

Supplementary Table 1. The Number of each breed and sex in Japan and the United States.

a. Japan							b. The United States								
Breed	Male (intact)	Male (castrated)	Female (intact)	Female (spayed)	Total	Cumulative %	Breed	Male (intact)	Male (castrated)	Female (intact)	Female (spayed)	Total	Cumulative %		
<b>Poodle (Toy)</b>	68 (2)	127 (9)	52 (3)	113 (8)	360	12.91	<b>Hokkaido Inu</b>	1	1	0	0	2	4	85.73	
<b>Dachshund (Miniature)</b>	78 (11)	80 (10)	49 (8)	85 (13)	292	23.38	<b>Airedale Terrier</b>	1	(1)	0	0	1	(1)	3	85.84
<b>Shiba Inu</b>	86 (10)	41 (16)	34 (6)	96 (26)	257	31.33	<b>Golden Retriever</b>	2	1	0	0	3	85.94		
<b>Chihuahua</b>	30 (15)	63 (40)	34 (25)	50 (30)	177	37.86	<b>Manchester Terrier (toy)</b>	1	(1)	0	1	(1)	3	86.05	
<b>Labrador Retriever</b>	12 (12)	27 (27)	15 (14)	28 (25)	82	40.80	<b>Brussels Griffon</b>	2	(1)	0	0	1	(1)	3	86.16
<b>Miniature Schnauzer</b>	15 (10)	29 (20)	17 (13)	19 (17)	80	43.97	<b>Bulldog</b>	1	(1)	0	0	1	(1)	3	86.27
<b>Border Collie</b>	19 (18)	23 (19)	13 (13)	24 (24)	79	46.50	<b>Belgian Tervuren</b>	0	1	(1)	1	(1)	3	86.38	
<b>Poodle (Standard)</b>	12 (4)	22 (8)	10 (3)	33 (9)	77	49.26	<b>Borzoi</b>	1	(1)	0	1	(1)	3	86.48	
<b>Miniature Weish Corzi</b>	4 (3)	16 (10)	11 (7)	27 (17)	58	51.95	<b>Boxer</b>	1	1	0	0	2	86.59		
<b>French Bulldog</b>	18 (4)	20 (5)	7 (2)	25 (7)	70	54.46	<b>Collie (Rough)</b>	0	0	2	1	3	86.70		
<b>Jack Russell Terrier</b>	15 (11)	25 (18)	6 (6)	23 (23)	69	56.94	<b>Leoberger</b>	1	0	0	2	3	86.81		
<b>Pomeranian</b>	7 (4)	16 (10)	7 (7)	14 (14)	39	59.05	<b>Japanese Chin</b>	1	1	0	0	2	86.91		
<b>Shetland Sheepdog</b>	12 (12)	13 (13)	16 (11)	16 (14)	57	61.10	<b>Irish Setter</b>	0	0	1	1	2	86.98		
<b>Yorkshire Terrier</b>	14 (10)	18 (13)	10 (10)	13 (13)	55	63.07	<b>Australian Kelpie</b>	0	1	(1)	0	1	(1)	2	87.06
<b>Beagle</b>	13 (5)	18 (17)	6 (6)	16 (16)	53	64.97	<b>Great Dane</b>	0	1	(1)	0	1	(1)	2	87.13
<b>Pug</b>	13 (13)	9 (9)	6 (6)	18 (16)	46	66.62	<b>Great Pyrenees</b>	0	0	0	2	2	87.20		
<b>Cavalier King Charles Spaniel</b>	6 (6)	12 (12)	4 (2)	23 (16)	45	68.23	<b>Jack Spaniel (American)</b>	0	0	1	1	2	87.27		
<b>Border Terrier</b>	7 (7)	14 (14)	6 (5)	16 (16)	43	69.77	<b>Chihuahua</b>	2	0	0	0	2	87.34		
<b>Shih Tzu</b>	7 (7)	12 (12)	7 (6)	14 (13)	40	71.21	<b> Norwich Terrier</b>	0	2	0	0	2	87.41		
<b>Italian Greyhound</b>	8 (1)	16 (8)	3 (2)	11 (7)	38	72.57	<b>Britany</b>	2	1	(1)	0	1	(1)	2	87.49
<b>Maltese</b>	7 (4)	16 (10)	7 (7)	7 (7)	37	73.90	<b>Lakeland Terrier</b>	1	(1)	0	1	(1)	3	87.56	
<b>Boston Terrier</b>	8 (8)	8 (8)	2 (2)	14 (14)	32	75.04	<b>Weimaraner</b>	0	1	0	0	1	2	87.63	
<b>Miniature Pinscher</b>	8 (7)	9 (6)	4 (3)	10 (10)	31	76.16	<b>Iceland Sheepdog</b>	0	1	0	0	1	87.67		
<b>Bernese Mountain Dog</b>	8 (7)	2 (1)	4 (4)	4 (4)	18	76.80	<b>Alghan Hound</b>	0	0	1	0	1	87.70		
<b>Flat-Coated Retriever</b>	2 (2)	2 (2)	3 (1)	9 (3)	16	77.38	<b>American Terrier</b>	0	1	0	0	1	87.74		
<b>Cocker Spaniel (American)</b>	4 (2)	6 (3)	1 (1)	4 (4)	15	77.91	<b>Sakuki</b>	0	1	0	0	1	87.77		
<b>Poodle (Miniature)</b>	2 (2)	4 (4)	3 (2)	5 (4)	14	78.42	<b>German Shorthaired Pointer</b>	0	0	0	0	0	87.81		
<b>German Shepherd</b>	4 (4)	1 (1)	4 (3)	3 (2)	12	78.85	<b>Schipperke</b>	0	0	0	1	1	87.85		
<b>Cocker Spaniel (English)</b>	2 (2)	3 (3)	2 (2)	4 (3)	11	79.24	<b>Spanish Water Dog</b>	0	0	0	0	0	87.88		
<b>West Highland White Terrier</b>	2 (1)	4 (4)	2 (2)	3 (3)	11	79.63	<b>Collie (Smooth)</b>	0	0	1	0	1	87.92		
<b>Bichon Frise</b>	1 (1)	(1)	(1)	5 (4)	11	80.03	<b>Pomeranian</b>	0	1	0	0	1	87.95		
<b>Pekinese</b>	2 (1)	4 (3)	3 (3)	1 (1)	10	80.39	<b>Border Mastiff</b>	1	0	0	0	1	87.99		
<b>Kai</b>	4	2	1	3	10	80.75	<b>Chinese Crested</b>	1	0	0	0	1	88.02		
<b>Japanese Spitz</b>	1 (1)	5	0	10	81.10	<b>Dogo Argentino</b>	0	1	0	0	1	88.06			
<b>Poodle (Standard)</b>	1 (1)	3 (3)	3 (2)	2 (2)	9	81.43	<b>New Zealand Heading Dog</b>	0	0	0	1	1	88.10		
<b>Dobberman Pinscher</b>	2	3 (3)	0	3 (3)	8	81.71	<b>Basent Hound</b>	0	0	0	0	0	88.13		
<b>Australian Shepherd</b>	2 (2)	1	0	3 (3)	7	81.96	<b>Havanese</b>	0	0	1	0	1	88.17		
<b>Siberian Husky</b>	5 (1)	1	1 (1)	0	7	82.47	<b>Vizsla</b>	0	1	0	0	1	88.20		
<b>Dalmatian</b>	3 (2)	2 (2)	1 (1)	3 (2)	7	82.72	<b>Bearded Collie</b>	0	0	0	0	0	88.24		
<b>Alkita</b>	3 (2)	2 (1)	1 (1)	1 (1)	7	82.97	<b>Poodlepoiner</b>	0	0	1	0	1	88.28		
<b>Pointer</b>	1 (1)	3 (1)	1 (1)	1 (1)	6	83.18	<b>Bouvier des Flandres</b>	0	0	0	1	1	88.31		
<b>Miniature Bull Terrier</b>	1 (1)	0	0	1 (1)	5	83.58	<b>Fox Terrier</b>	0	0	0	1	1	88.35		
<b>English Setter</b>	1 (1)	3	0	1 (1)	5	83.58	<b>Toy Fox Terrier</b>	0	0	1	0	1	88.38		
<b>Cardigan Welsh Corzi</b>	0	1	2	2	5	83.76	<b>Petit Basset Griffon Vendeen</b>	0	0	0	1	1	88.42		
<b>Raselli</b>	2 (2)	0	0	3 (2)	5	83.94	<b>Petit Brabancon</b>	0	0	1	0	1	88.45		
<b>Belgian Groenendael</b>	1 (1)	3 (1)	0	1 (1)	5	84.12	<b>Bull Terrier</b>	0	0	0	0	0	88.49		
<b>Boxer</b>	1 (1)	1 (1)	0	3 (2)	5	84.30	<b>Pt Bull</b>	0	0	0	0	0	88.53		
<b>English Springer Spaniel</b>	4 (1)	1 (1)	0	2 (2)	4	84.44	<b>White Shepherd Dog</b>	0	0	0	0	0	88.56		
<b>Cairn Terrier</b>	1 (1)	1 (1)	1 (1)	1 (1)	4	84.58	<b>Maremma Sheepdog</b>	0	0	0	1	1	88.63		
<b>Koikichonjide</b>	1	3	0	0	4	84.73	<b>Lhasa Apso</b>	0	0	0	0	0	88.67		
<b>Basenji</b>	1 (1)	1 (1)	0	2 (1)	4	84.87	<b>White Shepherd Dog</b>	0	0	1	0	1	88.71		
<b>Border Terrier</b>	1	2	1 (1)	0	4	85.16	<b>Rottweiler</b>	0	1	0	0	1	88.74		
<b>White Swiss Shepherd Dog</b>	3	0	1	0	4	85.30	<b>Shikazu Inu</b>	1	0	0	0	1	88.78		
<b>Fox Terrier (Wire/Wire-haired)</b>	1 (1)	0	0	3 (1)	4	85.44	<b>Kawakami Inu</b>	0	0	1	0	1	88.81		
<b>Kishu Inu</b>	0	2	2	0	4	85.59	<b>Japanese Terrier</b>	0	0	0	1	1	88.85		
<b>Total</b>					4	85.59	<b>Mixed Breed/Unknown</b>	46	92	45	128	311	100.00		
								576 (239)	842 (378)	433 (200)	938 (417)	2789			

  

Breed	Male (intact)	Male (castrated)	Female (intact)	Female (spayed)	Total	Cumulative %	Breed	Male (intact)	Male (castrated)	Female (intact)	Female (spayed)	Total	Cumulative %	
<b>Labrador Retriever</b>	52 (5)	267 (34)	40 (5)	259 (34)	618	5.95	<b>Border Terrier</b>	4	1	5	1	11	15	72.79
<b>German Shepherd</b>	69 (15)	149 (5)	65	181 (5)	464	10.41	<b>Pikvaz</b>	4	5	5	1	15	22.07	
<b>Old English Sheepdog</b>	5 (5)	132 (17)	39 (8)	120 (14)	333	13.67	<b>Chow Chow</b>	1 (1)	8 (3)	0	6 (4)	15	23.63	
<b>Border Collie</b>	34 (6)	105 (31)	31 (8)	99 (29)	269	16.21	<b>Scottish Terrier</b>	4	6	2	2	14	73.20	
<b>Rottweiler</b>	55	85	50	79	269	18.76	<b>Australian Shepherd</b>	0	8	1	4	13	73.33	
<b>Australian Shepherd</b>	27 (1)	109 (2)	26 (1)	28	282	21.29	<b>Cairn Terrier</b>	1	2	3	2	7	73.43	
<b>Dobberman Pinscher</b>	49 (1)	57 (2)	38 (1)	69 (2)	213	23.29	<b>Cardigan Welsh Corzi</b>	2	5	2	4	13	73.58	
<b>Soft Coated Wheaten Terrier</b>	28	63	30	67	188	25.10	<b>Dogon Setter</b>	5	2	6	0	13	73.70	
<b>Boxer</b>	4	195	17	73	219	181.13	<b>Irish Wolfhound</b>	1	1	1	5	7	73.83	
<b>Poodle (Standard)</b>	21 (1)	70 (3)	15 (1)	57 (3)	163	28.41	<b>Parson Russell Terrier</b>	1	7	2	3	13	73.95	
<b>Australian Cattle Dog</b>	13	69	10	69	161	29.96	<b>Pointer</b>	2	6 (2)	1	4 (2)	13	74.08	
<b>Japanese Chin</b>	3	38	32	35	108	35.32	<b>Shiloh Shepherd</b>	1	2	0	0	3	74.13	
<b>Mastiff (English)</b>	32	52	24	26	134	32.55	<b>Bearded Collie</b>	2	6	1	3	12	74.32	
<b>Boxer</b>	11	0	53 (2)	12 (1)	55 (1)	131	33.81	<b>Collie (Rough)</b>	2	5	1	4	12	74.43
<b>Japanese Mountain Dog</b>	17 (7)	29 (1)	25 (2)	34 (6)	85	43.99	<b>Irish Water Spaniel</b>	1	4	0	10	75.48		
<b>Jack Spaniel (American)</b>	11 (3)	58 (2)	13 (1)	43 (4)	125	36.22	<b>Samoyed</b>	1	3 (1)	3 (1)	5	12	74.67	
<b>Cocker Russell Terrier</b>	16 (6)	88 (23)	11 (5)	35 (24)	120	37.38	<b>Tibetan Terrier</b>	2	3	4	3	12	74.78	
<b>Chihuahua</b>	5 (5)	50 (44)	5 (11)	55	111	38.60	<b>Lacoste Rouennais</b>	1	4	2	8	11	74.89	
<b>Alkita</b>	27 (1)	34 (1)	15 (1)	31 (1)	107	39.47	<b>Old English Sheepdog</b>	0	9	0	2	11	74.99	
<b>Great Dane</b>	9	40	12	40	101	40.47	<b>Plott</b>	0	7	0	4	11	75.10	
<b>Lakeland Terrier</b>	6 (4)	45 (17)	6 (5)	41 (16)	98	41.39	<b>American Foxhound</b>	0	9	0	0	9	75.19	
<b>Siberian Husky</b>	15 (1)	37	12	28 (1)	92	42.28	<b>Fox Terrier (Toy)</b>	0	4	1	5	10	75.29	
<b>Shetland Sheepdog</b>	7 (4)	44 (21)	9 (5)	31 (20)	91	43.15	<b>Bizan Hound</b>	4	1	2	3	10	75.39	
<b>Havanese</b>	11	35	21	20	87	43.99	<b>Irish Water Spaniel</b>	1	5	1	4	10	75.48	
<b>American Terrier</b>	0	13	23	24	26	86	44.82	<b>Keshbond</b>	2	5	0	3	10	75.58
<b>Rhodanes Ridgeback</b>	24	22	22	15	83	45.62	<b>Silky Terrier</b>	0	4	2	4	10	75.68	
<b>Richon Frise</b>	1	87.81	35 (5)	2	82	46.40	<b>Welsh Terrier</b>	0	6	2	0	8	75.77	
<b>Shiba Inu</b>	12 (7)	38 (25)	10 (10)	25 (22)	82	47.19	<b>Holly (Smooth)</b>	1	3	3	9	3	75.83	
<b>Dachshund</b>	7	40	9	19	75	47.92	<b>Blue Heeler</b>	1	2	1	4	8	75.84	
<b>English Springer Spaniel</b>	13 (1)	29 (1)	10 (1)	22 (1)	74	48.63	<b>Bull Terrier</b>	0	5	1	6	8	76.01	
<b>P</b>														