	3,508	156,726	80,143	31,470	271,847	2.8
Human Cardiovascular Disorders	14,250	21,383	29,194	4,779	69,606	0.7
Human Nervous and Mental Disorders	13,728	127,972	136,480	27,602	305,782	3.2
Human Respiratory Disorders	4,340	28,926	30,002	4,127	67,395	0.7
Human Gastrointestinal Disorders including Liver	1,823	15,014	27,091	4,702	48,630	0.5
Human Musculoskeletal Disorders	3,276	10,966	17,835	6,238	38,315	0.4
Human Immune Disorders	3,390	25,176	30,471	16,305	75,342	0.8
Human Urogenital/Reproductive Disorders	1,715	6,603	7,801	1,050	17,169	0.2
Human Sensory Organ Disorders (skin, eyes and ears)	1,012	31,072	20,000	757	52,841	0.6
Human Endocrine/Metabolism Disorders	4,515	39,634	51,836	4,678	100,663	1.1
Other Human Disorders	8,802	9,395	17,927	6,530	42,654	0.4
Animal Diseases and Disorders	3,809	112,447	47,606	52,859	216,721	2.3
Animal Welfare	2,313	51,656	4,452	3,946	62,367	0.7
Diagnosis of diseases	3,580	25,417	39,451	81,239	149,687	1.6
Plant diseases	0	87	89	0	176	0
Non-regulatory toxicology and ecotoxicology	2,998	58,164	29,498	5,500	96,160	1
Regulatory use						
Quality control (incl batch safety and potency testing)						
Batch safety testing	0	120,743	12,381	6,478	139,602	1.5
Pyrogenicity testing	80	18,070	16,716	306	35,172	0.4
Batch potency testing	13,658	382,887	231,545	264,633	892,723	9.3
Other quality controls	343	44,827	14,060	4,853	64,083	0.7
Toxicity and other safety testing including pharmacology						
Acute and sub-acute toxicity testing methods						
LD50, LC50	0	28,599	5,188	13,152	46,939	0.5
Other lethal methods	0	498	3,519	1,231	5,248	0.1
Non lethal methods	0	17,791	12,557	870	31,218	0.3
Skin irritation/corrosion	0	3,267	825	28	4,120	0
Skin sensitisation	0	41,502	5,490	349	47,341	0.5
Eye irritation/corrosion	0	320	473	21	814	0
Repeated dose toxicity						
up to 28 days	0	34,793	23,635	2,916	61,344	0.6
29 - 90 days	110	20,248	14,281	292	34,931	0.4
> 90 days	0	11,808	6,088	402	18,298	0.2
Carcinogenicity	100	6,200	5,871	322	12,493	0.1
Genotoxicity	125	8,337	1,509	332	10,303	0.1
Reproductive toxicity	0	105,468	31,161	3,884	140,513	1.5
Developmental toxicity	0	66,352	18,792	12,527	97,671	1
Neurotoxicity	0	1,934	193	642	2,769	0
Kinetics	244	43,187	25,315	627	69,373	0.7
Pharmaco-dynamics (incl safety pharmacology)	5,235	57,740	32,878	3,500	99,353	1
Phototoxicity	0	353	142	30	525	0
Ecotoxicity						
Acute toxicity	188	25,364	2,934	16,429	44,915	0.5
Chronic toxicity	0	8,855	17,709	2,174	28,738	0.3
Reproductive ecotoxicity	0	546	904	0	1,450	0
Endocrine activity	0	5,724	0	200	5,924	0.1
Bioaccumulation	0	2,796	540	774	4,110	0
Other ecotoxicity	33	8,705	18	454	9,210	0.1
Safety testing in food and feed area	0	34,115	703	10,982	45,800	0.5
Target animal safety	4	7,357	1,272	84	8,717	0.1
Other toxicity/safety testing	4	6,906	3,837	511	11,258	0.1
Other efficacy and tolerance testing						
Other efficacy and tolerance testing	1,310	173,734	33,140	3,720	211,904	2.2
Routine production						
Blood based products	1,585	202,172	55,736	287	259,780	2.7
Monoclonal antibody by mouse ascites method	0	892	12,468	31,664	45,024	0.5
Other product types	219	116,681	42,511	5,143	164,554	1.7
Other						
Protection of the natural environment in the interests of the health or welfare	3,226	68,476	45,835	7,250	124,787	1.3

	Non-recovery	Mild	Moderate	Severe	Total	%
of human beings or animals						
Preservation of species	2,245	68,203	8,432	13	78,893	0.8
Higher education or training for the acquisition, maintenance or improvement of vocational skills	51,189	75,182	36,587	804	163,762	1.7
Forensic enquiries	0	473	0	0	473	0
Total	621,054	4,865,721	3,071,828	1,023,138	9,581,741	100
%	6.5	50.8	32.1	10.7	100	

Table 6: Basic research related uses by species and type of research (2017)

	Oncology	Cardiovascular Blood and Lymphatic System	Nervous System	Respiratory System	Gastrointestinal System including Liver	Musculoskeletal System	Immune System	Urogenital/Reproductive System	Sensory Organs (skin, eyes and ears)	Endocrine System/Metabolism	Multisystemic	Ethology / Animal Behaviour / Animal Biology	Other basic research	Total	%
Mammals															
Rodents															
Mice	527,825	239,271	684,862	64,452	97,905	68,564	660,554	80,681	52,436	161,545	156,029	17,344	222,900	3,034,368	69.6
Rats	6,004	41,095	146,460	5,846	13,624	6,040	10,819	6,350	5,775	31,344	12,564	15,209	22,901	324,031	7.4
Guinea-Pigs	54	499	562	1,275	5	24	163	4	572	137	7	50	18,823	22,175	0.5
Hamsters (Syrian)	100	0	153	0	136	0	198	0	0	168	274	23	438	1,490	0
Hamsters (Chinese)	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0
Mongolian gerbil	0	76	627	0	9	11	262	0	265	0	0	41	203	1,494	0
Other rodents	127	0	693	90	0	0	1,561	20	153	284	111	5,234	6,960	15,233	0.3
Rabbits															
Rabbits	162	1,371	226	868	149	456	607	715	579	1,642	269	8,367	8,103	23,514	0.5
Carnivores															
Cats	0	0	70	0	24	5	0	0	8	49	303	0	291	750	0
Dogs	8	143	53	0	67	225	100	97	49	31	105	54	691	1,623	0
Ferrets	0	0	249	62	4	0	4	0	0	0	0	0	0	319	0
Other carnivores	0	4	0	0	78	0	521	0	0	0	0	263	10	876	0
Farm animals															
Horses, donkeys and cross-breeds	0	55	0	48	9	185	411	251	0	567	4	88	136	1,754	0
Pigs	57	1,899	635	285	4,809	346	1,628	446	109	1,940	1,303	3,025	1,840	18,322	0.4
Goats	0	14	0	0	17	8	117	141	0	158	0	574	115	1,144	0
Sheep	24	431	66	17	544	1,020	1,414	438	0	422	110	2,104	1,967	8,557	0.2
Cattle	0	55	30	95	1,188	4	6,006	1,066	17	1,351	1,061	2,790	1,134	14,797	0.3
Non-human primates															
Prosimians	0	0	4	0	0	0	0	0	0	82	0	87	0	173	0
Marmoset and tamarins	1	0	51	0	0	0	0	12	0	24	6	46	42	182	0
Squirrel monkey	0	0	7	0	0	0	0	0	0	0	0	0	0	7	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0
Cynomolgus monkey	0	40	144	35	0	2	9	0	6	4	7	0	282	529	0
Rhesus monkey	0	51	116	0	0	0	24	0	0	0	32	0	27	250	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	11	0	0	0	0	0	11	22	0
Baboons	0	0	0	0	0	0	10	0	0	0	0	0	0	10	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0	14	0	14	0
Other mammals															
Other mammals	0	9	228	0	11	1	0	22	28	0	89	4,427	221	5,036	0.1
Birds															
Domestic fowl	785	248	3,211	0	6,559	102	7,123	392	138	4,352	2,210	70,390	12,875	108,385	2.5
Other birds	0	234	549	0	43	33	106	79	1	439	10	53,443	2,419	57,356	1.3
Reptiles															
Reptiles	0	110	260	0	0	10	0	0	3	43	0	5,756	85	6,267	0.1
Amphibians															
Rana	0	0	400	0	0	0	0	0	0	0	0	112	286	798	0
Xenopus	822	390	4,365	3	0	848	0	1,417	356	39	1,584	39	5,767	15,630	0.4
Other amphibians	0	0	1,117	0	0	1,092	7	27	0	240	33	4,118	788	7,422	0.2
Fish															
Zebra fish	76,185	25,098	122,697	0	3,017	10,817	18,659	2,818	4,456	6,641	35,347	12,400	36,201	354,336	8.1
Other fish	190	583	1,434	870	1,395	610	36,593	499	547	3,710	3,804	249,458	31,068	330,761	7.6
Cephalopods															
Cephalopods	0	0	6	0	0	0	0	0	0	0	0	16	0	22	0
Totals															
Total	612,344	311,676	969,275	73,946	129,593	90,403	746,907	95,475	65,501	215,212	215,262	455,475	376,584	4,357,653	100
%	14.1	7.2	22.2	1.7	3	2.1	17.1	2.2	1.5	4.9	4.9	10.5	8.6	100	

Table 7.1: Translational and applied research related uses by species and type of research (Part 1) (2017)

	Human Cancer	Human Infectious Disorders	Human Cardiovascular Disorders	Human Nervous and Mental Disorders	Human Respiratory Disorders	Human Gastrointestinal Disorders including Liver	Human Musculoskeletal Disorders	Human Immune Disorders	Urogenital/Reproductive Disorders	Human Disorders
Mammals										
Rodents										
Mice	575,924	201,086	41,449	194,708	47,685	36,526	24,908	70,565		11,299
Rats	5,442	5,236	21,612	87,139	15,302	9,425	9,634	3,960		4,960
Guinea-Pigs	66	1,391	619	276	2,486	14	0	287		0
Hamsters (Syrian)	213	1,708	27	197	0	0	0	0		0
Hamsters (Chinese)	0	0	0	0	0	0	0	0		0
Mongolian gerbil	0	1,453	0	118	0	0	0	0		0
Other rodents	0	320	0	0	82	0	0	30		0
Rabbits										
Rabbits	1,927	1,140	913	181	862	59	779	319		162
Carnivores										
Cats	0	0	0	0	0	0	0	0		0
Dogs	12	30	160	134	59	18	118	60		0
Ferrets	0	995	0	0	0	96	0	0		0
Other carnivores	0	0	0	0	0	0	0	0		0
Farm animals										
Horses, donkeys and cross-breeds	0	395	0	0	0	6	7	3		0
Pigs	266	235	3,382	431	646	2,311	214	68		485
Goats	7	18	30	2	0	0	21	0		1
Sheep	16	183	863	181	79	0	547	0		203
Cattle	12	40	6	0	45	6	0	0		0
Non-human primates										
Prosimians	0	0	0	0	0	0	0	0		0
Marmoset and tamarins	3	87	0	59	0	0	0	11		0
Squirrel monkey	0	1	0	0	0	0	0	0		0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0		0
Cynomolgus monkey	26	319	36	139	23	12	0	30		54
Rhesus monkey	0	328	0	4	0	0	0	0		2
Vervets (Chlorocebus spp.)	0	26	0	0	0	0	0	0		0
Baboons	0	19	14	0	0	0	0	0		3
Other species of old world monkeys (Cercopithecoidea)	0	12	0	0	0	0	0	0		0
Other mammals										
Other mammals	31	18,217	19	0	8	0	0	2		0
Birds										
Domestic fowl	33	751	72	2	118	157	0	7		0
Other birds	0	5,202	4	0	0	0	0	0		0
Reptiles										
Reptiles	0	0	0	0	0	0	0	0		0
Amphibians										
Rana	0	0	0	0	0	0	0	0		0
Xenopus	185	0	0	25	0	0	0	0		0
Other amphibians	0	0	0	0	0	0	0	0		0
Fish										
Zebra fish	438	32,655	400	22,186	0	0	2,087	0		0
Other fish	0	0	0	0	0	0	0	0		0
Cephalopods										
Cephalopods	0	0	0	0	0	0	0	0		0
Totals										
Total	584,601	271,847	69,606	305,782	67,395	48,630	38,315	75,342		17,169
%	26.6	12.4	3.2	13.9	3.1	2.2	1.7	3.4		0.8

Table 7.2: Translational and applied research related uses by species and type of research (Part 2) (2017)

	Human Sensory Organ Disorders (skin, eyes and ears)	Human Endocrine/Metabolism Disorders	Other Human Disorders	Animal Diseases and Disorders	Animal Welfare	Diagnosis of diseases	Plant diseases	Non-regulatory toxicology and ecotoxicology	Total	%
Mammals										
Rodents										
Mice	43,473	68,703	24,626	30,449	1,063	139,893	119	18,490	1,530,966	69.6
Rats	5,851	25,865	17,111	1,605	613	3,928	25	17,631	235,339	10.7
Guinea-Pigs	373	62	101	900	9	473	0	478	7,535	0.3
Hamsters (Syrian)	0	677	17	1,172	0	0	0	0	4,011	0.2
Hamsters (Chinese)	0	0	0	120	0	0	0	0	120	0
Mongolian gerbil	0	0	0	612	0	0	0	0	2,183	0.1
Other rodents	0	0	0	17	0	0	0	15	464	0
Rabbits										
Rabbits	1,017	241	300	2,697	133	858	32	241	11,861	0.5
Carnivores										
Cats	0	0	0	1,057	0	70	0	6	1,133	0.1
Dogs	30	81	49	5,029	84	264	0	2,066	8,194	0.4
Ferrets	0	0	4	82	0	5	0	0	1,182	0.1
Other carnivores	0	0	0	364	254	0	0	0	618	0
Farm animals										
Horses, donkeys and cross-breeds	0	0	0	1,025	51	83	0	0	1,570	0.1
Pigs	401	1,032	232	14,915	7,530	326	0	241	32,715	1.5
Goats	0	0	0	394	178	77	0	0	728	0
Sheep	0	56	176	2,968	1,954	995	0	33	8,254	0.4
Cattle	0	182	0	7,134	2,878	67	0	17	10,387	0.5
Non-human primates										
Prosimians	0	0	0	0	0	0	0	0	0	0
Marmoset and tamarins	2	0	0	0	0	0	0	0	162	0
Squirrel monkey	0	0	0	0	0	0	0	0	1	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	43	52	16	0	0	0	0	375	1,125	0.1
Rhesus monkey	0	0	0	0	0	0	0	0	334	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	26	0
Baboons	0	0	0	0	0	0	0	0	36	0
Other species of old world monkeys (Cercopithecoidea)	0	0	9	0	0	0	0	0	21	0
Other mammals										
Other mammals	0	3	0	29	3,201	30	0	0	21,540	1
Birds										
Domestic fowl	0	0	0	77,727	25,183	1,746	0	1,227	107,023	4.9
Other birds	0	0	0	5,791	1,345	222	0	528	13,092	0.6
Reptiles										
Reptiles	0	0	0	56	61	0	0	0	117	0
Amphibians										
Rana	0	0	0	0	0	0	0	108	108	0
Xenopus	0	21	0	0	0	0	0	3,415	3,646	0.2
Other amphibians	0	0	11	200	0	0	0	840	1,051	0
Fish										
Zebra fish	1,651	3,543	2	787	0	0	0	36,488	100,237	4.6
Other fish	0	145	0	61,586	17,380	650	0	13,961	93,722	4.3
Cephalopods										
Cephalopods	0	0	0	5	450	0	0	0	455	0
Totals										
Total	52,841	100,663	42,654	216,721	62,367	149,687	176	96,160	2,199,956	100
%	2.4	4.6	1.9	9.9	2.8	6.8	0	4.4	100	

Table 8: Regulatory uses by species and type of use (2017)

	Quality				Toxicity	Other		Total	%
	Quality: Batch safety testing	Quality: Pyrogenicity testing	Quality: Batch potency testing	Quality: Other quality controls	Toxicity and other safety testing including pharmacology	Other efficacy and tolerance testing			
Mammals									
Rodents									
Mice	82,331	0	594,913	40,267	245,984	76,310	1,039,805	47.5	
Rats	4,287	0	157,176	1,717	386,969	8,420	558,569	25.5	
Guinea-Pigs	16,612	0	62,104	1,097	32,530	889	113,232	5.2	
Hamsters	20	0	3,826	2,285	383	296	6,810	0.3	
Hamsters (Syrian)	0	0	0	0	59	0	59	0	
Mongolian gerbil	0	0	0	0	1,421	59	1,480	0.1	
Other rodents	104	0	0	0	9,060	60	9,224	0.4	
Rabbits									
Rabbits	1,257	35,172	22,318	2,121	30,864	2,583	94,315	4.3	
Carnivores									
Cats	33	0	121	110	772	336	1,372	0.1	
Dogs	307	0	58	328	8,845	1,099	10,637	0.5	
Ferrets	192	0	250	0	34	0	476	0	
Other carnivores	359	0	310	0	81	6	756	0	
Farm animals									
Horses, donkeys and cross-breeds	2	0	0	0	71	247	320	0	
Pigs	1,354	0	2,158	690	4,672	3,823	12,697	0.6	
Goats	0	0	12	0	75	34	121	0	
Sheep	271	0	445	91	313	242	1,362	0.1	
Cattle	449	0	1,065	33	1,078	1,132	3,757	0.2	
Non-human primates									
Prosimians	0	0	0	0	0	0	0	0	
Marmoset and tamarins	0	0	0	0	215	0	215	0	
Squirrel monkey	0	0	0	0	0	0	0	0	
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	
Cynomolgus monkey	0	0	0	0	7,191	92	7,283	0.3	
Rhesus monkey	0	0	0	8	3	0	11	0	
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	
Baboons	0	0	0	0	0	0	0	0	
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	
Other mammals									
Other mammals	0	0	0	0	0	0	0	0	
Birds									
Domestic fowl	31,808	0	43,316	14,479	14,058	42,827	146,488	6.7	
Other birds	180	0	728	673	974	2,449	5,004	0.2	
Reptiles									
Reptiles	0	0	0	0	0	0	0	0	
Amphibians									
Rana	0	0	0	0	91	0	91	0	
Xenopus	0	0	0	0	653	0	653	0	
Other amphibians	0	0	0	0	59	0	59	0	
Fish									
Zebra fish	0	0	0	84	45,289	0	45,373	2.1	
Other fish	36	0	3,923	100	51,631	71,000	126,690	5.8	
Cephalopods									
Cephalopods	0	0	0	0	0	0	0	0	
Totals									
Total	139,602	35,172	892,723	64,083	843,375	211,904	2,186,859	100	
%	6.4	1.6	40.8	2.9	38.6	9.7	100		

Table 9.1: Toxicity and other safety testing including pharmacology by species and type of use (Part 1) (2017)

	Acute					Repeated Dose					Carcinogenicity	Genotoxicity	Developmental toxicity	Safety testing in food and feed area
	LDS0, LC50	Other lethal methods	Non lethal methods	Skin irritation / corrosion	Skin sensitisation	Eye irritation / corrosion	up to 28 days	29 - 90 days	> 90 days					
Mammals														
Rodents														
Mice	30,521	666	11,694	28	16,478	0	13,621	7,359	1,783	5,971	4,236	977	40,556	
Rats	5,006	1,042	16,778	244	0	0	40,791	23,460	13,522	6,522	6,067	70,778	0	
Guinea-Pigs	40	0	543	0	30,785	0	92	92	0	0	0	0	0	
Hamsters (Syrian)	0	0	225	84	0	0	6	0	0	0	0	0	0	
Hamsters (Chinese)	0	0	0	47	0	0	0	0	0	0	0	0	0	
Mongolian gerbil	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other rodents	0	0	6	0	0	0	0	0	0	0	0	0	0	
Rabbits														
Rabbits	0	10	776	3,691	68	814	1,354	834	270	0	0	14,910	0	
Carnivores														
Cats	0	0	0	0	0	0	28	0	30	0	0	0	0	
Dogs	0	0	703	0	0	0	2,567	1,277	1,272	0	0	88	0	
Ferrets	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other carnivores	0	0	0	0	0	0	0	0	0	0	0	0	0	
Farm animals														
Horses, donkeys and cross-breeds	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pigs	0	0	76	26	10	0	774	287	323	0	0	0	41	
Goats	0	0	0	0	0	0	0	0	0	0	0	0	4	
Sheep	0	0	0	0	0	0	0	0	0	0	0	0	144	
Cattle	0	0	0	0	0	0	0	0	0	0	0	0	145	
Non-human primates														
Prosimians	0	0	0	0	0	0	0	0	0	0	0	0	0	
Marmoset and tamarins	0	0	0	0	0	0	129	46	3	0	0	0	0	
Squirrel monkey	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cynomolgus monkey	0	0	311	0	0	0	1,979	1,576	1,095	0	0	264	0	
Rhesus monkey	0	0	0	0	0	0	3	0	0	0	0	0	0	
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0	0	0	
Baboons	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other mammals														
Other mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	
Birds														
Domestic fowl	5,555	0	0	0	0	0	0	0	0	0	0	0	4,437	
Other birds	162	0	62	0	0	0	0	0	0	0	0	0	53	
Reptiles														
Reptiles	0	0	0	0	0	0	0	0	0	0	0	0	0	
Amphibians														
Rana	0	0	0	0	0	0	0	0	0	0	0	0	0	
Xenopus	0	0	0	0	0	0	0	0	0	0	0	0	0	
Other amphibians	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fish														
Zebra fish	475	3,530	44	0	0	0	0	0	0	0	0	9,774	0	
Other fish	5,180	0	0	0	0	0	0	0	0	0	0	880	420	
Cephalopods														
Cephalopods	0	0	0	0	0	0	0	0	0	0	0	0	0	
Totals														
Total	46,939	5,248	31,218	4,120	47,341	814	61,344	34,931	18,298	12,493	10,303	97,671	45,800	
%	5.6	0.6	3.7	0.5	5.6	0.1	7.3	4.1	2.2	1.5	1.2	11.6	5.4	

Table 9.2: Toxicity and other safety testing including pharmacology by species and type of use (Part 2) (2017)

	Target animal safety	Neurotoxicity	Kinetics	Pharmaco - dynamics (incl safety pharmacology)	Phototoxicity	Acute toxicity	EcoToxicity					Other toxicity / safety testing	Total	%
							Chronic toxicity	Reproductive toxicity	Endocrine activity	Bioaccumulation	Other ecotoxicity			
Mammals														
Rodents														
Mice	549	332	36,480	57,482	440	9,764	50	1,762	0	0	447	4,788	245,984	29.2
Rats	33	420	26,659	36,615	85	1,035	1,107	132,639	0	0	0	3,652	386,455	45.9
Guinea-Pigs	0	0	110	506	0	138	0	0	0	0	142	82	32,530	3.9
Hamsters (Syrian)	0	0	0	68	0	0	0	0	0	0	0	0	383	0
Hamsters (Chinese)	0	0	12	0	0	0	0	0	0	0	0	0	59	0
Mongolian gerbil	0	0	66	1,355	0	0	0	0	0	0	0	0	1,421	0.2
Other rodents	2,500	0	0	0	0	0	0	0	0	0	6,554	0	9,060	1.1
Rabbits														
Rabbits	121	0	539	1,141	0	0	86	5,097	0	0	0	1,121	30,832	3.7
Carnivores														
Cats	167	0	424	123	0	0	0	0	0	0	0	0	772	0.1
Dogs	112	0	1,728	976	0	0	0	0	0	0	0	122	8,845	1.1
Ferrets	34	0	0	0	0	0	0	0	0	0	0	0	34	0
Other carnivores	81	0	0	0	0	0	0	0	0	0	0	0	81	0
Farm animals														
Horses, donkeys and cross-breeds	8	0	42	5	0	0	0	0	0	0	16	0	71	0
Pigs	891	0	1,121	423	0	0	0	0	0	0	0	700	4,672	0.6
Goats	0	0	23	48	0	0	0	0	0	0	0	0	75	0
Sheep	124	0	26	0	0	0	0	0	0	0	0	19	313	0
Cattle	288	0	184	357	0	0	0	0	0	0	72	20	1,078	0.1
Non-human primates														
Prosimians	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marmoset and tamarins	0	0	16	0	0	0	0	0	0	0	0	21	215	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	0	0	1,414	254	0	0	0	0	0	0	0	298	7,191	0.9
Rhesus monkey	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Baboons	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other mammals														
Other mammals	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Birds														
Domestic fowl	3,385	0	361	0	0	12	0	0	0	0	0	308	14,058	1.7
Other birds	200	0	168	0	0	27	0	128	0	0	39	135	974	0.1
Reptiles														
Reptiles	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphibians														
Rana	0	0	0	0	0	91	0	0	0	0	0	0	91	0
Xenopus	0	0	0	0	0	128	0	0	0	525	0	0	653	0.1
Other amphibians	0	0	0	0	0	59	0	0	0	0	0	0	59	0
Fish														
Zebra fish	0	2,017	0	0	0	9,458	12,497	887	5,040	369	294	0	44,385	5.3
Other fish	224	0	0	0	0	24,203	14,998	0	884	3,144	1,698	0	51,631	6.1
Cephalopods														
Cephalopods	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals														
Total	8,717	2,769	69,373	99,353	525	44,915	28,738	140,513	5,924	4,110	9,210	11,258	841,925	100
%	1	0.3	8.2	11.8	0.1	5.3	3.4	16.7	0.7	0.5	1.1	1.3	100	

Table 10: Regulatory uses by species and type of legislation (2017)

	Legislation on medicinal products for human use	Legislation on medicinal products for veterinary use and their residues	Medical devices legislation	Industrial chemicals legislation	Plant protection product legislation	Biocides legislation	Food legislation including food contact material	Feed legislation including legislation for the safety of target animals, workers and environment	Other legislation	Total	%
Mammals											
Rodents											
Mice	839,113	121,753	18,850	8,752	7,545	826	41,515	889	562	1,039,805	47.5
Rats	317,250	17,220	3,879	182,624	29,679	1,011	2,641	3,211	1,054	558,569	25.5
Guinea-Pigs	69,557	15,199	26,208	2,080	89	73	0	0	26	113,232	5.2
Hamsters (Syrian)	542	5,916	346	0	0	6	0	0	0	6,810	0.3
Hamsters (Chinese)	0	0	47	12	0	0	0	0	0	59	0
Mongolian gerbil	0	1,480	0	0	0	0	0	0	0	1,480	0.1
Other rodents	104	0	0	0	9,054	6	0	0	60	9,224	0.4
Rabbits											
Rabbits	63,997	10,828	4,862	10,648	2,697	263	18	24	978	94,315	4.3
Carnivores											
Cats	24	1,348	0	0	0	0	0	0	0	1,372	0.1
Dogs	8,343	2,093	31	20	136	0	0	0	14	10,637	0.5
Ferrets	442	34	0	0	0	0	0	0	0	476	0
Other carnivores	0	756	0	0	0	0	0	0	0	756	0
Farm animals											
Horses, donkeys and cross-breeds	38	261	0	0	0	0	0	21	0	320	0
Pigs	3,456	8,464	214	3	0	0	0	557	3	12,697	0.6
Goats	12	78	4	0	27	0	0	0	0	121	0
Sheep	39	1,118	79	0	0	0	99	27	0	1,362	0.1
Cattle	0	3,570	0	0	44	0	0	143	0	3,757	0.2
Non-human primates											
Prosimians	0	0	0	0	0	0	0	0	0	0	0
Marmoset and tamarins	215	0	0	0	0	0	0	0	0	215	0
Squirrel monkey	0	0	0	0	0	0	0	0	0	0	0
Other species of new world monkeys (Ceboloidea)	0	0	0	0	0	0	0	0	0	0	0
Cynomolgus monkey	7,283	0	0	0	0	0	0	0	0	7,283	0.3
Rhesus monkey	3	0	8	0	0	0	0	0	0	11	0
Vervets (Chlorocebus spp.)	0	0	0	0	0	0	0	0	0	0	0
Baboons	0	0	0	0	0	0	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0	0	0	0	0	0	0
Other mammals											
Other mammals	0	0	0	0	0	0	0	0	0	0	0
Birds											
Domestic fowl	2,398	126,181	0	0	391	0	0	17,498	20	146,488	6.7
Other birds	130	4,213	0	10	278	0	0	373	0	5,004	0.2
Reptiles											
Reptiles	0	0	0	0	0	0	0	0	0	0	0
Amphibians											
Rana	0	0	0	0	91	0	0	0	0	91	0
Xenopus	0	0	0	525	128	0	0	0	0	653	0
Other amphibians	0	0	0	0	59	0	0	0	0	59	0
Fish											
Zebra fish	9,158	209	3,250	14,142	10,004	1,620	0	145	6,845	45,373	2.1
Other fish	6,844	4,765	534	11,361	14,983	324	0	71,627	16,252	126,690	5.8
Cephalopods											
Cephalopods	0	0	0	0	0	0	0	0	0	0	0
Totals											
Total	1,328,948	325,486	58,312	230,177	75,205	4,129	44,273	94,515	25,814	2,186,859	100
%	60.8	14.9	2.7	10.5	3.4	0.2	2	4.3	1.2	100	

Table 11: Regulatory uses by species and origin of regulatory requirement (2017)

	Legislation satisfying EU requirements	Legislation satisfying national requirements only [within EU]	Legislation satisfying Non-EU requirements only	Total	%
Mammals					
Rodents					
Mice	987,608	8,465	43,732	1,039,805	47.5
Rats	552,596	1,812	4,161	558,569	25.5
Guinea-Pigs	106,808	1,244	5,180	113,232	5.2
Hamsters (Syrian)	6,140	0	670	6,810	0.3
Hamsters (Chinese)	59	0	0	59	0
Mongolian gerbil	1,480	0	0	1,480	0.1
Other rodents	9,158	66	0	9,224	0.4
Rabbits					
Rabbits	73,568	61	20,686	94,315	4.3
Carnivores					
Cats	1,372	0	0	1,372	0.1
Dogs	10,579	12	46	10,637	0.5
Ferrets	476	0	0	476	0
Other carnivores	756	0	0	756	0
Farm animals					
Horses, donkeys and cross-breeds	320	0	0	320	0
Pigs	11,350	0	1,347	12,697	0.6
Goats	121	0	0	121	0
Sheep	1,356	0	6	1,362	0.1
Cattle	3,717	32	8	3,757	0.2
Non-human primates					
Prosimians	0	0	0	0	0
Marmoset and tamarins	215	0	0	215	0
Squirrel monkey	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0
Cynomolgus monkey	7,107	131	45	7,283	0.3
Rhesus monkey	11	0	0	11	0
Vervets (Chlorocebus spp.)	0	0	0	0	0
Baboons	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0
Other mammals					
Other mammals	0	0	0	0	0
Birds					
Domestic fowl	140,752	35	5,701	146,488	6.7
Other birds	4,989	0	15	5,004	0.2
Reptiles					
Reptiles	0	0	0	0	0
Amphibians					
Rana	91	0	0	91	0
Xenopus	653	0	0	653	0
Other amphibians	59	0	0	59	0
Fish					
Zebra fish	44,123	1,250	0	45,373	2.1
Other fish	115,618	9,774	1,298	126,690	5.8
Cephalopods					
Cephalopods	0	0	0	0	0
Totals					
Total	2,081,082	22,882	82,895	2,186,859	100
%	95.2	1	3.8	100	

Table 12: Routine production uses by species and product type (2017)

	Blood based products	Other product types	Monoclonal antibody by mouse ascites method	Total	%
Mammals					
Rodents					
Mice	1,623	3,353	44,574	49,550	10.6
Rats	2,437	225	33	2,695	0.6
Guinea-Pigs	954	39	0	993	0.2
Hamsters (Syrian)	0	100	0	100	0
Hamsters (Chinese)	0	0	0	0	0
Mongolian gerbil	0	109	0	109	0
Other rodents	0	0	0	0	0
Rabbits					
Rabbits	196,761	35,261	417	232,439	49.5
Carnivores					
Cats	0	10	0	10	0
Dogs	274	56	0	330	0.1
Ferrets	37	26	0	63	0
Other carnivores	20	0	0	20	0
Farm animals					
Horses, donkeys and cross-breeds	9,577	41	0	9,618	2
Pigs	17	443	0	460	0.1
Goats	45	1	0	46	0
Sheep	44,308	1,357	0	45,665	9.7
Cattle	375	226	0	601	0.1
Non-human primates					
Prosimians	0	0	0	0	0
Marmoset and tamarins	86	0	0	86	0
Squirrel monkey	0	0	0	0	0
Other species of new world monkeys (Ceboidea)	0	0	0	0	0
Cynomolgus monkey	854	199	0	1,053	0.2
Rhesus monkey	29	0	0	29	0
Vervets (Chlorocebus spp.)	5	0	0	5	0
Baboons	0	0	0	0	0
Other species of old world monkeys (Cercopithecoidea)	0	0	0	0	0
Other mammals					
Other mammals	0	1	0	1	0
Birds					
Domestic fowl	2,345	100,060	0	102,405	21.8
Other birds	33	22,788	0	22,821	4.9
Reptiles					
Reptiles	0	0	0	0	0
Amphibians					
Rana	0	0	0	0	0
Xenopus	0	210	0	210	0
Other amphibians	0	0	0	0	0
Fish					
Zebra fish	0	0	0	0	0
Other fish	0	49	0	49	0
Cephalopods					
Cephalopods	0	0	0	0	0
Totals					
Total	259,780	164,554	45,024	469,358	100
%	55.3	35.1	9.6	100	

Table 13: Reuses of animals by species and main categories of scientific purposes in research, testing routine production and education (2017)

		Reuse	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Mice	Yes		20,981	11,335	11,544	412	0	7	4,371	0	48,650	0.8
	No		3,013,387	1,519,631	1,028,261	49,138	2,747	13,345	80,954	8	5,707,471	99.2
	Total		3,034,368	1,530,966	1,039,805	49,550	2,747	13,352	85,325	8	5,756,121	100.0
Rats	Yes		6,662	4,395	3,777	535	0	0	2,499	0	17,868	1.5
	No		317,369	230,944	554,792	2,160	2,384	0	38,650	0	1,146,299	98.5
	Total		324,031	235,339	558,569	2,695	2,384	0	41,149	0	1,164,167	100.0
Guinea-Pigs	Yes		25	142	586	55	0	0	405	0	1,213	0.8
	No		22,150	7,393	112,646	938	10	0	1,687	0	144,824	99.2
	Total		22,175	7,535	113,232	993	10	0	2,092	0	146,037	100.0
Hamsters (Syrian)	Yes		8	0	0	0	0	0	15	0	23	0.2
	No		1,482	4,011	6,810	100	0	0	297	0	12,700	99.8
	Total		1,490	4,011	6,810	100	0	0	312	0	12,723	100.0
Hamsters (Chinese)	Yes		0	0	0	0	0	0	0	0	0	0.0
	No		3	120	59	0	0	0	5	0	187	100.0
	Total		3	120	59	0	0	0	5	0	187	100.0
Mongolian gerbil	Yes		45	101	0	0	0	0	0	0	146	2.7
	No		1,449	2,082	1,480	109	0	10	109	0	5,239	97.3
	Total		1,494	2,183	1,480	109	0	10	109	0	5,385	100.0
Other rodents	Yes		254	0	0	0	0	0	26	0	280	1.1
	No		14,979	464	9,224	0	169	77	259	0	25,172	98.9
	Total		15,233	464	9,224	0	169	77	285	0	25,452	100.0
Rabbits	Yes		159	524	10,286	992	0	0	509	0	12,470	3.4
	No		23,355	11,337	84,029	231,447	331	0	1,462	0	351,961	96.6
	Total		23,514	11,861	94,315	232,439	331	0	1,971	0	364,431	100.0
Cats	Yes		511	211	719	0	0	0	18	0	1,459	43.7
	No		239	922	653	10	0	0	55	0	1,879	56.3
	Total		750	1,133	1,372	10	0	0	73	0	3,338	100.0
Dogs	Yes		1,111	2,774	3,144	274	0	0	368	0	7,671	35.9
	No		512	5,420	7,493	56	15	0	192	0	13,688	64.1
	Total		1,623	8,194	10,637	330	15	0	560	0	21,359	100.0
Ferrets	Yes		5	35	0	0	0	0	56	0	96	4.5
	No		314	1,147	476	63	0	0	16	0	2,016	95.5
	Total		319	1,182	476	63	0	0	72	0	2,112	100.0
Other carnivores	Yes		101	12	0	0	12	3	0	0	128	5.1
	No		775	606	756	20	111	118	0	0	2,386	94.9
	Total		876	618	756	20	123	121	0	0	2,514	100.0
Horses, donkeys and cross-breeds	Yes		1,305	174	63	9,494	4	0	170	0	11,210	82.3
	No		449	1,396	257	124	2	0	186	0	2,414	17.7
	Total		1,754	1,570	320	9,618	6	0	356	0	13,624	100.0
Pigs	Yes		1,415	785	1,270	0	0	0	883	0	4,353	5.7
	No		16,907	31,930	11,427	460	608	2	10,152	36	71,522	94.3
	Total		18,322	32,715	12,697	460	608	2	11,035	36	75,875	100.0
Goats	Yes		546	12	24	19	0	0	104	0	705	31.1
	No		598	716	97	27	0	0	125	0	1,563	68.9
	Total		1,144	728	121	46	0	0	229	0	2,268	100.0
Sheep	Yes		3,041	819	327	42,309	2	0	217	0	46,715	71.3
	No		5,516	7,435	1,035	3,356	117	0	1,265	88	18,812	28.7
	Total		8,557	8,254	1,362	45,665	119	0	1,482	88	65,527	100.0
Cattle	Yes		1,665	1,391	550	215	151	0	2,661	0	6,633	17.8
	No		13,132	8,996	3,207	386	2,302	0	2,594	26	30,643	82.2
	Total		14,797	10,387	3,757	601	2,453	0	5,255	26	37,276	100.0
Prosimians	Yes		75	0	0	0	0	0	0	0	75	43.4
	No		98	0	0	0	0	0	0	0	98	56.6

	Reuse	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
	Total	173	0	0	0	0	0	0	0	173	100.0
Marmoset and tamarins	Yes	32	51	12	86	0	0	0	0	181	28.0
	No	150	111	203	0	0	0	1	0	465	72.0
	Total	182	162	215	86	0	0	1	0	646	100.0
Squirrel monkey	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	7	1	0	0	0	0	0	0	8	100.0
	Total	7	1	0	0	0	0	0	0	8	100.0
Other species of new world monkeys (Ceboidea)	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	3	0	0	0	0	0	0	0	3	100.0
	Total	3	0	0	0	0	0	0	0	3	100.0
Cynomolgus monkey	Yes	130	523	1,100	1,017	0	0	10	0	2,780	27.8
	No	399	602	6,183	36	0	0	7	0	7,227	72.2
	Total	529	1,125	7,283	1,053	0	0	17	0	10,007	100.0
Rhesus monkey	Yes	143	103	0	29	0	0	0	0	275	43.8
	No	107	231	11	0	0	0	4	0	353	56.2
	Total	250	334	11	29	0	0	4	0	628	100.0
Vervets (Chlorocebus spp.)	Yes	0	15	0	5	0	0	0	0	20	37.7
	No	22	11	0	0	0	0	0	0	33	62.3
	Total	22	26	0	5	0	0	0	0	53	100.0
Baboons	Yes	10	11	0	0	0	0	0	0	21	45.7
	No	0	25	0	0	0	0	0	0	25	54.3
	Total	10	36	0	0	0	0	0	0	46	100.0
Other species of old world monkeys (Cercopithecoidea)	Yes	0	12	0	0	0	0	0	0	12	34.3
	No	14	9	0	0	0	0	0	0	23	65.7
	Total	14	21	0	0	0	0	0	0	35	100.0
Other mammals	Yes	605	124	0	0	0	0	2	0	731	2.7
	No	4,431	21,416	0	1	94	274	119	0	26,335	97.3
	Total	5,036	21,540	0	1	94	274	121	0	27,066	100.0
Domestic fowl	Yes	488	4,694	1,339	153	240	0	545	0	7,459	1.6
	No	107,897	102,329	145,149	102,252	2,519	343	3,749	315	464,553	98.4
	Total	108,385	107,023	146,488	102,405	2,759	343	4,294	315	472,012	100.0
Other birds	Yes	2,182	139	0	21	278	1	315	0	2,936	2.9
	No	55,174	12,953	5,004	22,800	2,289	695	495	0	99,410	97.1
	Total	57,356	13,092	5,004	22,821	2,567	696	810	0	102,346	100.0
Reptiles	Yes	3,601	0	0	0	0	0	24	0	3,625	55.2
	No	2,666	117	0	0	8	70	76	0	2,937	44.8
	Total	6,267	117	0	0	8	70	100	0	6,562	100.0
Rana	Yes	4	0	0	0	0	0	9	0	13	0.4
	No	794	108	91	0	200	0	2,292	0	3,485	99.6
	Total	798	108	91	0	200	0	2,301	0	3,498	100.0
Xenopus	Yes	6,750	873	0	210	0	0	71	0	7,904	36.9
	No	8,880	2,773	653	0	902	0	331	0	13,539	63.1
	Total	15,630	3,646	653	210	902	0	402	0	21,443	100.0
Other amphibians	Yes	72	11	0	0	180	0	0	0	263	2.4
	No	7,350	1,040	59	0	1,631	398	205	0	10,683	97.6
	Total	7,422	1,051	59	0	1,811	398	205	0	10,946	100.0
Zebra fish	Yes	4,396	18	0	0	0	0	6	0	4,420	0.9
	No	349,940	100,219	45,373	0	2,416	140	1,675	0	499,763	99.1
	Total	354,336	100,237	45,373	0	2,416	140	1,681	0	504,183	100.0
Other fish	Yes	2,177	514	122	0	392	0	39	0	3,244	0.4
	No	328,584	93,208	126,568	49	104,640	63,410	3,473	0	719,932	99.6
	Total	330,761	93,722	126,690	49	105,032	63,410	3,512	0	723,176	100.0
Cephalopods	Yes	0	0	0	0	0	0	0	0	0	0.0
	No	22	455	0	0	33	0	4	0	514	100.0
	Total	22	455	0	0	33	0	4	0	514	100.0
All Species	Yes	58,499	29,798	34,863	55,826	1,259	11	13,323	0	193,579	2.0
	No	4,299,154	2,170,158	2,151,996	413,532	123,528	78,882	150,439	473	9,388,162	98.0
	Total	4,357,653	2,199,956	2,186,859	469,358	124,787	78,893	163,762	473	9,581,741	100.0

Table 14: Genetic status of animals used by species and main categories of scientific purposes (2017)

	Genetic status	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Mice	Not altered	1,399,831	1,038,855	994,986	49,235	2,747	540	73,126	0	3,559,320	61.8
	Non harmful	1,366,539	369,566	43,196	315	0	12,434	11,539	0	1,803,589	31.3
	Harmful	267,998	122,545	1,623	0	0	378	660	8	393,212	6.8
	Total	3,034,368	1,530,966	1,039,805	49,550	2,747	13,352	85,325	8	5,756,121	100.0
Rats	Not altered	303,734	226,481	556,201	2,572	2,384	0	40,396	0	1,131,768	97.2
	Non harmful	15,959	4,910	2,270	123	0	0	712	0	23,974	2.1
	Harmful	4,338	3,948	98	0	0	0	41	0	8,425	0.7
	Total	324,031	235,339	558,569	2,695	2,384	0	41,149	0	1,164,167	100.0
Guinea-Pigs	Not altered	22,175	7,535	113,232	993	10	0	2,092	0	146,037	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	22,175	7,535	113,232	993	10	0	2,092	0	146,037	100.0
Hamsters (Syrian)	Not altered	1,490	3,824	6,810	100	0	0	312	0	12,536	98.5
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	187	0	0	0	0	0	0	187	1.5
	Total	1,490	4,011	6,810	100	0	0	312	0	12,723	100.0
Hamsters (Chinese)	Not altered	3	120	59	0	0	0	5	0	187	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	3	120	59	0	0	0	5	0	187	100.0
Mongolian gerbil	Not altered	1,494	2,183	1,480	109	0	10	109	0	5,385	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	1,494	2,183	1,480	109	0	10	109	0	5,385	100.0
Other rodents	Not altered	15,233	464	9,224	0	169	77	285	0	25,452	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	15,233	464	9,224	0	169	77	285	0	25,452	100.0
Rabbits	Not altered	23,398	11,800	94,315	204,998	331	0	1,959	0	336,801	92.4
	Non harmful	88	61	0	27,441	0	0	12	0	27,602	7.6
	Harmful	28	0	0	0	0	0	0	0	28	0.0
	Total	23,514	11,861	94,315	232,439	331	0	1,971	0	364,431	100.0
Cats	Not altered	750	1,133	1,372	10	0	0	73	0	3,338	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	750	1,133	1,372	10	0	0	73	0	3,338	100.0
Dogs	Not altered	1,519	8,166	10,637	330	15	0	560	0	21,227	99.4
	Non harmful	0	12	0	0	0	0	0	0	12	0.1
	Harmful	104	16	0	0	0	0	0	0	120	0.6
	Total	1,623	8,194	10,637	330	15	0	560	0	21,359	100.0
Ferrets	Not altered	319	1,182	476	63	0	0	72	0	2,112	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	319	1,182	476	63	0	0	72	0	2,112	100.0
Other carnivores	Not altered	876	618	756	20	123	121	0	0	2,514	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	876	618	756	20	123	121	0	0	2,514	100.0
Horses, donkeys and cross-breeds	Not altered	1,754	1,570	320	9,618	6	0	356	0	13,624	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	1,754	1,570	320	9,618	6	0	356	0	13,624	100.0

	Genetic status	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Pigs	Not altered	18,182	32,394	12,697	460	608	2	10,995	36	75,374	99.3
	Non harmful	121	172	0	0	0	0	40	0	333	0.4
	Harmful	19	149	0	0	0	0	0	0	168	0.2
	Total	18,322	32,715	12,697	460	608	2	11,035	36	75,875	100.0
Goats	Not altered	1,144	728	121	46	0	0	229	0	2,268	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	1,144	728	121	46	0	0	229	0	2,268	100.0
Sheep	Not altered	8,552	8,254	1,362	45,665	119	0	1,482	88	65,522	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	5	0	0	0	0	0	0	0	5	0.0
	Total	8,557	8,254	1,362	45,665	119	0	1,482	88	65,527	100.0
Cattle	Not altered	14,797	10,387	3,757	601	2,453	0	5,255	26	37,276	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	14,797	10,387	3,757	601	2,453	0	5,255	26	37,276	100.0
Prosimians	Not altered	173	0	0	0	0	0	0	0	173	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	173	0	0	0	0	0	0	0	173	100.0
Marmoset and tamarins	Not altered	182	162	215	86	0	0	1	0	646	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	182	162	215	86	0	0	1	0	646	100.0
Squirrel monkey	Not altered	7	1	0	0	0	0	0	0	8	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	7	1	0	0	0	0	0	0	8	100.0
Other species of new world monkeys (Ceboidea)	Not altered	3	0	0	0	0	0	0	0	3	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	3	0	0	0	0	0	0	0	3	100.0
Cynomolgus monkey	Not altered	529	1,125	7,283	1,053	0	0	17	0	10,007	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	529	1,125	7,283	1,053	0	0	17	0	10,007	100.0
Rhesus monkey	Not altered	250	334	11	29	0	0	4	0	628	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	250	334	11	29	0	0	4	0	628	100.0
Vervets (Chlorocebus spp.)	Not altered	22	26	0	5	0	0	0	0	53	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	22	26	0	5	0	0	0	0	53	100.0
Baboons	Not altered	10	36	0	0	0	0	0	0	46	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	10	36	0	0	0	0	0	0	46	100.0
Other species of old world monkeys (Cercopithecoidea)	Not altered	14	21	0	0	0	0	0	0	35	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	14	21	0	0	0	0	0	0	35	100.0
Other mammals	Not altered	5,013	21,540	0	1	94	274	121	0	27,043	99.9
	Non harmful	23	0	0	0	0	0	0	0	23	0.1
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	5,036	21,540	0	1	94	274	121	0	27,066	100.0
Domestic fowl	Not altered	107,748	107,023	146,488	102,405	2,759	343	4,294	315	471,375	99.9
	Non harmful	637	0	0	0	0	0	0	0	637	0.1
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	108,385	107,023	146,488	102,405	2,759	343	4,294	315	472,012	100.0

	Genetic status	Basic research	Translational and applied research	Regulatory use	Routine production	Protection of the natural environment in the interests of the health or welfare of human beings or animals	Preservation of species	Higher education or training for the acquisition, maintenance or improvement of vocational skills	Forensic enquiries	Total	%
Other birds	Not altered	57,356	13,092	5,004	22,821	2,567	696	810	0	102,346	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	57,356	13,092	5,004	22,821	2,567	696	810	0	102,346	100.0
Reptiles	Not altered	6,267	117	0	0	8	70	100	0	6,562	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	6,267	117	0	0	8	70	100	0	6,562	100.0
Rana	Not altered	798	108	91	0	200	0	2,301	0	3,498	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	798	108	91	0	200	0	2,301	0	3,498	100.0
Xenopus	Not altered	13,688	3,454	653	210	902	0	390	0	19,297	90.0
	Non harmful	1,583	192	0	0	0	0	12	0	1,787	8.3
	Harmful	359	0	0	0	0	0	0	0	359	1.7
	Total	15,630	3,646	653	210	902	0	402	0	21,443	100.0
Other amphibians	Not altered	6,751	1,051	59	0	1,811	398	205	0	10,275	93.9
	Non harmful	671	0	0	0	0	0	0	0	671	6.1
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	7,422	1,051	59	0	1,811	398	205	0	10,946	100.0
Zebra fish	Not altered	70,628	60,841	45,323	0	2,416	7	1,227	0	180,442	35.8
	Non harmful	254,763	38,893	0	0	0	133	454	0	294,243	58.4
	Harmful	28,945	503	50	0	0	0	0	0	29,498	5.9
	Total	354,336	100,237	45,373	0	2,416	140	1,681	0	504,183	100.0
Other fish	Not altered	328,729	90,734	126,690	49	105,023	63,410	3,512	0	718,147	99.3
	Non harmful	1,828	2,988	0	0	9	0	0	0	4,825	0.7
	Harmful	204	0	0	0	0	0	0	0	204	0.0
	Total	330,761	93,722	126,690	49	105,032	63,410	3,512	0	723,176	100.0
Cephalopods	Not altered	22	455	0	0	33	0	4	0	514	100.0
	Non harmful	0	0	0	0	0	0	0	0	0	0.0
	Harmful	0	0	0	0	0	0	0	0	0	0.0
	Total	22	455	0	0	33	0	4	0	514	100.0
All Species	Harmful	302,000	127,348	1,771	0	0	378	701	8	432,206	4.5
	Non harmful	1,642,212	416,794	45,466	27,879	9	12,567	12,769	0	2,157,696	22.5
	Not altered	2,413,441	1,655,814	2,139,622	441,479	124,778	65,948	150,292	465	6,991,839	73.0
	Total	4,357,653	2,199,956	2,186,859	469,358	124,787	78,893	163,762	473	9,581,741	100.0

Part 3: Numbers and uses of animals for the creation and maintenance of genetically altered animals in the EU

Table 15: Use of animals for the creation of new genetically altered animal lines by research type species and severity (2017)

	Severity	Basic research	Translational and applied research	Total	%
Mice	Non-recovery	23,615	382	23,997	4.9
	Mild	356,584	18,048	374,632	76.3
	Moderate	70,843	8,809	79,652	16.2
	Severe	12,014	422	12,436	2.5
	Total	463,056	27,661	490,717	100.0
Rats	Non-recovery	153	0	153	1.5
	Mild	6,613	523	7,136	71.6
	Moderate	1,036	685	1,721	17.3
	Severe	554	396	950	9.5
	Total	8,356	1,604	9,960	100.0
Rabbits	Non-recovery	102	133	235	49.5
	Mild	24	0	24	5.1
	Moderate	109	107	216	45.5
	Severe	0	0	0	0.0
	Total	235	240	475	100.0
Pigs	Non-recovery	2	6	8	3.5
	Mild	133	74	207	91.2
	Moderate	2	0	2	0.9
	Severe	10	0	10	4.4
	Total	147	80	227	100.0
Sheep	Non-recovery	0	0	0	0.0
	Mild	14	0	14	82.4
	Moderate	3	0	3	17.6
	Severe	0	0	0	0.0
	Total	17	0	17	100.0
Marmoset and tamarins	Non-recovery	0	0	0	0.0
	Mild	9	0	9	90.0
	Moderate	1	0	1	10.0
	Severe	0	0	0	0.0
	Total	10	0	10	100.0
Other mammals	Non-recovery	16	0	16	26.2
	Mild	34	0	34	55.7
	Moderate	11	0	11	18.0
	Severe	0	0	0	0.0
	Total	61	0	61	100.0
Domestic fowl	Non-recovery	0	0	0	0.0
	Mild	620	27	647	100.0
	Moderate	0	0	0	0.0
	Severe	0	0	0	0.0
	Total	620	27	647	100.0
Xenopus	Non-recovery	0	0	0	0.0
	Mild	250	0	250	100.0
	Moderate	0	0	0	0.0
	Severe	0	0	0	0.0
	Total	250	0	250	100.0
Zebra fish	Non-recovery	1,018	40	1,058	0.7
	Mild	127,533	4,503	132,036	87.7
	Moderate	15,114	190	15,304	10.2
	Severe	2,198	0	2,198	1.5
	Total	145,863	4,733	150,596	100.0
Other fish	Non-recovery	0	0	0	0.0
	Mild	4,562	0	4,562	99.8
	Moderate	7	0	7	0.2
	Severe	0	0	0	0.0
	Total	4,569	0	4,569	100.0

	Severity	Basic research	Translational and applied research	Total	%
All Species	Non-recovery	24,906	561	25,467	3.9
	Mild	496,376	23,175	519,551	79.0
	Moderate	87,126	9,791	96,917	14.7
	Severe	14,776	818	15,594	2.4
	Total	623,184	34,345	657,529	100.0

Table 16: Use of animals for the creation of new genetically altered animal lines by research type species and severity (2017)

		Reuse	Basic research	Translational and applied research	Total	%
Mice	Yes		1,895	225	2,120	0.4
	No		461,161	27,436	488,597	99.6
	Total		463,056	27,661	490,717	100.0
Rats	Yes		0	0	0	0.0
	No		8,356	1,604	9,960	100.0
	Total		8,356	1,604	9,960	100.0
Rabbits	Yes		0	0	0	0.0
	No		235	240	475	100.0
	Total		235	240	475	100.0
Pigs	Yes		0	3	3	1.3
	No		147	77	224	98.7
	Total		147	80	227	100.0
Sheep	Yes		0	0	0	0.0
	No		17	0	17	100.0
	Total		17	0	17	100.0
Marmoset and tamarins	Yes		0	0	0	0.0
	No		10	0	10	100.0
	Total		10	0	10	100.0
Other mammals	Yes		0	0	0	0.0
	No		61	0	61	100.0
	Total		61	0	61	100.0
Domestic fowl	Yes		0	0	0	0.0
	No		620	27	647	100.0
	Total		620	27	647	100.0
Xenopus	Yes		0	0	0	0.0
	No		250	0	250	100.0
	Total		250	0	250	100.0
Zebra fish	Yes		20,621	80	20,701	13.7
	No		125,242	4,653	129,895	86.3
	Total		145,863	4,733	150,596	100.0
Other fish	Yes		0	0	0	0.0
	No		4,569	0	4,569	100.0
	Total		4,569	0	4,569	100.0
All Species	Yes		22,516	308	22,824	3.5
	No		600,668	34,037	634,705	96.5
	Total		623,184	34,345	657,529	100.0

Table 17: Uses of animals for the creation of new genetically altered animal lines in basic research by species and type of research (2017)

	Oncology	Cardiovascular Blood and Lymphatic System	Nervous System	Respiratory System	Gastrointestinal System including Liver	Musculoskeletal System	Immune System	Urogenital/Reprod uctive System	Sensory Organs (skin, eyes and ears)	Endocrine System/Metabolis m	Multisystemic	Ethology / Animal Behaviour /Animal Biology	Other basic research	Total	%
Mammals															
Rodents															
Mice	77,684	16,920	62,701	1,227	10,587	12,912	47,995	22,816	10,793	16,200	117,781	474	64,966	463,056	74.3
Rats	0	3,180	1,815	0	0	0	673	29	0	0	973	0	1,686	8,356	1.3
Guinea-Pigs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other rodents	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rabbits															
Rabbits	0	81	0	0	0	0	0	60	0	0	0	0	94	235	0
Farm animals															
Pigs	0	5	4	0	0	11	79	0	0	0	39	0	9	147	0
Sheep	0	0	16	1	0	0	0	0	0	0	0	0	0	17	0
Non-human primates															
Marmoset and tamarins	0	0	0	0	0	0	0	0	0	0	0	0	10	10	0
Other mammals															
Other mammals	0	0	61	0	0	0	0	0	0	0	0	0	0	61	0
Birds															
Domestic fowl	0	0	0	0	0	0	0	125	0	0	495	0	0	620	0.1
Amphibians															
Xenopus	0	0	0	0	0	0	0	0	0	0	0	0	250	250	0
Fish															
Zebra fish	4,109	45,549	28,686	0	109	3,728	10,786	4,140	5,787	2,549	19,260	6,917	14,243	145,863	23.4
Other fish	69	24	1	0	0	0	0	778	2,394	0	1,296	0	7	4,569	0.7
Totals															
Total	81,862	65,759	93,284	1,228	10,696	16,651	59,533	27,948	18,974	18,749	139,844	7,391	81,265	623,184	100
%	13.1	10.6	15	0.2	1.7	2.7	9.6	4.5	3	3	22.4	1.2	13	100	

Table 18.1: Uses of animals for the creation of new genetically altered animal lines in basic, translational and applied research by species and type of research (Part 1) (2017)

	Human Cancer	Human Infectious Disorders	Human Cardiovascular Disorders	Human Nervous and Mental Disorders	Human Respiratory Disorders	Human Gastrointestinal Disorders including Liver	Human Musculoskeletal Disorders	Human Immune Disorders
Mammals								
Rodents								
Mice	9,346	490	2,074	2,866	263	2,544	305	2,265
Rats	44	0	149	971	0	0	408	0
Guinea-Pigs	0	0	0	0	0	0	0	0
Other rodents	0	0	0	0	0	0	0	0
Rabbits								
Rabbits	0	0	0	0	0	0	0	0
Farm animals								
Pigs	26	0	9	11	0	0	13	0
Sheep	0	0	0	0	0	0	0	0
Non-human primates								
Marmoset and tamarins	0	0	0	0	0	0	0	0
Other mammals								
Other mammals	0	0	0	0	0	0	0	0
Birds								
Domestic fowl	0	0	0	0	0	0	0	0
Amphibians								
Xenopus	0	0	0	0	0	0	0	0
Fish								
Zebra fish	0	730	1,480	242	0	0	155	0
Other fish	0	0	0	0	0	0	0	0
Totals								
Total	9,416	1,220	3,712	4,090	263	2,544	881	2,265
%	27.8	3.6	11	12.1	0.8	7.5	2.6	6.7

Table 18.2: Uses of animals for the creation of new genetically altered animal lines in basic translational and applied research by species and type of research (Part 2) (2017)

	Human Urogenital/Reproductive Disorders	Human Sensory Organ Disorders (skin, eyes and ears)	Human Endocrine/Metabolism Disorders	Other Human Disorders	Animal Diseases and Disorders	Animal Welfare	Diagnosis of diseases	Non-regulatory toxicology and ecotoxicology	Total	%
Mammals										
Rodents										
Mice	654	67	4,469	502	1,816	0	0	0	27,661	80.5
Rats	0	15	0	0	0	17	0	0	1,604	4.7
Guinea-Pigs	0	0	0	0	0	0	0	0	0	0
Other rodents	0	0	0	0	0	0	0	0	0	0
Rabbits										
Rabbits	0	0	232	0	8	0	0	0	240	0.7
Farm animals										
Pigs	0	12	5	4	0	0	0	0	80	0.2
Sheep	0	0	0	0	0	0	0	0	0	0
Non-human primates										
Marmoset and tamarins	0	0	0	0	0	0	0	0	0	0
Other mammals										
Other mammals	0	0	0	0	0	0	0	0	0	0
Birds										
Domestic fowl	0	0	0	0	27	0	0	0	27	0.1
Amphibians										
Xenopus	0	0	0	0	0	0	0	0	0	0
Fish										
Zebra fish	0	1,074	0	40	0	0	502	510	4,733	13.8
Other fish	0	0	0	0	0	0	0	0	0	0
Totals										
Total	654	1,168	4,706	546	1,851	17	502	510	34,345	100
%	1.9	3.4	13.7	1.6	5.4	0	1.5	1.5	100	

Table 19: Uses of animals for the maintenance of colonies of established genetically altered animal lines by species, severity and genetic status (2017)

	Severity	Genetically altered with a harmful phenotype	Genetically altered without a harmful phenotype	Not genetically altered	Total	%
Mice	Non-recovery	417	225	71	713	0.1
	Mild	48,209	359,141	30,784	438,134	77.7
	Moderate	37,965	37,786	3,358	79,109	14.0
	Severe	22,525	23,197	106	45,828	8.1
	Total	109,116	420,349	34,319	563,784	100.0
Rats	Non-recovery	0	0	0	0	0.0
	Mild	2,271	816	590	3,677	54.1
	Moderate	830	755	391	1,976	29.1
	Severe	1,132	14	0	1,146	16.9
	Total	4,233	1,585	981	6,799	100.0
Dogs	Non-recovery	0	0	0	0	0.0
	Mild	0	0	0	0	0.0
	Moderate	0	0	0	0	0.0
	Severe	0	10	0	10	100.0
	Total	0	10	0	10	100.0
Domestic fowl	Non-recovery	0	0	0	0	0.0
	Mild	0	242	26	268	73.0
	Moderate	93	0	0	93	25.3
	Severe	6	0	0	6	1.6
	Total	99	242	26	367	100.0
Xenopus	Non-recovery	0	0	0	0	0.0
	Mild	0	376	14	390	99.5
	Moderate	0	0	0	0	0.0
	Severe	0	1	1	2	0.5
	Total	0	377	15	392	100.0
Zebra fish	Non-recovery	0	1	26	27	0.0
	Mild	15,297	48,754	3,830	67,881	95.8
	Moderate	128	2,034	2	2,164	3.1
	Severe	127	637	4	768	1.1
	Total	15,552	51,426	3,862	70,840	100.0
Other fish	Non-recovery	0	0	0	0	0.0
	Mild	2	114	0	116	18.1
	Moderate	0	524	0	524	81.9
	Severe	0	0	0	0	0.0
	Total	2	638	0	640	100.0
All Species	Non-recovery	417	226	97	740	0.1
	Mild	65,779	409,443	35,244	510,466	79.4
	Moderate	39,016	41,099	3,751	83,866	13.0
	Severe	23,790	23,859	111	47,760	7.4
	Total	129,002	474,627	39,203	642,832	100.0

Table 20: Uses of animals for the maintenance of colonies of established genetically altered animal lines by species, reuse and genetic status (2017)

		Reuse	Not genetically altered	Genetically altered without a harmful phenotype	Genetically altered with a harmful phenotype	Total	%
Mice	Yes		0	72	69	141	0.0
	No		34,319	420,277	109,047	563,643	100.0
	Total		34,319	420,349	109,116	563,784	100.0
Rats	Yes		0	0	0	0	0.0
	No		981	1,585	4,233	6,799	100.0
	Total		981	1,585	4,233	6,799	100.0
Dogs	Yes		0	0	0	0	0.0
	No		0	10	0	10	100.0
	Total		0	10	0	10	100.0
Domestic fowl	Yes		0	0	0	0	0.0
	No		26	242	99	367	100.0
	Total		26	242	99	367	100.0
Xenopus	Yes		4	193	0	197	50.3
	No		11	184	0	195	49.7
	Total		15	377	0	392	100.0
Zebra fish	Yes		149	463	0	612	0.9
	No		3,713	50,963	15,552	70,228	99.1
	Total		3,862	51,426	15,552	70,840	100.0
Other fish	Yes		0	0	0	0	0.0
	No		0	638	2	640	100.0
	Total		0	638	2	640	100.0
All Species	Yes		153	728	69	950	0.1
	No		39,050	473,899	128,933	641,882	99.9
	Total		39,203	474,627	129,002	642,832	100.0