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THE ASSOCIATION OF 2-YEAR-OLD TRAINING MILESTONES
WITH RACING PERFORMANCE IN STANDARDBRED 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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2011
(Submitted November 23, 2011)
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.
ACKNOWLEDGEMENTS

I offer my sincere thanks and gratitude to my supervisors Dr Chris Rogers and Professor Elwyn Firth for their endless support and guidance throughout this project. I am also grateful that they allowed me to continue to pursue my career as a horse trainer alongside this project.

I would like to thank Wayne Reid from Harness Racing New Zealand and Georg Magerl from New Zealand Thoroughbred Racing for supplying me with the data to make this project possible.

A special thank you must go the New Zealand Racing Board who funded this project through the Equine Partnership for Excellence.

To my dear friends Charlotte Bolwell and Sarah Rosanowski who have given me their undying support through the good and bad times. I look forward to celebrating with you.

The biggest thank you of all must go to my mum Jacque without whom none of this would have been possible. Thank you Mum for always being my number one fan.
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<tbody>
<tr>
<td>HRNZ</td>
<td>Harness Racing New Zealand</td>
</tr>
<tr>
<td>NZTR</td>
<td>New Zealand Thoroughbred Racing</td>
</tr>
<tr>
<td>IQR</td>
<td>Interquartile range</td>
</tr>
<tr>
<td>LRS</td>
<td>Likelihood ratio statistic</td>
</tr>
<tr>
<td>OR</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence interval</td>
</tr>
<tr>
<td>MSI</td>
<td>Musculoskeletal injury</td>
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<td>DMD</td>
<td>Dorsal metacarpal disease</td>
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