

## A PRELIMINARY INTERNET SURVEY OF PET RABBIT OWNERS' CHARACTERISTICS

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**Abstract:** This study aimed to conduct a preliminary survey to investigate basic ownership factors, frequency of microchipping and insurance and views of pet rabbit owners on these areas and general rabbit management. More specifically, we aimed to investigate whether owners possess insurance, whether their rabbits are microchipped, and owners' views on the recommendations relating to rabbits (e.g. recommended enclosure sizes) and the law. A questionnaire was designed and promulgated through social media sites and rabbit forums. A total of 1183 responses were received. Just over 29% of respondents sourced their rabbits through rescue centres. 73.9% (867/1174) of owners stated that they had no pet insurance for their rabbits. Concerning microchips, 78.3% (919/1173) of rabbits were not microchipped, while 21.7% (254/1173) were. This preliminary study found that the majority of individuals are of the opinion that the relevant law is insufficiently publicised. A more detailed study would be beneficial to investigate and provide further insight into rabbit owners and their views and concerns for rabbits. The results of such a study could help formulate rabbit-related information and guidelines which in turn could have a direct impact on pet rabbit welfare.

**Key Words:** animal welfare, insurance, microchipping, laws, owners, rabbit.

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## INTRODUCTION

The Pet Food Manufacturers Association (PFMA) recently estimated that there are approximately one million pet rabbits in the United Kingdom (PFMA, 2014). Despite the popularity of rabbits, there currently appears to be a lack of data relating to stray rabbits in the UK. The Rabbit Welfare Association and Fund (RWF) previously conducted research which found that more than 67000 rabbits were relinquished to rescue centres every year (RWF, 2012). Based on the 2014 population estimate, this equates to 6.7% of the rabbit population.

Microchipping is a method of permanent identification, which links a pet animal to its owners, thus increasing the likelihood of a pet being reunited with its owner within a short timeframe if lost (Lord *et al.*, 2007). Microchipping is beneficial in comparison to other methods such as tattooing, which is associated with a number of disadvantages, including pain, possible blurring of the tattoo after several years and potential risks of infection. Furthermore, movement of the animal could make the application difficult (Sorensen *et al.*, 1995; Jansen *et al.*, 1999; CAWC, 2002).

Pet insurance helps subsidise rabbit owners' veterinary costs; a course of treatment could be as much as £500, or even £1000 (RSPCA, 2012; RWF, 2014). Furthermore, insurance data also enables epidemiological studies to be conducted on companion animal health and disease for which there is a shortage of research (Egenvall *et al.*, 1998). This study aimed to conduct a preliminary survey to investigate basic ownership factors, frequency of microchipping and insurance and views of pet rabbit owners on these areas and general rabbit management. More specifically, we

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aimed to investigate whether owners possess insurance, whether their rabbits are microchipped, and owners' views on the recommendations relating to rabbits (e.g. recommended enclosure sizes) and the law.

## MATERIAL AND METHODS

A questionnaire consisting of 15 questions was drafted, pilot tested on 10 individuals and subsequently refined (available upon request). The questionnaire was anonymous. The tool by SurveyMonkey Inc. was used (Palo Alto, California, USA, www.surveymonkey.com). Awareness of the survey was promulgated through social media sites (Facebook and Twitter), including the RWF (Rabbit Welfare Association and Fund) Facebook page, and through an online rabbit forum. The survey covering message asked for pet rabbit owners to fill out a questionnaire about their animals. Data collection was carried out over a 2-wk period (4/11/2014-18/11/2014). The time limit for responses was open-ended. Over 1000 responses were received by the middle of the 2<sup>nd</sup> wk, by which point there was a steep falloff in the response rate. The number of responses was then deemed sufficient for a statistical analysis (total=1183 responses) and the questionnaire was closed. In an effort to prevent a respondent from completing more than one questionnaire, the SurveyMonkey option to allow only one response per computer was selected. Categorical variables are presented as percentages and numbers of respondents.

To assess the association between categorical variables, we used Chi-Square tests or, alternatively, log-likelihood ratio tests, which are more appropriate in cases where one or more observed frequencies in the contingency table are less than 5. Statistical analyses were performed using SPSS 20.0 for Microsoft Windows package.  $P < 0.05$  was considered to be statistically significant.

## RESULTS

A total of 1183 responses were received. Among the respondents who stated their age (1176 respondents), 17.3% (204/1176) were aged between 18 and 24 yr old, 32.5% (382/1176) between 25 and 34 yr old, 23.7% (279/1176) between 35 and 44 yr old, 18% (212/1176) between 45 and 54 yr old, 7.4% (87/1176) between 55 and 64 yr old, and 1% (12/1176) between 64 and 75 yr old.

The majority of respondents were living in England (67.9%; 800/1179). The remainder came from Scotland (7.6%; 90/1179), Wales (1.7%; 20/1179), Northern Ireland (0.3%; 4/1179), the Republic of Ireland (0.1%; 1/1179), or from other locations (e.g. the USA, Europe and Australia) outside the UK (22.4%; 264/1179). All respondents were included in the statistical analysis.

Regarding distribution of the number of rabbit(s) per owner, the average was  $2.6 \pm 1.8$  rabbits. 25.3% (297/1174) of respondents claimed to own 1 rabbit, 44.9% (527/1174) 2 rabbits, 9.3% (109/1174) 3 rabbits, 9.3% (109/1,174) 4 rabbits, 3.2% (37/1174) 5 rabbits, 2.2% (26/1174) 6 rabbits, 1.1% (13/1174) 7 rabbits and 4.8% (56/1174) more than 7 rabbits. Nine respondents did not answer the question. Owners had acquired their rabbit(s) from different sources (Table 1). An owner could select one or more options.

**Table 1:** Sources where rabbits were acquired (n=1178).

Source	% (n)
Rescue Centre	29.1 (343)
Pet shop	12.9 (152)
Breeder	6.5 (77)
Friend/Family	5.7 (67)
Multiple	33.4 (394)
Other <sup>1</sup>	12.3 (145)
Total	1178
Missing	5

<sup>1</sup>Other categories included: Farm, College, Garden Centre, Work Colleague, Meat breeder, Vets, Left on lawn/doorstep or Petting Zoo.

Regarding pet insurance, 73.9% (867/1174) of rabbit owners stated that their rabbits had no insurance, 4.7% (55/1174) claimed to have only some but not all owned rabbits insured and 21.5% (252/1174) had all their rabbits insured. A significant association was found between a rabbit's insurance and the place where they had been acquired ( $\chi^2=41.83$ ,  $n=1170$ ;  $P < 0.0001$ ). Rabbits that were sourced from rescue centres were more frequently insured (33.2%; Table 2).

**Table 2:** Percentages of respondents insuring their rabbits, according to the source where rabbits had been acquired (number in brackets).

	None of the rabbits	Some rabbits	All rabbits	Total
Rescue Centre	28.8 (249)	20 (11)	33.2 (83)	29.3 (343)
Breeder	5.0 (43)	5.5 (3)	12.0 (30)	6.5 (76)
Family	6.4 (55)	0 (0)	4 (10)	5.6 (65)
Pet Shop	12.7 (110)	7.3 (4)	14.8 (37)	12.9 (151)
Other	12.8 (111)	9.1 (5)	11.2 (28)	12.3 (144)
Multiple	34.3 (297)	58.2 (32)	24.8 (62)	33.4 (391)
Total	100 (865)	100 (55)	100 (250)	100 (1170)

Concerning microchips, 78.3% (919/1173) of rabbits were not microchipped, while 21.7% (254/1173) were. Of those owners that did microchip their rabbits, 42.9% (109/254) had only 1 microchipped rabbit, 37.8% (96/254) had 2 microchipped rabbits, 5.9% (15/254) had 3 microchipped rabbits, 4.3% (11/254) had 4 microchipped rabbits, 2.0% (5/254) had 5 microchipped rabbits, 0.8% (2/254) had 6 microchipped rabbits and 0.8% (2/254) had 7 or more microchipped rabbits. 5.5% (14/254) did not answer the question.

Rabbit owners were asked about the following statement “*All pet rabbits in the UK should be microchipped*”. To this question, 3.0% (35/1170) of the respondents strongly disagreed, 11.0% (129/1170) disagreed, 51.8% (606/1170) neither agreed nor disagreed, 21.6% (253/1170) agreed and 12.6% (147/1170) strongly agreed. There was a significant association between the age class of respondents and the answer to the statement regarding whether rabbits should be microchipped ( $\chi^2=45.96$ ,  $n=1163$ ;  $P=0.001$ ; rapport of verisimilitude 0.003). Respondents aged 18-24 yr old mostly agreed, while those aged 25-34 mostly disagreed (Table 3).

Regarding the size of enclosures, 93.5% (1098/1174) of respondents stated that they knew that there is a recommended minimum size for a pet rabbit enclosure, while the remaining respondents did not know. About the following statement “*Information on the laws relating to rabbits is sufficiently publicised*”, 51.4% (605/1176) of the respondents strongly disagreed, 33.0% (388/1176) disagreed, 9.2% (108/1176) neither agree nor disagree, 2.6% (31/1176) agreed and 3.7% (44/1176) strongly agreed. There was a significant association between age class of respondents and the answer to this statement ( $\chi^2=41.26$ ,  $n=1170$ ;  $P=0.003$ ). Respondents aged 25-34 yr old mostly agreed, while other age classes did not have a clear opinion (Table 4).

## DISCUSSION

Limited research has been conducted relating to rabbit owners and their frequency of microchipping, insurance and general views on these issues. This study aimed to investigate these areas, thus enabling some insight into the practices and views of rabbit owners. The main findings were that the majority of owners did not microchip or insure their rabbits, yet thought the law related to rabbit housing was not sufficiently publicised.

**Table 3:** Answer to statement on compulsory microchipping in the UK according to age classes (number in brackets).

	Strongly Disagree	Disagree	Neither Agree/Disagree	Agree	Strongly Agree	Total
18-24	14.7 (5)	13.3 (17)	15.1 (91)	23.7 (60)	18.5 (27)	17.2 (200)
25-34	20.6 (7)	43.0 (55)	32.4 (195)	27.3 (69)	37 (54)	32.7 (380)
35-44	29.4 (10)	21.9 (28)	25.6 (154)	22.1 (56)	20.5 (30)	23.9 (278)
45-54	14.7 (5)	16.4 (21)	18.3 (110)	19.8 (50)	15.1 (22)	17.9 (208)
55-64	20.6 (7)	3.9 (5)	8.3 (50)	5.9 (15)	5.5 (8)	7.3 (85)
65-74	0(0)	1.6 (2)	3 (2)	3 (3)	3.4 (5)	1.0 (12)
Total	100 (34)	100 (128)	100 (602)	100 (253)	100 (146)	100 (1163)

**Table 4:** Answer to statement on publicity of law in the UK according to age classes (number in brackets).

	Strongly Disagree	Disagree	Neither Agree/Disagree	Agree	Strongly Agree	Total
18-24	13.8 (83)	20.4 (79)	24.3 (26)	25.8 (8)	11.4 (5)	17.2 (201)
25-34	31.1 (187)	35.1 (136)	25.2 (27)	48.4 (15)	31.8 (14)	32.4 (379)
35-44	25.8 (155)	22.5 (87)	17.8 (19)	6.5 (2)	36.4 (16)	23.8 (279)
45-54	19.0 (114)	15.2 (59)	26.2 (28)	16.1 (5)	13.6 (6)	18.1 (212)
55-64	8.7 (52)	6.2 (24)	6.5 (7)	3.2 (1)	6.8 (3)	7.4 (87)
65-74	1.7 (10)	0.5 (2)	0 (0)	0 (0)	0 (0)	1.0 (12)
Total	601 (100)	387 (100)	107 (100)	31 (100)	44 (100)	1170 (100)

The results of this study differ from previous findings. For example, the PDSA (2013) found that 10 and 8% of rabbits were microchipped and insured, respectively, compared to 22 and 26%, respectively, in our study. Rabbits were more likely to be microchipped when acquired from rescue centres. This could be due to the fact that rescue centres advise new owners to microchip or insure their rabbits, or to the fact that some rescue centres already microchip rabbits or provide incentives for insurance before owners acquire them (e.g. 5 wk of free insurance for new rabbit owners). In addition, owners may be more aware of risks of losing their rabbits as they have sourced them through a rescue centre. Microchipping of rabbits costs around £25 (RSPCA, 2012), and individuals with multiple rabbits may find this expensive and therefore not microchip their animals. Further research could investigate these issues in more details. For example, additional questions could include whether rabbit owners also own other pets, housing management of rabbits, or frequency of veterinary visits.

The majority of respondents in this study had not contracted rabbit insurance; the lack of insurance could be costly, as a veterinary treatment can cost as much as £500, or even £1000 (RSPCA, 2012; RWF, 2014). A variety of types of insurance (and inclusion of specific vet treatments) are offered by a range of companies (see RWF, 2014 for a review of rabbit insurance policies).

The percentage of respondents owning only one rabbit in our study was 25.3%. This does bring into question the welfare aspect of keeping rabbits individually. Indeed, rabbits are social animals and housing them singly impairs their welfare as a result (Bays *et al.*, 2006; Schepers *et al.* 2009). Some countries, such as Switzerland, have guidelines stressing that rabbits should not be housed singly (OSAV, 2013, Oxley, 2013).

It is unlikely that this study is representative of the full UK rabbit owning population. People who use social media or online pet forums may be more responsible or aware than those who do not. The former category of owners may be more proactive when it comes to insuring and microchipping their rabbits. Despite a non-representative population sample, this study does indicate that a large number of responses can be gathered through social media and online fora within a short time frame and at minimal cost. This preliminary study found that the majority of individuals are of the opinion that the relevant law is insufficiently publicised. A more detailed study to investigate rabbit owners and provide further insight into their views and concerns for rabbits would be beneficial. The results of such a study, in turn, could help formulate rabbit-related information and guidelines.

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## AN INTERNET SURVEY OF RABBIT OWNERS

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