Massey University
INSTITUTE OF VETERINARY, ANIMAL AND BIOMEDICAL SCIENCES

Report for PFX project ET13: Feasibility of a research extension programme between Massey Equine Research and the New Zealand Equine Industry

Research information needs of the racing and breeding industries in New Zealand: results of an online survey

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prepared for
the Equine Trust

by
Dr Charlotte Bolwell, Dr David Gray and Janet Reid

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Summary

Aim

To identify the research information needs of the racing and breeding industries in New Zealand and identify the preferred methods for receiving information on equine research.

Method

An online survey was used to collect data from members of the Thoroughbred and Standardbred industries in New Zealand, who were registered with New Zealand Thoroughbred Racing, Harness Racing New Zealand or the New Zealand Thoroughbred Breeders Association. A link to the survey was sent to all members with an email address listed in their contact details. The survey was available online for 1 month (May 1st - 31st 2012).

Results

A total of 602 usable survey responses were included in the analysis. Overall, the study population consisted of more females (60%) than males (40%), just over the half the population were from the Thoroughbred sector (53%) of the industry and most of the study population were breeders (45%) or trainers (38%). Respondents were most interested in research information on feeding and nutrition, injuries and lameness, health and exercise and training. Respondents were most often getting information on feeding and nutrition, breeding and care of foals, and industry statistics. Overall, most respondents had looked for information on horse research in the last five years. Veterinarians, websites, friends or other horse ownesr and magazines (in print) were used most often for getting information on horse research;

these sources were also rated as most preferable. Social media and other online sources (videos and forums) were rarely used. Most (75%) respondents had heard of the website for the Equine Research Centre but few (11%) had visited it.

Conclusion

The survey identified the topics that were of interest to the members of the racing and breeding industries in New Zealand and highlighted the preferable sources that could be used to disseminate information and those that should be avoided. There appear to be opportunities to utilise and adapt current industry sources of information to ensure the information needs are being met in a way that suits this target audience.

Background

Investigation into the development of extension programmes for equine research has been conducted in the USA and Australia (Martinson *et al.* 2006; Martinson and Bartholomay 2009; Anderson *et al.* 2011). Before such programmes were developed, the information needs of the members of the equine industries were investigated. Previous studies have identified topics rated most by respondents to include: equine health, behaviour, and training and nutrition (Sillence *et al.* 1999; Wickens *et al.* 2011). In Australia, the Rural Industries Research and Development Corporation commissioned a survey to investigate how people in the equine industry were receiving information and their preferred methods of receiving information in the future (Sillence *et al.* 1999). Overall, books and magazines were the most common methods, followed by 'word of mouth'. Within specific sectors, receiving information by mail was preferred by trainers, whilst most breeders preferred 'word of mouth'.

A previous survey was conducted in New Zealand to establish what research members of the equine industry were interested in, in order to inform new research projects (Anonymous 2010). The survey identified that feeding and nutrition, minimising developmental problems, and improving musculoskeletal tissues were important to the sample of equine industry representatives selected. The survey highlighted that a number of areas had been previously researched indicating a need for information to be more accessible to the industry. However, there are no data on how information is obtained by members of the equine industry and the best methods for transferring research findings to the industry in New Zealand. Identifying the areas of importance to the racing and breeding industries would allow appropriate dissemination of research information. Therefore, the aims of the survey were to

identify the research information needs of the racing and breeding industries and identify the preferred methods for receiving this information.

Methods

Sample selection

The target population for the survey was people involved in the racing and breeding industries (Thoroughbred and Standardbred) in New Zealand. The contact details of registered Thoroughbred and Standardbred trainers in New Zealand were obtained from New Zealand Thoroughbred Racing (NZTR) and Harness Racing New Zealand (HRNZ), respectively. Contact details for registered Standardbred breeders were obtained from HRNZ. Breeders registered with the New Zealand Thoroughbred Breeders' Association (NZTBA) were contacted through an automated email bulletin, sent to members by the NZTBA. The sample population consisted of people that had email addresses listed in their contact information (approx. n=2691).

Survey method

An online survey method was selected and the survey was created using a web-based software company for online surveys (www.surveygizmo.com). The online survey was pilot tested by 10 people involved in the equine industry and questions were adjusted as necessary as a result; pilot data were not included in the final analysis

The survey was available online for 1 month from May 1st - 31st 2012. A link to the survey webpage was sent to participants via email, along with details and a request for participation in the survey. Emails were sent to Thoroughbred trainers and

Standardbred breeders and trainers on the first day of the survey being available online; reminders were sent five days before the survey closed. A copy of the email was sent to the office administrator of the NZTBA on the first day of the survey being live and this was distributed to their members via an email bulletin on the 3rd May 2012; a reminder was sent via the bulletin one week before the survey closed.

To raise awareness of the survey and to act as a reminder, a short article detailing the objectives of the survey was listed on the NZTR website and distributed through the NZTR email bulletin one week after the survey became available online. An email contact was given so people could request a link to the email if they had not yet received one.

Survey design

In total, the survey consisted of 16 questions that related to the demographics of the respondents, information needs and sources of information. The survey consisted of 6 questions relating to the demographics of the respondents such as, age, gender, sector of the industry and role within that sector. A combination of Lickert-scale (rated 1-5) and open free-text questions were used to gather data on the information needs of respondents. Lickert-scale questions were also used to gather data on sources of information, along with open, free-text and closed dichotomous (yes/no) questions. All questions were 'must-answer' questions so that respondents were unable to skip any of the questions. The survey was reviewed by the Massey University Human Ethics committee and conducted in accordance with their guidelines.

Statistical analysis

Using the online survey tool, the possible answers to each question (except open free-text) were numerically coded. At completion of the survey time online, the data were downloaded from the online survey tool and exported into a Microsoft Excel spread sheet (Microsoft Corporation, Redmond, Washington, USA). Data were screened and coded to identify duplicate, non-completed, partial and completed responses. A new variable 'status' was created and coded to describe the types of survey response. The response rates were calculated based on the approximate number of emails sent to the sample population and the number of responses. The demographics of the partially completed and completed survey populations were compared using descriptive statistics and Chi square or Fisher Exact test. For questions that provided a free-text 'other' option, the answers were grouped together and coded where appropriate. Free-text questions were screened and grouped together into categories. Descriptive statistics and charts were used to summarise the results for each question. Dichotomous data were stratified by age, gender, sector, role in the industry and role duration. Analyses were carried out in Microsoft Excel (Microsoft Corporation, Redmond, Washington, USA) and Stata 11.1 (Statacorp LP, College Station, Texas, USA).

Results

Survey responses

Overall, 2,341 emails were sent to people registered with NZTR or HRNZ, of which 90 emails were returned to sender due to incorrect contact details. It is estimated by NZTBA that approximately 75% of their registered members would also be registered with NZTR (NZTBA pers comm) indicating that around 350 additional

contacts would have been made through the median bulletin list. There were 16 email requests for a link to the survey, resulting in an estimated 2,617 emails sent.

In total, 821 responses were received, of which 507 were completed and 314 were recorded by the survey software as partially completed. Screening of the data resulted in 5 categories for partially completed surveys as shown in

Table 1. A partial recording was made every time a respondent opened the link to the survey, whether data were recorded or not. As a result a number of surveys were listed as partially completed and no data were recorded (blank). Of the blank responses, 30 respondents returned at some point during the study to complete the survey. Some of the partial surveys had only demographic data recorded and the respondent did not provide any data for the survey questions. Responses that were blank, duplicate or only had demographic data recorded were excluded from the study population. A total of 602 surveys were classed as usable, consisting of 502 completed and 95 partially (>1 survey question answered) completed surveys.

Table 1: Number and percentage of responses received for each response category for an online survey of information needs of the racing and breeding industries in New Zealand

Response status	Number	Percentage
Completed	**507**	**62%[f]**
Partial	**314**	**38%[f]**
Complete[a]	95	30%[g]
Blank no return[b]	131	42%[g]
Blank return[c]	30	10%[g]
Duplicate[d]	25	8%[g]
Demographic data only[e]	33	11%[g]

[a]>1 survey question completed in addition to demographic question. [b]Responder opened the link to the survey but did not complete any questions at any time. [c]Responder opened the link to the survey and did not complete any questions initially but returned at some stage during the study and

completed >1 survey question. [d]Duplicate responses of completed surveys. [e]Responder answered demographic data only and did not answer >1 survey question. [f]of 821 total number responses. [g] of 314 partial responses

Based on the estimated number of emails sent, the response rate for usable surveys is 23% (602/2,617). The pattern of usable survey responses received over time is shown in Figure 1. The graph shows the peaks in the responses received and the timing of the initial and reminder emails as well as the promotion of the survey on industry websites and in email bulletins.

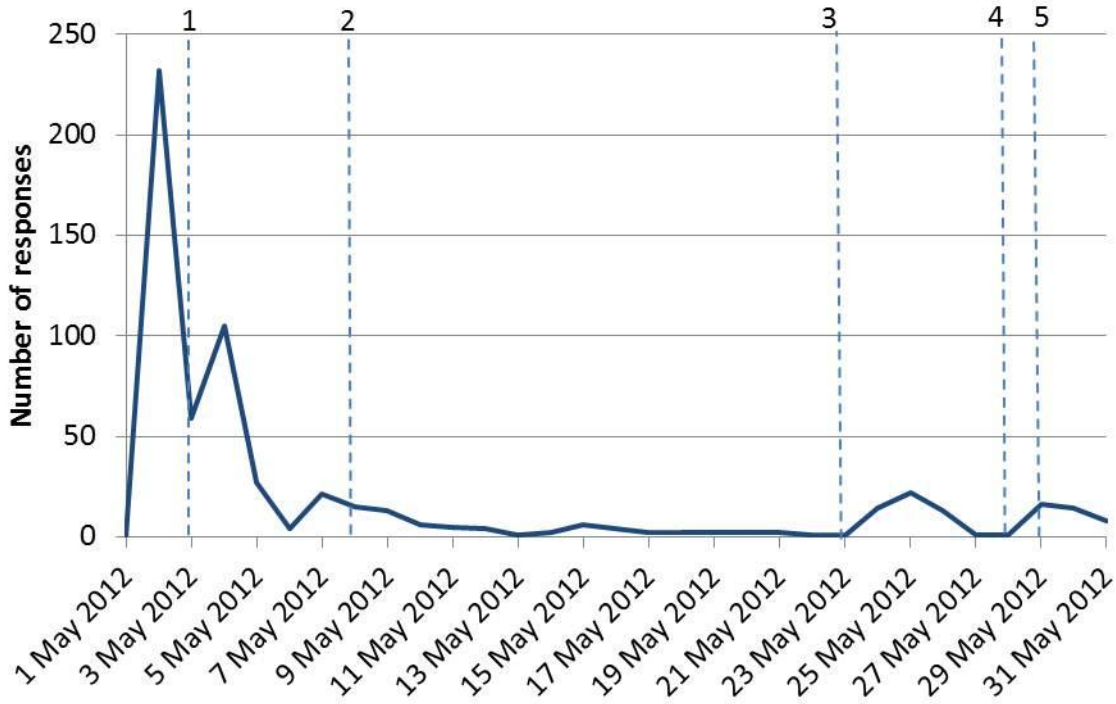

Figure 1: Number of usable survey responses (n=602) for an online survey of information needs of the racing and breeding industries in New Zealand, for each day the survey was available online from May 1st -31st 2012. Dotted lines indicate 1) initial email bulletin sent to Thoroughbred breeders, 2) promotion of the survey through email bulletin and online (ww.nzracing.co.nz), 3) email reminder sent to Thoroughbred breeders, 4) email reminder sent to Thoroughbred trainers and Standardbred breeders and trainers 5) promotion of survey closing date online

Comparison of partial and completed response populations

Overall, there were no significant differences between the respondent's age, gender, sector, role or time spent in the current role and completed, partial or partial demographic only response populations. The percentage of responses from each sector of the industry (Thoroughbred or Standardbred) differed significantly between completed and partially completed surveys (P=0.03) (Table 2). The percentage of completed and partially completed surveys differed significantly between the categories of time spent in the current role in the industry (P=0.05) (Table 2). There were no significant differences in the two response populations for age, gender or role within the industry.

Table 2: Number and percentage of completed and partially completed surveys by sector of the industry and time spent in the current role in the industry, for 602 survey responses from an online survey of information needs of the racing and breeding industries in New Zealand

	Completed survey		Partially completed survey	
Variable	Number	Percentage	Number	Percentage
Sector				
Thoroughbred	280	45	41	43
Standardbred	227	55	54	57
Time spent in current role (years)				
<1-5	80	16	10	10
6-10	79	16	14	15
11-20	98	19	25	26
21-30	110	22	19	20
31-40	108	21	1	15
41+	32	6	13	14

Study population

The distribution of gender and sector in the study population is shown in Figure 2. Overall, the study population consisted of more females than males and just over the half the population were from the Thoroughbred sector of the industry.

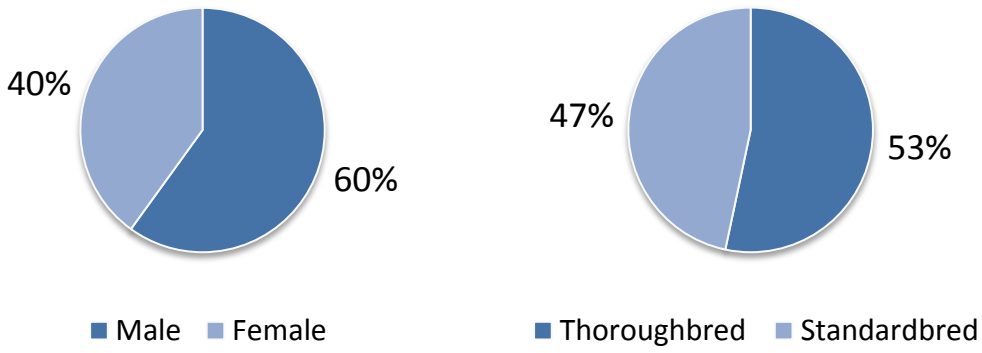

Figure 2 The percentage of males and females (left) and the percentage of respondents in the Thoroughbred and Standardbred sectors (right) in the study population, from an online survey of information needs of the racing and breeding industries in New Zealand

Figure 3 shows that most of the study population were breeders or trainers, with very few respondents that were riders or veterinarians. The other common roles in the industry, listed by the 10% (60/602) of respondents that chose 'other', were owners, stablehands, bloodstock agents or a combination of the categories listed.

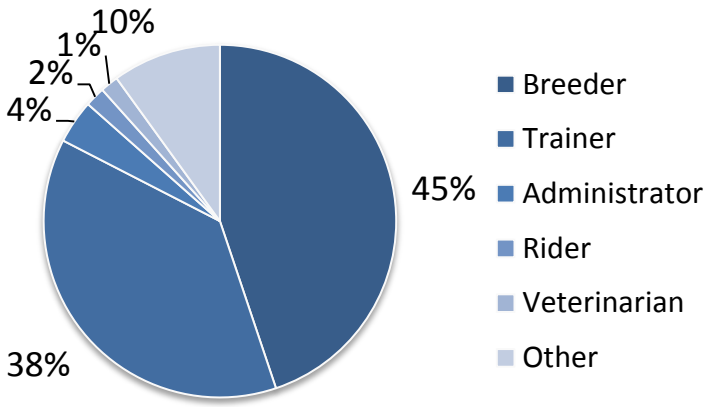

Figure 3: Percentage of respondents in each role within the industry from an online survey of information needs of the racing and breeding industries in New Zealand

Overall, most respondents were aged between 51-60 (31%) or 60+ (32%) (Figure 4) and had been involved in the industry for between 1-10 years (29%) (Figure 5).

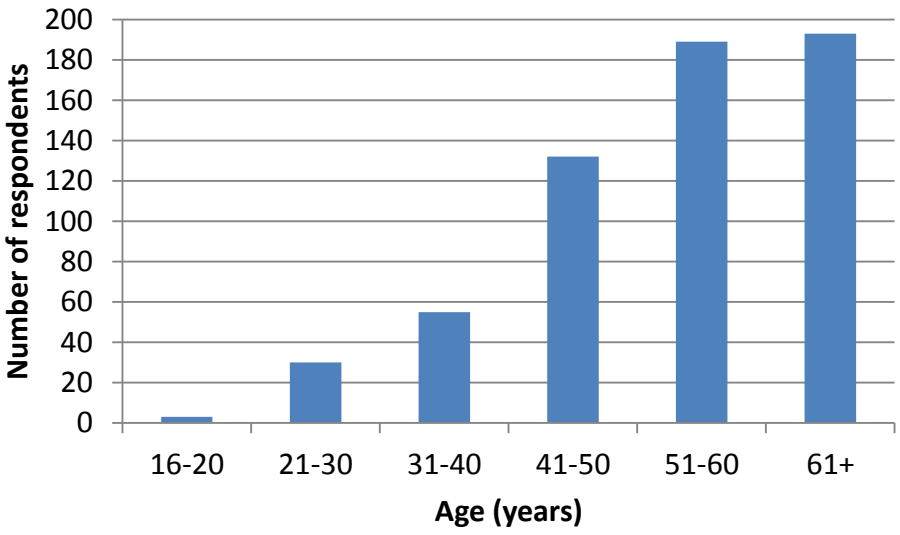

Figure 4: Distribution of age in the study population from an online survey of information needs of the racing and breeding industries in New Zealand

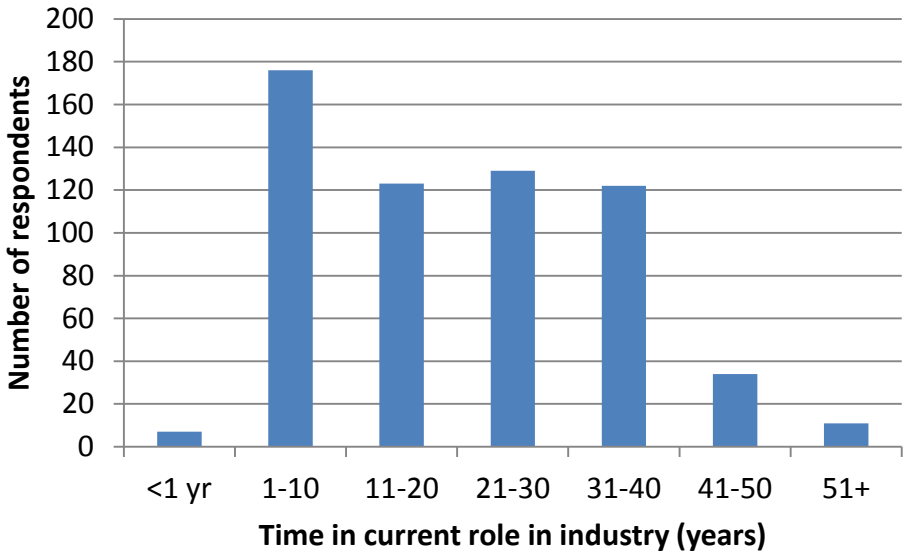

Figure 5: Distribution of time spent in the current role in the industry in the study population from an online survey of information needs of the racing and breeding industries in New Zealand

Information needs

Due to the inclusion of partially completed surveys, the total number of responses for each question may differ from 602. The first question in this section asked respondents to rate on a scale from 1-5 their level of interest in a number of topics (Figure 6). Ten of the topics had over 80% of respondents indicating they were 'interested' or 'very interested' in the topic. Over 70% (428/602) of respondents were 'very interested' in information on feeding and nutrition and over 60% (382/602) were 'very interested' in information on injuries and lameness.

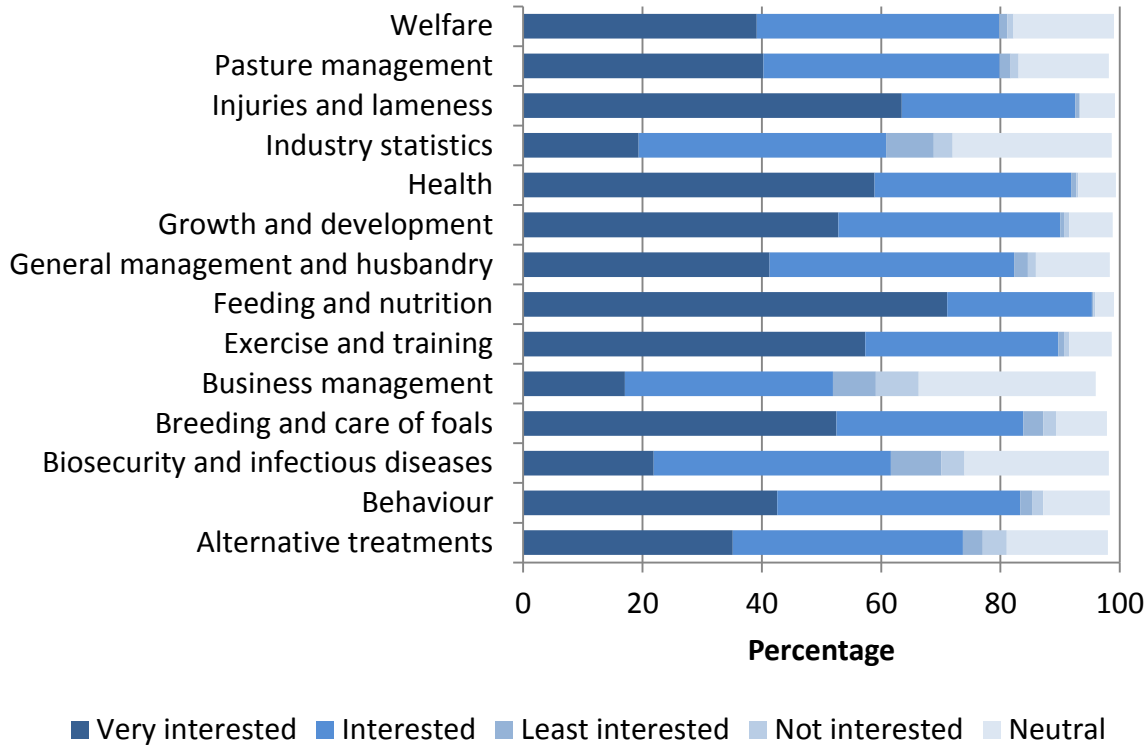

Figure 6: Level of interest for topics of horse information as indicated by respondents of an online survey of information needs of the racing and breeding industries in New Zealand

Topics on health, exercise and training and breeding and care of foals were also popular among respondents. Respondents were 'neutral', 'least' or 'not interested' in information on business management, industry statistics and biosecurity and infectious diseases. Respondents were asked to list any other topics they would to receive information about. Most respondents stated topics that were already included in the results, whilst a few respondents stated that they would like to receive information on the use of performance enhancing drugs for racehorses.

Figure 7 shows how often respondents were getting information on the topics of information. Very few respondents were 'always' receiving information on any of the

topics. Respondents were most often (always and frequently) receiving information on feeding and nutrition, breeding and care of foals and industry statistics. Of the respondents receiving information about feeding and nutrition, 40% (216/545) were 'always' or 'frequently' getting information. The most common category selected for each of the topics listed was 'sometimes'. Over half of respondents selected that they were 'rarely' or 'never' getting information on business management.

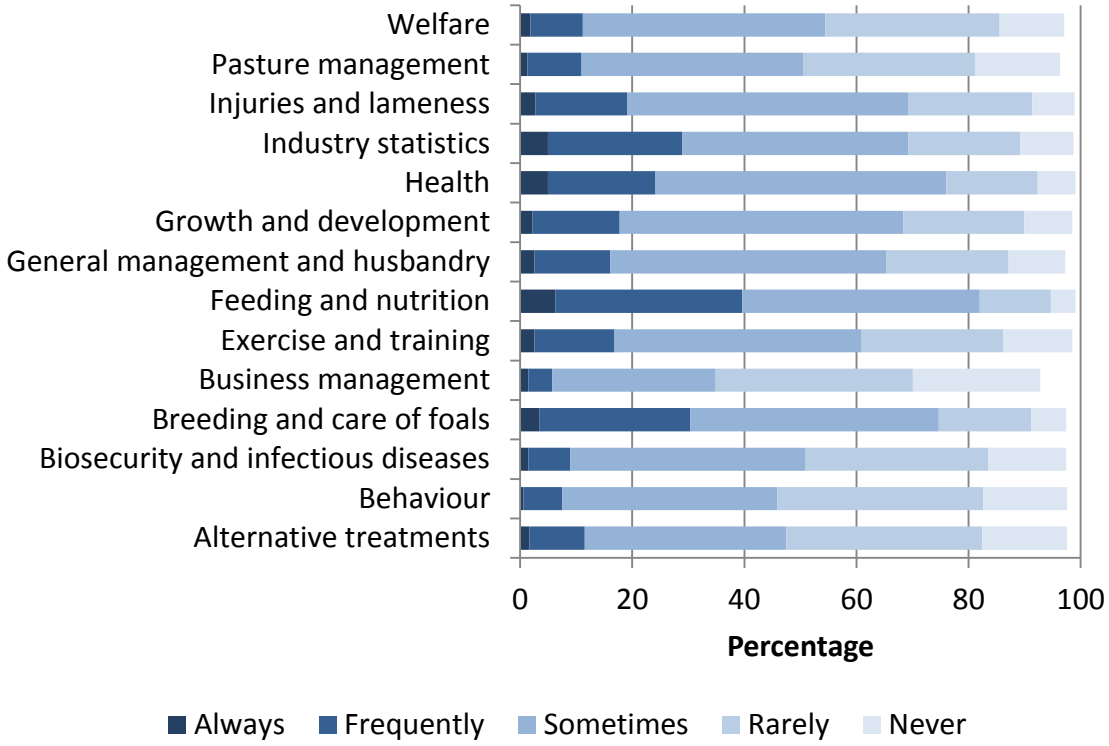

Figure 7: Frequency of receiving information on horse topics as indicated by respondents of an online survey of information needs of the racing and breeding industries in New Zealand

Sources of information

Overall, 78% (423/542) of respondents had looked for information on horse research in the last five years. Of the respondents that had looked for information in the last 5 years, most were in the Thoroughbred sector (60%; 253/423), were male (57%;

239/423) were breeders (47%; 191/423) and had been in the current role in the industry for 11-20 years (22%; 91/423). Figure 8 shows 100% (10/10) of veterinarians had looked for information on horse research in the last 5 years, as had 80% of breeders (198/246) and 77% (155/202) of trainers.

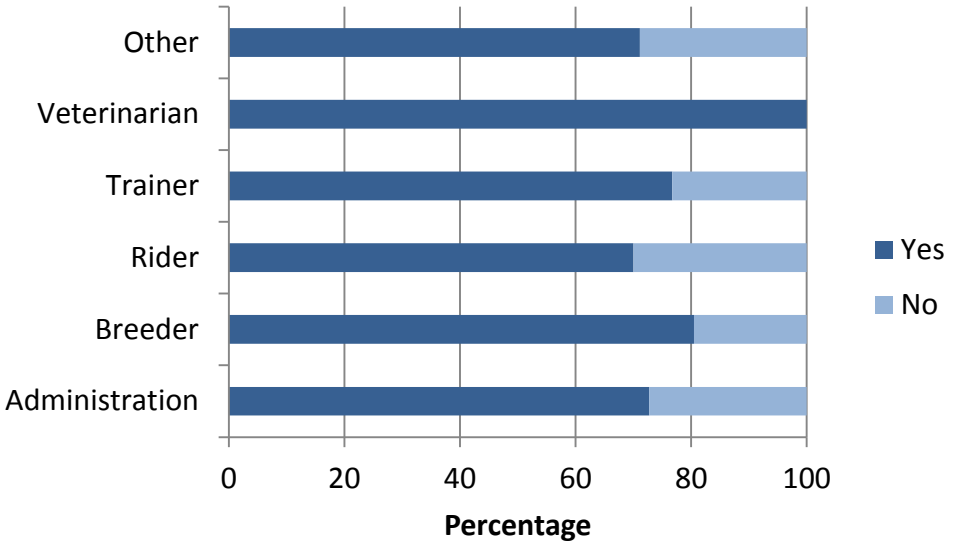

Figure 8: Percentage of respondents within each role of the industry and whether the respondents had looked for information horse research in the last 5 years, from an online survey of information needs of the racing and breeding industries in New Zealand (n=542).

The frequency of using different sources of information among respondents is shown in Figure 9. Sources used 'frequently' or 'always' are shown in blue on the right side of the graph, whilst sources that are 'rarely' or 'never' used to obtain information on horse research are shown in orange on the left side of the graph. Sources that are currently used 'frequently' or 'always' for information on horse research include veterinarians, websites, friends or other horse owners and magazines (in print).

Social media, videos (online), forums (online) and books (online) are ‘rarely’ or ‘never’ used by respondents for information on horse research.

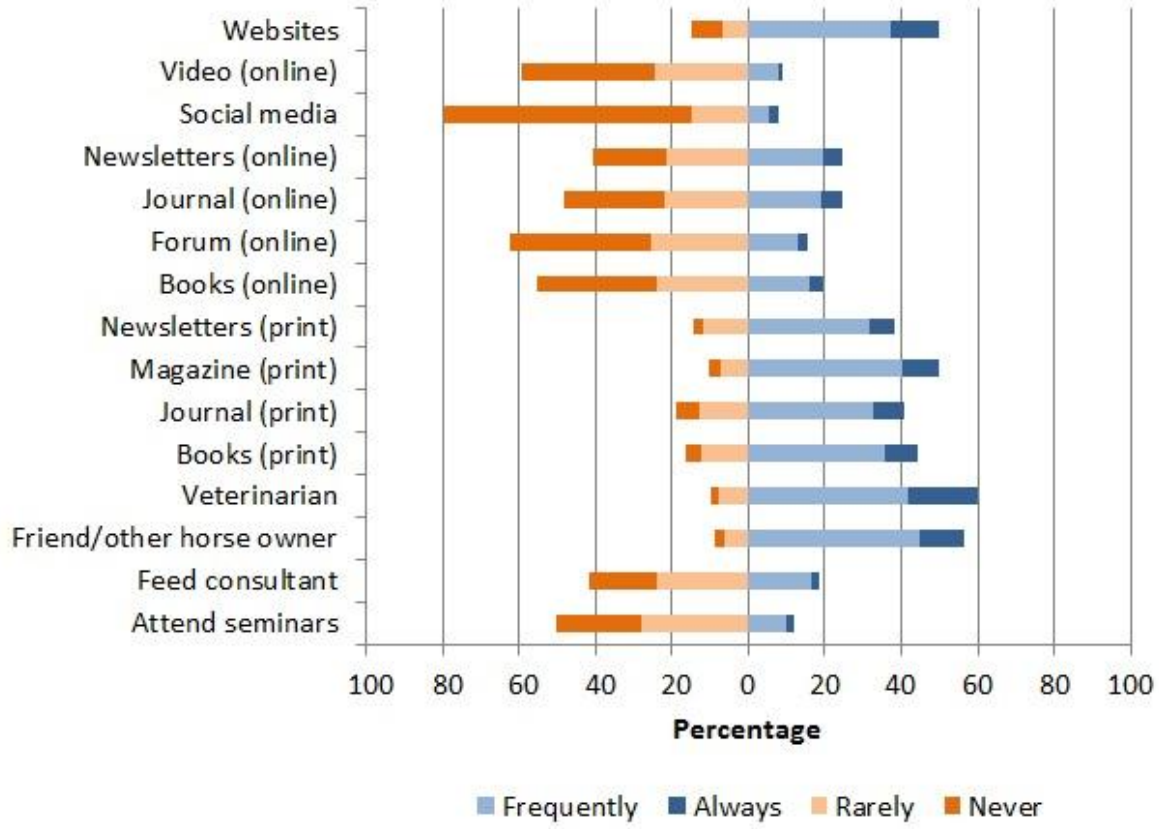

Figure 9 Frequency of using different sources of information on horse research reported by respondents from an online survey of information needs of the racing and breeding industries in New Zealand.

Overall, 36% (161/449) of respondents listed the internet as the most common source used for information, followed by websites (12%; 54/449), veterinarians (11%; 47/449), magazines (10%; 46/449) and friends or other horse owners (10%; 44/449). Overall, 643 specific sources that were currently used for information on horse research were listed by respondents (multiple answers accepted) (Table 3).

A number of sources were only listed by one respondent, so Table 3 presents the most common sources (≥2% of total sources listed).

Table 3: Specific sources used to obtain information on horse research, from an online survey of information needs of the racing and breeding industries in New Zealand. Only sources with ≥2% are displayed. N=643

Source name	Source type	Number of respondents	Percentage[a]
Google	Internet	91	14
New Zealand Harness Racing Weekly	Magazine	72	11
New Zealand Horse & Pony	Magazine	43	7
New Zealand Thoroughbred Racing	Magazine	41	6
The Horse	Website	23	4
New Zealand Thoroughbred Racing	Website	18	3
New Zealand Thoroughbred Breeders' Bulletin	Magazine	17	3
Harness Racing New Zealand	Website	16	2
The Foundation Bulletin	Magazine	15	2

[a]of total number of sources listed (n=643)

The preference by respondents for using specific sources for information on horse research is shown in Figure 10. Veterinarians were rated as 'most preferable' or 'preferable' by 80% (422/510) of respondents and 77% (395/510) rated websites as 'most preferable' or 'preferable' as sources for information on horse research. Magazines in print, newsletters online and in print, and friends or other horse owners also had a high percentage of respondents rating each source as preferable (Figure 10). Social media, forums online, books online and attending seminars were each rated by most respondents as 'not preferable' compared to 'most preferable'. Of

those that did select social media as a preferable source, most (76%; 31/41) respondents were aged less than 50 years old.

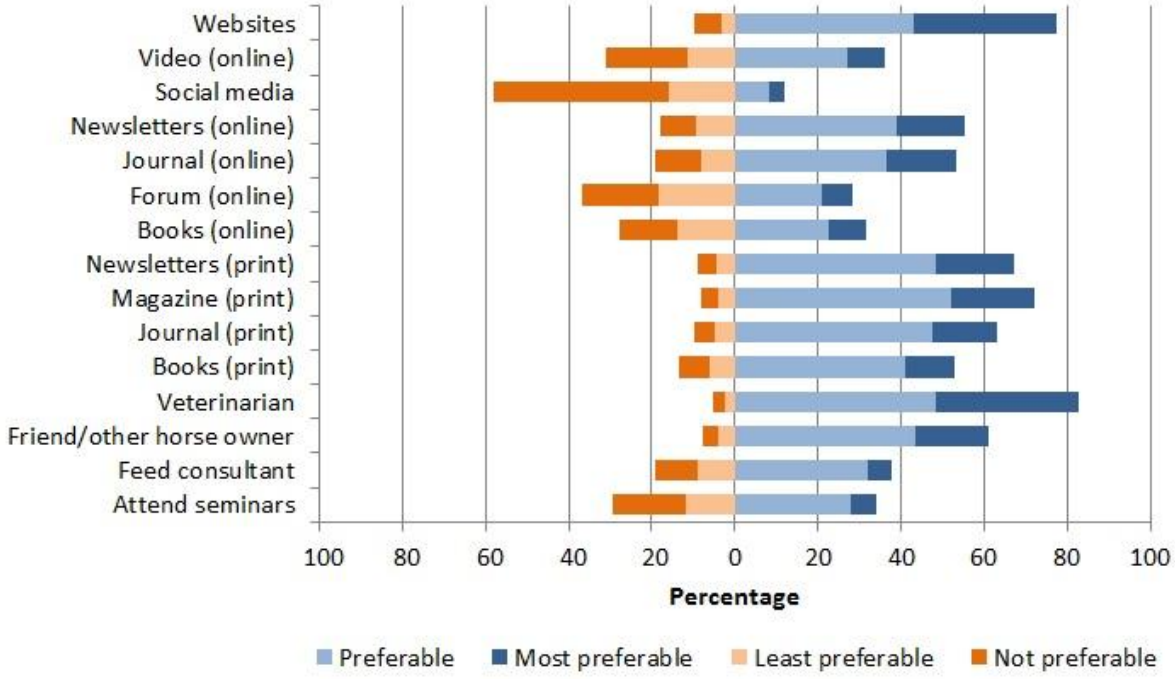

Figure 10: Preference of using different sources for information on horse research reported by respondents from an online survey of information needs of the racing and breeding industries in New Zealand.

Figure 11 shows the percentage of respondents that were aware of the Equine Research Centre (ERC) website and the percentage of respondents that had visited the ERC website. Overall, most respondents (380/507) reported that they had heard of the ERC website, whilst 53/507 respondents reported that they had visited the website. Overall, 91% (207/227) and 83% (235/280) of respondents from the Standardbred and Thoroughbred sectors, respectively, had not visited the website. Of the respondents who were veterinarians, 30% (3/10) had visited the website,

compared to 18% (4/22) and 10% (21/228) of administrators and breeders, respectively.

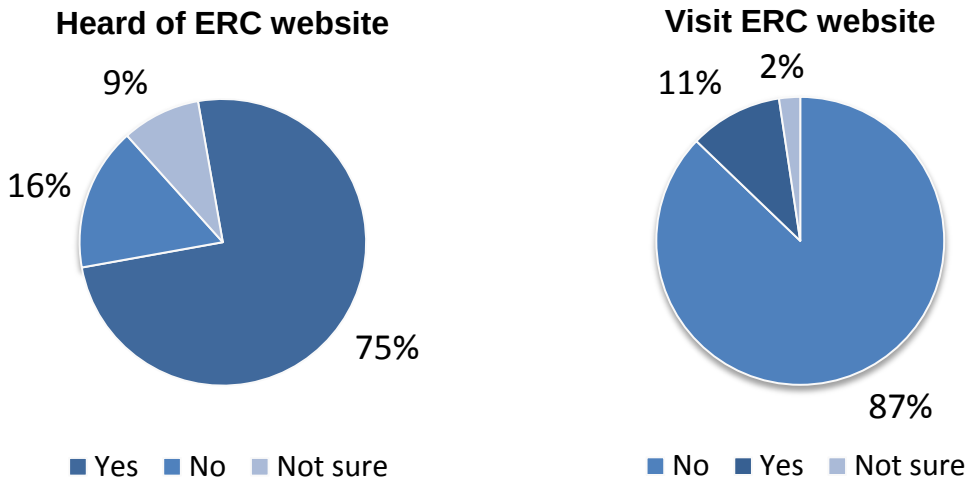

Figure 11: Percentage of respondents that had heard of the Equine Research Centre website (left) and the percentage of respondents that had visited the Equine Research Centre website (right), from an online survey of information needs of the racing and breeding industries in New Zealand.

Discussion

The aim of the survey was to identify the information needs and the preferred methods of receiving information on equine research, within the racing and breeding industries in New Zealand. Whilst the overall response rate of usable surveys was less than 30%, there was no significant response bias between responders that completed the survey, those that only partially completed the survey and those that chose to complete only the demographic questions. Data were not available to compare non-responders with responders in this study. The sector of the industry and the time spent in the current role were associated with whether a respondent

submitted a completed or partially completed survey. In agreement with previous studies using surveys in the equine industry (Doherr *et al.* 1998; Hotchkiss *et al.* 2007), the use of reminder emails and promotion on industry websites and bulletins was successful in this study at raising awareness, which resulted in increased survey responses. Overall, the study population consisted of almost an equal split of respondents from the Thoroughbred and Standardbred sectors and most respondents were trainers or breeders.

Information needs

In agreement with studies in other countries (Doherr *et al.* 1998; Sillence *et al.* 1999), feeding and nutrition, exercise and training, injuries and breeding and care of foals were topics that were of most interest to respondents. These topics reflect the common roles of the sample population (breeders and trainers) in this study and indicate that respondents are interested in topics that were pertinent to their role or business. Despite the likelihood that a number of respondents would be running their own business, topics on business management were of least interest to most respondents. Sillence et al (1999) also found that topics of business management were less popular with members of the equine industry in Australia. Overall, most of the topics were rated as ‘very interested’ or ‘interested’ by over 50% of respondents; indicating that there is a wide range of topics that people are interested in and any extension programme should aim to disseminate information to follow these trends.

Despite the interest of respondents in a wide range of topics, very few respondents were currently ‘always’ receiving information on the same range of topics. Most respondents were ‘sometimes’ receiving information on the topics of interest. This

may reflect a lack of available information being disseminated on the topics of interest or respondents are not choosing to always seek information. Given that most respondents had actively looked for information on horse research in the last 5 years, it is more likely that the information they are interested in was not available to them. However, it is also possible that people were seeking information when they needed it for specific reasons. These findings suggest that members of the racing and breeding industries in New Zealand are interested in a wide range of topics related to horse research and are actively seeking information to assist them with their daily practices. There is clearly an opportunity to ensure that research information from Massey Equine Research is being disseminated, since most of the research that is conducted within the group meets the information needs of the study population.

Sources of information

The sources of information used most frequently among respondents were veterinarians, websites or other friends or horse owners, in contrast to a survey of equine industry participants in Australia that found most people obtained information from books or magazines (Sillence *et al.* 1999). However, Australian survey was carried out before websites were used, most likely accounting for the different results found in this study. These results suggest a good level of trust in the veterinary profession and the sharing of research information with other horse owners within a similar role in the industry appears to be common among respondents. Any extension programme would need to consider the importance of using the veterinarian-client communication network for dissemination of research information.

Whilst other extension programmes have utilised social media for disseminating information (Martinson *et al.* 2011), respondents in the current study never or rarely used social media and other online sources of information. Additionally, these were the least preferable sources for information on horse research for respondents in the current study. This is likely due to the age characteristics of the study population, given that most of the respondents that did prefer social media were younger. There is a time commitment required for managing particular social media, such as Facebook fan pages (Martinson *et al.* 2011), and given the unpopularity of such sources it is suggested that these sources would not be considered as priorities when establishing methods for disseminating information to this target population.

Although Massey Equine Research have previously organised seminars for those that had assisted with research projects (Bolwell *et al.* 2010), poor attendance is often considered a problem. Results of the survey showed that seminars were not frequently used and were not preferable as a source for research information. Whilst some respondents (6%) indicated seminars were a preferable method of receiving information, it is likely that the commitment needed to attend a seminar at a certain date and time does not easily fit with the time commitments of the target population. It appears that seminars may not be the best way to ensure research information is reaching the target population.

Over half the respondents that used websites rated them as their preferred source of research information. NZTR, HRNZ and NZTBA have websites and members are now required to complete a number of administration tasks online. The study showed that a number of respondents specifically listed NZTR and HRNZ websites as

current source for information. This highlights an opportunity to utilise the current websites, which are regularly visited by members of the target population, for dissemination of information from Massey Equine Research. The popularity of websites supports the recent development of the Equine Research Centre website for Massey Equine Research and suggests that this would be a preferable source of information for the target population. However, whilst most of the respondents had heard of the website, very few respondents had visited the website. These results suggest that necessary promotion to raise awareness of the website is required, so people become familiar with it as a source for information on horse research.

Although they were not currently used very regularly, online newsletters, journals and magazines in print were also rated as preferable sources for receiving information. Massey Equine Research currently lists the citations of relevant articles in peer-reviewed journals on the Equine Research Centre website, where possible providing links to abstracts. Further promotion of articles published in journals could be incorporated into print articles and online newsletters. Similarly, there may be an opportunity to collaborate with the producers of current online newsletters and magazines, specifically those sources highlighted by respondents, to ensure that regular information from Massey Equine Research is being disseminated.

The survey identified the topics that were of interest to the members of the racing and breeding industries in New Zealand and highlighted the preferable sources that could be used to disseminate information and those that should be avoided. The goals of the research conducted by Massey Equine Research meet the information needs of the target population investigated. Furthermore, there appear to be

opportunities to utilise and adapt current sources of information to ensure the information needs are being met in a way that suits this target audience.

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