Causes of Wastage in 2-Year-Old Thoroughbreds in Training: A Longitudinal Study

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Only 50% of premium 2-year olds race in their first race season. Career-ending injuries are uncommon, but there are a number of common causes of lost training days that have significant economic impact. The major causes of lost training days are bucked shins, infectious respiratory disease, traumatic injuries, and injuries to the fetlock joint (56% of the total days lost). Tendon and ligament injuries are relatively rare (4%). Authors' addresses: Dept. of Veterinary Clinical Sciences, University of Sydney, New South Wales 2006, Australia (Bailey and Rose); Dept. of Veterinary Clinical Studies, University of Glasgow, Bearsden Rd., Glasgow G61 1QH, Scotland (Reid); and Rural Veterinary Centre, Department of Animal Health, University of Sydney, Camden, New South Wales 2570, Australia (Hodgson). © 1997 AAEP.

1. Introduction
Several studies have identified some of the major problems in Thoroughbred horses in training, highlighting the high wastage rate from injury and disease. To our knowledge, there have been few published prospective studies of horses purchased predominantly to race as 2-year olds. Of these studies, most focus on conditions in which animals are raced year round on dirt (U. S.) or for part of the year on a variety of track surfaces (UK). In the current study, we followed a cohort of elite yearlings at two weekly intervals during their first year in training in Australia, where racing occurs throughout the year exclusively on turf.

2. Materials and Methods
From 525 yearlings cataloged for the premier Australian sale in April 1995, 169 horses placed with participating trainers were enrolled in a long-term longitudinal study designed to identify causes of wastage to the Thoroughbred industry. Trainers were visited every 14 days by one of the investigators (Bailey) and records were maintained on the training, injury, and disease status of the horses in the cohort. Specifically, the following details were recorded: training status (training, pretraining, resting in stable, or resting at pasture); presence and character of injury or disease if appropriate; and impact of such disease or injury on training activity. This was categorized as (1) days reduced, in which a reduction in work level, but not box rest or walking, was the qualifying characteristic; (2) days prevented, in which a reduction to the level of box rest or walking was the qualifying characteristic; and (3) days modified; the sum of 1 and 2. It is important to note that for these activity levels, the animal remained in the stable and incurred full training costs.
3. Results

Table 1 contains the details of the days lost from training for some of the specific disease categories. The total number of days in which training was prevented (314 days) or reduced (320 days) was 634 days for this cohort of horses. Bucked shins was the single biggest factor that resulted in days in which training was either reduced or prevented. Infectious respiratory disease causing clinical signs of coughs and or nasal discharge was responsible for more days in which training was prevented than reduced.

4. Discussion

This is the first study in which a cohort of elite yearlings have been followed every 2 weeks from the time of sale through their first racing season (April 1995 to August 1996) by the same investigator, and in which a detailed diary has been kept on problems that occurred and the significance of these evaluated in terms of training days prevented and reduced. Although 2-year-old racing in Australia is highly lucrative in terms of prize money, only 50% of elite horses race during this year. The current study has indicated that the major reason for this low figure is the high number of minor incidents that occur during the 2-year-old training season. These minor problems often alter training or result in the horse being rested but do not prevent the horse from racing during subsequent seasons.

We found that bucked shins and infectious respiratory disease were the most common causes of lost or reduced training days but that the impact of these on training and economic return were very different. Bucked shins caused many days in which the training level was reduced but few in which training was completely prevented. In contrast, infectious respiratory disease, while causing the same level of altered training days, had its major effect by preventing training from occurring at all.

It is important to note that the wastage described here relates to disease or injury that altered the training level but was not sufficiently severe to result in the horse being sent away from the stable. Indeed, although the more severe injuries resulted in another 16,170 days of days lost at pasture, the incidence of catastrophic injuries was less than we had anticipated at the outset of the study. Only 5% of the horses had suffered career-ending injuries by the end of the 2-year-old season. However, 80% of horses had some type of problem and initial estimates of the cost of lost horses and lost days to training is more than U.S. $1.1 million, when the data are applied to the entire premier sale catalog alone.

5. Conclusions

High incidence, low-prevalence diseases appear to be the root cause of lost training days. This study is important in identifying that major injury is relatively rare in young horses in training but low-grade injury and disease have the potential to cause significant economic loss.

References