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THE ASSOCIATION OF 2-YEAR-OLD TRAINING MILESTONES  
WITH RACING PERFORMANCE IN STANDARD BRED AND  
THOROUGHBRED HORSES IN NEW ZEALAND

A thesis submitted in partial fulfilment of the requirements of the requirements  
for the degree Master of Science in Animal Science

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## ABSTRACT

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This thesis includes epidemiological studies conducted to measure the association between the attainment of training milestones by Standardbred and Thoroughbred horses at two years of age and subsequent racing performance. Additionally, the quantification of racing performance is comprehensively reviewed to identify robust parameters to measure racing success.

Retrospective records of all Standardbred and Thoroughbred horses born in the 2001/2002 season were obtained and analysed separately. The three training milestones used were: registered with a trainer, trialled and raced. Racing performance outcomes were: length of career, in number of years raced and number of race starts, and total earnings.

Horses that were registered with a trainer, trialled, or raced as two-year-olds had more race starts and more years racing than those horses that achieved the milestones at a later age. Additionally, horses that achieved the training milestones as two-year-olds were more likely to win or be placed (first-to-third) in a race, and earned more money than horses that achieved the milestones at a later age. Approximately one-third of the horses born in both the Standardbred and Thoroughbred foal crop failed to achieve the first training milestone indicating high levels of wastage. The results of this thesis suggest that there is a strong association between the attainment of training milestones at two years old with positive career outcomes.

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## LIST OF PUBLICATIONS

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Tanner, J.C., Rogers, C.W. and Firth, E.C. (2011) The relationship of 2-year-old training milestones with racing success in a population of Standardbred horses in New Zealand. *New Zealand Veterinary Journal* **59**, 323-327.

Tanner, J.C., Rogers, C.W. and Firth, E.C. (2011) The association of 2-year-old training milestones with career length and racing success in a sample of Thoroughbred horses in New Zealand. *Equine Veterinary Journal* **in press**.

## TABLE OF CONTENTS

---

ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	iii
LIST OF PUBLICATIONS.....	iv
TABLE OF CONTENTS.....	v
LIST OF ABBREVIATIONS.....	vii
LIST OF TABLES.....	viii
LIST OF FIGURES.....	x
CHAPTER 1	
INTRODUCTION.....	1
Background.....	1
Literature Review.....	4
Hypothesis and Aims.....	30
PRELUDE TO CHAPTER 2.....	31
CHAPTER 2	
THE RELATIONSHIP OF TRAINING MILESTONES WITH RACING SUCCESS IN A POPULATION OF STANDARD BRED HORSES IN NEW ZEALAND.....	
Abstract.....	32
Introduction.....	33
Materials and Methods.....	35
Results.....	37
Discussion.....	41
References.....	47
Appendix A.....	51
PRELUDE TO CHAPTER 3.....	54

### CHAPTER 3

THE ASSOCIATION OF 2-YEAR-OLD TRAINING MILESTONES WITH CAREER LENGTH AND RACING SUCCESS IN A SAMPLE OF THOROUGHBRED HORSES IN NEW ZEALAND.....	55
------------------------------------------------------------------------------------------------------------------------------------------------------	----

Abstract.....	55
Introduction.....	56
Materials and Methods.....	58
Results.....	61
Discussion.....	66
References.....	70
Appendix B.....	73

### CHAPTER 4

GENERAL DISCUSSION.....	76
-------------------------	----

REFERENCES.....	79
-----------------	----

Appendix C.....	90
-----------------	----

## LIST OF ABBREVIATIONS

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HRNZ	Harness Racing New Zealand
NZTR	New Zealand Thoroughbred Racing
IQR	Interquartile range
LRS	Likelihood ratio statistic
OR	Odds Ratio
CI	Confidence interval
MSI	Musculoskeletal injury
DMD	Dorsal metacarpal disease



## LIST OF TABLES

---

### CHAPTER 2

Table 1: The number (and percentage) of a population of Standardbred horses in New Zealand born in 2001/2002 within each age group when they attained the training milestones of registered with a trainer, trialled, and raced.....38

Table 2: Results of multivariable Cox regression models of the association between the 2-year-old training milestones and the three measures of career length outcomes; number of race starts, number of race starts (2-year-old (2yo) year omitted) and number of years raced in the 2001/2002 Standardbred foal crop.....39

Table 3: Multivariable logistic regression models of the 2-year-old training milestones associated with the racing success outcomes; won a race, placed (first-to-third) in a race in the 2001/2002 Standardbred foal crop.....40

Table 4: Multivariable linear regression model analysis with the variables significantly associated with racing success measured as natural logarithm of total earnings won +\$100 in the 2001/2002 Standardbred foal crop.....41

### CHAPTER 3

Table 1: The number and percentage of horses to achieve and age at attainment of training milestones within the 2001/2002 born Thoroughbred foal crop.....62

Table 2: Results of multivariable Cox regression models of the association between 2-year-old training milestones and three outcomes measuring career length; number of race starts, number of race starts (2-year-old year omitted) and number of years raced, for a population of Thoroughbred horses in New Zealand born in 2001/2002.....64

Table 3: Results of multivariable logistic regression models of the variables significantly associated with the racing success outcomes; won a race and placed (first-to-third) in a race, for a population of Thoroughbred horses in New Zealand born in the 2001/2002 season.....65

Table 4: Multivariable linear regression model analysis with the variables significantly associated with Total Earnings for the 2001/2002 born New Zealand Thoroughbred foal crop.....66

Appendix C

Table 1: Standardbred and Thoroughbred data variables supplied by Harness Racing New Zealand and New Zealand Thoroughbred Racing.....90

## LIST OF FIGURES

---

### CHAPTER 2

Figure A1: Cox-Snell residuals were computed and plotted for the Cox regression model for the outcome; number of race starts. It appears there is good agreement between the plotted values and the expected 45° line.....51

Figure A2: Cox-Snell residuals were computed and plotted for the Cox regression model for the outcome; number of race starts (2-year-old year omitted). It appears there is good agreement between the plotted values and the expected 45° line....51

Figure A3: Cox-Snell residuals were computed and plotted for the Cox regression model for the outcome; number of years raced. It appears there is some deviation between the plotted values and the expected 45° line.....52

Figure A4: A Q-Q plot indicating normal distribution of the quantiles of the residuals versus the quantiles of the normal probability distribution for the outcome Total Earnings.....53

### CHAPTER 3

Figure B1: Cox-Snell residuals were computed and plotted for the Cox regression model for the outcome; number of race starts. It appears there is good agreement between the plotted values and the expected 45° line.....72

Figure B2: Cox-Snell residuals were computed and plotted for the Cox regression model for the outcome; number of race starts (2-year-old year omitted). It appears there is good agreement between the plotted values and the expected 45° line.....72

Figure B3: Cox-Snell residuals were computed and plotted for the Cox regression model for the outcome; number of years raced. It appears there is some deviation between the plotted values and the expected 45° line.....73

Figure B4: A Q-Q plot indicating nearly normal distribution of the quantiles of the residuals versus the quantiles of the normal probability distribution for the outcome Total Earnings.....74