Australian thoroughbreds
from birth to racing

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Focus on animal wellbeing

AgriFutures Australia invests in research and development to advance the Australian thoroughbred industry. The majority of its investment is directed towards improving animal wellbeing.

New research funded by the AgriFutures™ Thoroughbred Horses Program and based on a survey and industry data outlines five recommendations for further research, development and extension (RD&E) for the wellbeing of young horses before they commence racing.

Five recommendations for thoroughbred wellbeing – birth to racing

Reducing risk in the first 12 months:
Further research to investigate the causes of mortality and development of strategies to reduce morbidity and mortality focusing on the first 12 months of life (the period of highest risk).

Property design and management:
Further research into property design and stud management can be used to determine if certain management systems, fencing designs, or types of properties are more at risk of paddock accidents and to design ways to reduce or manage their occurrence.

Readiness for training:
Further research directed at understanding assessment of readiness for training and managing transition into training may help to improve pathways of horses into training and racing, and longevity of horses within training and racing.

Better recordkeeping:
Continual improvement of systems for recording patterns of movement and changes of ownership with a focus on point of sale.

Traceability system:
Development of a traceability system in consultation with the broader equine industry, to allow better monitoring of horse movements across the horse industry.

State of play:
Thoroughbred horses 0 - 4 years

Thoroughbred breeding contributes $1.16 billion to the Australian economy annually. There has been growing interest within the thoroughbred industry and wider community in understanding why some foals do not progress to enter training and racing careers.

There are few studies on this topic, perhaps reflecting difficulties in sourcing information on animals as they grow and change owners and locations. This study focuses on the Australian 2014 foal crop to address two key research questions:

• What proportion of the 13,677 Australian thoroughbred foals born in 2014 went on to training in a registered training establishment?

• What proportion of Australian thoroughbred foals born in 2014 had no official record of training or racing in Australia by the beginning of their four-year-old racing season?

Previous Australian studies have investigated small subsets of horses, but this is the first study to sample from all Australian thoroughbred foals born in one year.

Meeting community expectations

Both the thoroughbred industry and wider community maintain an interest in the wellbeing of racehorses before, during and after their racing careers.

To enhance wellbeing of thoroughbred horses it is important the thoroughbred breeding industry gains a better understanding of the factors that prevent foals making the transition from the stud to the track.

This research provides insight into the reasons why thoroughbred foals do not progress to a career as a racehorse and RD&E recommendations to achieve this desired outcome.
In summary

This study examined industry data and surveyed a proportion of Australian breeders with foals born in the 2014 season to investigate the wellbeing of Australian thoroughbreds from birth to racing and provide recommendations to inform strategic RD&E investment.

Industry data

Records from the Australian Stud Book indicate a total of 13,677 thoroughbred foals were born in Australia in 2014. Racing Australia oversees the collection of data that records when a horse enters training in licensed premises (a stable return), when they barrier trial or race, and when they leave the racing industry. The Australian Stud Book oversees the collection of export data.

Combined Australian Stud Book and Racing Australia records were used to link foals born in the 2014 season to their future named identities and racing careers. Racing Australia data were then used to determine racing performance and status for these horses up to the end of their period as three-year-olds (31 July 2018).

Racing Australia records covering the period to the end of the 2017-2018 racing season (31 July 2018) were used to assign the 13,677 foals born in 2014 to one of three mutually exclusive outcomes: entered training in Australia, exported from Australia, or remaining in Australia with no official record of entering training.

Breeder survey

A detailed questionnaire was sent to breeders to collect information on selected foals. The process involved random selection of foals from the total cohort born in the 2014 year to ensure the survey sample was truly representative of those foals from the 2014 foal crop that had no record of entering training or of racing up to the end of the third year of life. The questionnaire was then sent to the breeders of the randomly selected foals.

The random selection process involved questionnaires being sent to the breeders of 1245 foals.

This group was considered to be representative of the national population of foals born that subsequently had no official record of entering training before the start of their four-year-old racing season.

Survey results

Survey responses were received from the breeders of 633 foals representing 50% of those selected for enrolment in the survey. The main reported reasons for horses having not officially entered training or racing in Australia by the end of their three-year-old racing season were:

- Death of the horse (38% of 633 horses)
- Horses being used for a purpose other than racing including sale of the horse and rehoming or retirement from racing (29% of 633 horses)
- Horses involved in unofficial training in preparation for entering racing as a four-year-old or older (24% of 633).

The main contributors to mortality risk were fracture, congenital malformation (birth defects) and digestive conditions (such as colic) although the prevalence of these conditions varied with age. Congenital malformation was the most significant cause of death for horses under a year old, but for horses one year of age or older the main contributor to death was fracture.

Horses that were categorised as rehomed or retired mainly went on to be involved in equestrian and pleasure riding pursuits, followed by companion and other unridden activities. For rehomed or retired horses, injury or illness followed closely by poor performance/slow were the main reasons that were reported to prevent horses from entering race training.

In summary
### Key findings

The AgriFutures™ Thoroughbred Horses Program works closely with breeding and racing stakeholders across the thoroughbred horse industry to invest in RD&E activities that contribute to the sustainability and prosperity of the industry. This study’s findings and recommendations will provide key evidence to inform strategic RD&E to improve the wellbeing of thoroughbred horses from birth to four years of age. Major findings included:

1. **Reducing mortality**

Mortality in young horses was an important reason for not having any record of entering training or racing. Mortality risk was highest in horses under one year old, in particular if foals during the neonatal period from birth to 30 days old.

Of the horses that were reported to have had a traumatic cause of mortality (fracture, tendon/ligament injuries or wounds), 80% were related to paddock accidents or misadventure-type incidents.

As a whole, the survey results indicate the majority (90%) of deaths were due to non-training related illnesses or injuries. Fracture was the leading cause of mortality across all age groups.

Study findings on causes of death in horses under 12 months of age are of particular interest because the study design means that these findings are considered representative of the national population of thoroughbred foals. When extrapolated to the national foal crop level, this survey indicates that 6% of all foals born in the 2014 season were expected to have died before they reached 12 months of age.

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2. **Horses may begin their racing career after four years of age**

A total of 8% of survey horses began official race training in Australia after the age of four and survey respondents indicated that a further 3% horses were still intended to race at the time of the survey. Explanations for delayed start of training and racing included financial/personal reasons and concerns over whether the horse was ready for training or that starting horses at young ages was harmful.

3. **Loss of information following public or private sales**

There was a loss of information following public or private sale of horses where survey participants had no additional information regarding the outcome of horses once they were sold. The most frequent age bracket recording an outcome of public or private sale was yearlings followed by weanlings. The horses in this study were born prior to a rule being introduced in 2016 requiring the owners of a horse to be recorded with Racing Australia within 30 days of birth.

4. **Filling in the gaps**

Industry statistics are likely to under-estimate the number of horses in training and over-estimate numbers of horses lost to racing between birth and four years of age.

A total of 24% of surveyed horses were identified as being active in the racing industry, having either entered training after the start of their four-year-old racing season, or yet to race but undergoing training through unofficial means. When the results of this survey are extrapolated back to the 2014 foal crop, this suggests that 7% of the national foal crop may be participating in training activities without official records being kept.

### Key recommendations

This study also identified potential opportunities for the AgriFutures™ Horses Program and industry to consider. These include:

1. Investigation of the causes of mortality and development of strategies to reduce morbidity and mortality risk focused on the period of highest risk, the first 12 months of life.

2. Further research into property design and stud management to determine if certain management systems, fencing designs, or types of properties are more at risk of paddock accidents, or design ways to reduce or manage their occurrence.

3. Development of a traceability system in consultation with the broader equine industry, to allow better monitoring of horse movements across the horse industry.

4. Continual improvement of systems for recording patterns of movement and changes of ownership with a focus on point of sale.

5. Development of strategies to reduce morbidity and mortality risk focused on the period of highest risk, the first 12 months of life.

### Acknowledgements

Dr Meredith Flash is supported through in-kind contributions from Racing Victoria and The University of Melbourne. Professors Mark Stevenson and James Gilkerson are employed by The University of Melbourne.

AgriFutures Australia wishes to thank AgriFutures™ Thoroughbred Horses Advisory Panel Chair Professor Nigel Perkins and Deputy Chair Dr Catherine Chicken.