

HEARING RESULT

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FROM: Registrar – Racing Appeals and Disciplinary Board

DATE: 20 December 2011

SUBJECT: **HEARING RESULT – TRAINER: MARK RILEY**

Panel Judge Russell Lewis (Chair), Mr Brian Forrest (Deputy Chair),
Mr Chris Enright.

Appearances Mr Patrick Wheelahan appeared as Counsel for Mr Riley.

Mr Chris Winneke instructed by Racing Victoria's James Ogilvy appeared as Counsel for the Stewards.

Charge 1 Breach of AR 175(h)(ii)

The particulars being that he administered or caused to be administered a prohibited substance, being alkalinising agents as evidenced by total carbon dioxide (TCO₂) at a concentration in excess of 36.0 millimoles per litre in plasma, which was detected in a blood sample taken from the horse *Diablo Rosso* prior to its running in Race 7 the *My Jet Aviation 0-62 Handicap* (2400m) at Bendigo on Thursday, 4 August 2011.

Charge 2 Breach of AR 178 (alternative to Charge 1)

The particulars being that a prohibited substance, being alkalinising agents as evidenced by total carbon dioxide (TCO₂) at a concentration in excess of 36.0 millimoles per litre in plasma, was detected in a blood sample taken from the horse *Diablo Rosso* prior to its running in Race 7 the *My Jet Aviation 0-62 Handicap* (2400m) at Bendigo on Thursday, 4 August 2011.

Plea Charge 1 - Not Guilty
Charge 2 - Guilty

Decision The decision in relation to Charge 1 is a majority decision with Mr Forrest dissenting.

The majority of the Board does not find the charged proved and thus Charge 1 is dismissed.

The hearing of the plea in relation to Charge 2 is adjourned to a date to be fixed.

**TRANSCRIPT OF
PROCEEDINGS**

RACING APPEALS AND DISCIPLINARY BOARD

**HIS HONOUR JUDGE R.P.L. LEWIS, Chairman
MR B. FORREST, Deputy Chairman
MR C. ENRIGHT**

EXTRACT OF PROCEEDINGS

DECISION

TRAINER: MARK RILEY

MELBOURNE

TUESDAY, 20 DECEMBER 2011

MR C.J. WINNEKE appeared on behalf of the RVL Stewards

MR P.J. WHEELAHAN appeared on behalf of Mr M. Riley

CHAIRMAN: The Board will now give its decision which is a majority decision. Mark Riley, you have pleaded not guilty to Charge 1, being a charge laid under Australian Rule 175(h)(ii) in that on 4 August 2011, you administered or caused to be administered a prohibited substance to a horse trained by you, which substance was detected in a pre-race blood sample.

You have pleaded guilty to Charge 2, laid under Australian Rule of Racing 178, in that you presented a horse to race on 4 August 2011 with a prohibited substance in its system.

The horse was Diablo Rosso. It ran second-last of 13 runners, beaten 19 lengths in a 0-62 2400-metre race at Bendigo. The sample was taken at 2.12 pm and the race time was 3.05 pm.

The analysis by Racing Analytical Services Ltd, RASL, revealed a total plasma carbon dioxide concentration of greater than 39 millimoles per litre, as did the referee sample which was analysed by the Racing Science Centre, Queensland. The threshold level for TCO₂ which naturally occurs in a horse is 36 millimoles per litre in plasma, plus or minus 1.0 for uncertainty of measurement. Beyond this threshold figure, the total plasma carbon dioxide concentration becomes a prohibited substance. On 10 August 2011, a further blood sample was taken from the horse at Riley's Mornington stables. Upon analysis, the TCO₂ reading was 28.

The standard of proof: since these are very serious charges, the standard of proof is that referred to in the well-known case of *Briginshaw v Briginshaw* (1938) CLR. Whilst the standard of proof is on the balance of probabilities, the Board must be reasonably satisfied that the charge has been proved. It is not a matter of mechanical comparison between competing views. Inter alia, the Board must consider and bear in mind the seriousness of the particular charge and the gravity of the consequences which flow or may flow from a particular finding.

The Stewards' case was presented by Mr Christopher Winneke of counsel.

There is no challenge to the results of the analysis to which I have referred.

That being conceded, the Stewards rely on the evidence of Dr Cust and Dr Vine and the circumstances which existed on the morning of the race.

Dr Cust has opined that for a level of greater than 39 to be achieved, it is most likely that a race-day administration occurred within four to six hours of the taking of the blood sample, usually by nasogastric tube, drenching gun or in the drinking water. Dr Cust also was of the opinion that the reading of 28, following sampling at the stables on 10 August 2011, lent support to his opinion. Further, the Stewards allege that Mark Riley, who was on his own admission experienced in stomach tubing horses, had the opportunity to administer or cause to be administered alkalinising agents on the morning of the race.

The defence case was presented by Mr Patrick Wheelahan of counsel. It is admitted that on the morning of the day prior to the race, Riley administered alkalinising agents by means of a nasogastric tube. It is then said that unknown to Riley in the days prior to the race and indeed on the morning of the race, the horse ingested contaminated feed, mouldy corn, which contained mycotoxins and fusaric acid, substances which affect TCO₂ levels. Riley denied giving the horse any alkalinising agents on the day of the race. It was submitted that the ingestion of contaminated feed was responsible for raising the horse's TCO₂ levels to greater than 39. In the circumstances, since he was understandably ignorant that mouldy corn was present in feed, the Board could not be comfortably satisfied that Riley had administered or caused to be administered a prohibited substance.

I now turn to the evidence. The Board accepts that the sample of feed which was analysed contained low concentrations of a mycotoxin known as fumonisin. The board also accepts the opinion of Prof Smith that the sample also contained large amounts of a co-contaminant known as fusaric acid. The Board finds that Diablo Rosso ingested feed containing fumonisin and fusaric acid. The quantity of fumonisin may have been greater or less than what was demonstrated by analysis. It is not in dispute that fumonisin and fusaric acid may elevate TCO₂ levels in horses; the question is, to what extent did the contaminated feed elevate the horse's TCO₂ levels? The Stewards say it was minimal. Mr Riley says that but for the contamination, the TCO₂ levels would not have exceeded the threshold.

This is a highly unusual case, even a unique case. The understanding of fusarium mycotoxicosis in horses is extremely limited. In this case, there is no expert who can offer an opinion on the effects of mycotoxins on TCO₂ levels in horses. Dr Cust is an experienced veterinarian but a non-expert in this field. Dr Vine is an analytical chemist, a scientist. Dr Clarke is a veterinarian. Prof Smith is an expert in feed toxicology and, as such, his opinions carry considerable weight.

As I have previously indicated, Dr Cust simply says that a reading of greater than 39 clearly means that the horse was drenched on the morning of the race, even assuming that it had ingested mycotoxins. He gained support for his opinion by having regard to the likely "resting" level of TCO₂ which he conceded might be about 30. Even allowing for some elevation of that figure as a result of ingesting contaminated feed, it was highly unlikely that a level of TCO₂ would exceed the threshold unless the horse had been drenched on the morning of the race.

Dr Clarke has a fundamentally different opinion. He challenged the so-called resting level of the horse. In his opinion, the bicarbonate levels as revealed by Gribbles Pathology were likely to be reasonably accurate and when one extrapolated from those readings, a high TCO₂ level was produced. Dr Clarke said that he not only had reliance on the Gribbles readings but his acceptance of those readings came in part from his general knowledge and from the paper of Waller et al. He did not agree with Dr Vine's opinion that the blood gas analyser used by Gribbles produced unreliable results compared with the

Beckman ELISE machine used by RASL which actually measure TCO₂ concentrations rather than arrive at them after making calculations from bicarbonate levels.

The Board notes that there is support for Dr Clarke's opinion in the paper by Lloyd et al where, on page 133 the following appears, under the heading Comparison of the Auto-Analyser to the Blood Gas Machine:

There was a good correlation between the TCO₂ measurements from the Beckman Synchron ELISE and the blood gas machine.

Dr Clarke also quarrelled with the expression that at Bendigo, Diablo Rosso was "presented fit to race". He disagreed with Dr Cust's view that unless the horse showed pre-race outward signs that it was suffering from cardiopulmonary difficulty, there would be no increase in TCO₂ levels.

Dr Clarke made the point that the phrase "presented fit for racing" did not allow for subclinical changes which may affect performance without the horse showing overt signs of disease. He argued that low-level exposure to mycotoxins, assuming that the horse had ingested the amounts found on analysis, may induce subclinical changes. He said that there were many ways in which a horse could be affected: biological, systemic, renal. He said that more research needs to be done. He instanced the situation with the horse, Astraios, trained by Mr Riley. Five days before that horse was put down because of mycotoxin poisoning, it was put on a float and taken to Adelaide. Notwithstanding that the horse must have been in the final stages of

succumbing to poisoning, it looked healthy and presumably was considered fit to race.

Dr Clarke also referred to a pre-race Gribbles report of 1 August 2011 which indicated that there was a reading of 8 per cent monocytes, which elevation was consistent with muscle damage not readily observed, or post-virus.

On the assumption that the Gribbles bicarbonate readings were sufficiently accurate and accepting that Mr Riley stomach tubed the horse on the morning of 3 August 2011, Diablo Rosso's already high TCO₂ levels were further increased. It was implicit in the conclusions in Dr Clarke's statement that the levels were then in the range of 36 to 37. Dr Clarke, then adopting the results of a study referred to in the G.W. Smith et al paper of 2002, added a 10 per cent increase to allow for fumonisin effect and by so doing, accounted for the greater than 39 result found by RASL.

I have already referred to one aspect of Dr Vine's opinion. Another important piece of evidence is his statement that following a control test of a horse population of 500, it was concluded that the statistical probability of a horse not treated with alkalinising agents exceeding 37 was one in two million. Dr Clarke was well aware of that piece of research but pointed out that electrolytes were withdrawn from those horses 24 hours prior to sampling.

For the record, the Board finds that Mr Riley did have the opportunity to administer alkalinising agents on race-day morning, but for reasons soon to be

stated, the Board does not intend to develop this aspect. For the sake of completeness, we regard as significant the inherent improbability of Mr Riley, well experienced in stomach tubing horses, of adding what could only be described as an extraordinary amount of bicarbonate to a race-day morning drench.

In what has been a most perplexing case, the Board has been required to consider facts subject to variables, conclusions based on assumptions, differences in analytical methodology, differences in opinion of experts based on different studies. The evidence is bedevilled with uncertainty and therefore the Board should be reluctant to draw conclusions based on such evidence, be it in favour of one party or the other.

It would be tempting to adopt a simplistic approach and say, "Well, the resting level was 28 to 30 and therefore, notwithstanding evidence of variations in TCO₂ levels and the effect of mycotoxins, there is no way this horse could return a TCO₂ level of greater than 39, therefore it must have been tubed or otherwise drenched on race-day morning." However, the position is the Board is not dealing with an allegation by a trainer that has not been proved. It is not a theory that Diablo Rosso's feed was contaminated. The Board has found that it was. There is evidence which, if accepted, would justify the conclusion that Mark Riley was not responsible for administering a prohibited substance.

The Stewards carry the onus of satisfying the Board that the trainer's explanation and the evidence in support of it should be rejected. A situation

has been reached where the majority of the Board is unable to be satisfied to the Briginshaw standard that the case has been proved. Accordingly, the majority of the Board believe that Charge 1 is and should be dismissed.

I now ask Mr Forrest to deliver the dissenting reasons.

MR FORREST: Trainer, Mr Mark Riley, has been charged with administering or causing to be administered to the horse Diablo Rosso on 4 August 2011 a prohibited substance, namely, alkalinising agents as evidenced by a TCO₂ concentration of greater than 39 millimoles per litre in plasma detected in a pre-race sample taken at Bendigo that day, contrary to the Rules of Racing.

The finding on analysis by RASL and on confirmatory referee analysis of a plasma concentration of greater than 39 millimoles per litre is not in dispute. Mr Riley denies the charge. In his defence, it was put that the effect of eating food subsequently found to be contaminated was a significant factor in the TCO₂ reading exceeding the threshold level of 36.0 TCO₂ concentrations.

By way of background, another Riley-trained horse, Astraios, was transported by road to Adelaide on Friday, 29 July 2011, to run at Morphettville the next day. That night, the horse became ill, its condition rapidly deteriorated and it was put down early Sunday morning. At first, Hendra virus was suspected but a partial autopsy revealed that the horse contracted equine leukoencephalomalacia, known as mouldy corn disease. The cause of the disease is the mycotoxin fumonisin B1 found in affected corn feed. The

disease is rare in Australia but more commonly found in North America where feeding practices differ.

Diablo Rosso raced at Bendigo on 4 August 2011 over 2400 metres. He raced poorly, finishing 19 lengths from the winner. Another Riley-trained horse, Vitreous, raced in Adelaide two days later, finishing 2nd. Vitreous returned a positive post-race blood sample, 39.4 millimoles per litre. Stewards notified Mr Riley on Monday, 8 August 2011 of the irregularity in the Diablo Rosso sample. Later in August, feed samples of corn and hay analysed by Agrifood Technology revealed the presence of fumonisin, 1.9 ppm B1, and 0.65 fumonisin B2. Stewards also had a corn sample analysed by Symbio Alliance which revealed 0.5 milligrams per kilogram fumonisin B1 and 0.5 milligrams per kilogram of fumonisin B2.

Leading up to the race on 4 August, Diablo Rosso's diet included corn feed. Mr Riley said that at about 9.15 the day before the Bendigo race, he stomach-tubed Diablo Rosso a drench containing electrolytes, 60 grams of Salkavite, 100 grams of bicarbonate and a Blud sachet, mixed with between 600 mls and a litre of water. Drenching normally takes him about three to five minutes to complete. Mr Riley routinely drenched his horses at least 24 hours before racing and, as part of his feeding program, from time to time feeds electrolytes and alkalinising supplements. He also carbohydrate-loads his horses leading up to race day.

In evidence, Mr Riley denied drenching Diablo Rosso on race day. It was his evidence that on 4 August 2011, he remained in bed because of back pain until about 30 minutes before he left for the races at about 10.30 am. He drove the vehicle, towing the float. His father Martin and strapper Kara Nickson were passengers. Nickson was away from the stables for about an hour before returning in time to go to the races. Assistant trainer Jason Bradshaw said he fed the horse breakfast and was otherwise occupied at the stables. He left the stables about 10.30 am. He denied any involvement in drenching that morning. Trackrider Logan McGill was unsure of his recollection of his movements that morning.

Veterinary surgeon Dr Walker reported that when he collected the blood sample from Diablo Rosso at Bendigo racecourse, the horse did not exhibit any unusual signs. On 10 August 2011, a blood sample taken from Diablo Rosso at Mr Riley's stables at the Stewards' request recorded, on analysis by RASL, a TCO₂ concentration of 28 millimoles per litre.

Central to Mr Riley's defence was the contention that the 28 sample on 10 August 2011 was not a valid comparison with a race-day sample from which to draw conclusions because it did not take into account factors such as the differing feeding prior to race day, the effect of the drench the day before racing and dietary changes since the Bendigo race.

Mr Wheelahan, on Riley's behalf, advanced the proposition that the proper comparison is by reference to the blood test results from Gribbles Pathology

for bicarbonate levels which he submitted that when transposed to TCO₂ is the normal race-day level.

Mr Riley's practice is to obtain blood tests close to racing. Blood tests for Diablo Rosso on 26 July 2011, 1 August 2011 and 26 August 2011 revealed bicarbonate levels of 34, 33 and 33 millimoles per litre respectively.

Dr Richard Cust is a senior veterinary consultant to RVL. He said race-day and non-race-day averages of TCO₂ concentration vary around 30 to 32 millimoles per litre. A horse on any day may vary 1 to 2 around the average value. In Dr Cust's opinion, the level of mycotoxin found in the feed had no significant role in producing the subject TCO₂ reading because the level of mycotoxin found in the feed was very low. According to Dr Cust, while conceding a slight rise in TCO₂ levels because of the ingestion of affected food was reasonable, the non-race-day sample on 10 August 2011 obtained by Stewards was in his mind significant. However, it must be acknowledged that Diablo Rosso had been on a fresh batch of food for a few days prior to that sample being taken. It was Dr Cust's concluded opinion that only by administration of alkalinising agents in the hours prior to racing was the race-day level achieved.

Dr Andrew Clarke, a veterinary science consultant, in a report provided for Mr Riley, concluded that given the feeding and management practices of the stable and the impact of mouldy corn, the TCO₂ reading recorded on 4 August 2011 could occur without race-day administration. To achieve this result, he

relied on the Gribbles bicarbonate test results, that when transposed to a TCO₂ concentration, will give a threshold level TCO₂ reading. This he regards as the race-day level for Diablo Rosso. To this, he estimates a 10 per cent increase for fumonisin exposure, relying on a study attached to his report to arrive at the race-day level. Apart from that, Dr Clarke believes horses may have a much higher natural level of TCO₂ than Dr Cust believes to be the case.

Dr John Vine, the laboratory director of RASL, with expertise in analytical chemistry, disagreed with Dr Clarke's opinion. In Dr Vine's view, transposing bicarbonate to TCO₂ is not by simple arithmetic conclusion. Bicarbonate concentration, using a gas analyser machine, the Gribbles method, is a calculated rather than a measured value, not providing accuracy of TCO₂ concentrations, he said.

Professor Trevor Smith is a professor of animal health and poultry science at Guelph University, Ontario, Canada. His area of expertise is toxicology, in the field of toxins in animal nutrition. To his knowledge, there is no scientific literature on the effect of fumonisin contaminated feed in blood TCO₂ concentrations in horses and acknowledged that the effect of alkalinising agents on TCO₂ in horses is not his area of expertise. In a report provided on behalf of Mr Riley, Professor Smith wrote:

Based on the scientific literature, it is almost certain that large amounts of fusaric were present as co-contaminants in the maize in question. This maize was not analysed for fusaric acid. The loss of muscle coordination and lethargy triggered by fusaric acid-induced elevations in brain serotonin could certainly account for the poor performance of horses in this stable over the three-month period preceding the incidents in question. It is also highly likely that the cause of elevated plasma carbon dioxide concentrations seen in Diablo Rosso were due to fusaric acid-induced reductions in blood pressure, resulting in reduced carbon dioxide clearance by the lungs.

It is my opinion that the elevated plasma carbon dioxide concentration seen in Diablo Rosso were the accidental result of feed-borne mycotoxins.

Professor Smith agreed the results of the feed-sampling analysis did not record any significant level of mycotoxin. He commented that the feed analysis results were probably a bit of an underestimate of the true fumonisin content, having regard to the death of a horse, the possibility of sampling errors and the non-detection of chemically modified fumonisin.

The circumstances of the death of Astraios I think lends some weight to Professor Smith's proposition.

Professor Smith also commented on the absence of analysis for fusaric acid in the diet, the effect of which elevation of blood serotonin may result in behavioural changes, reduced feed intake, loss of muscle coordination and lethargy. He added that even if the fusaric levels were known, there is no scientific literature that provides an answer to TCO₂ levels.

However, in arriving at his opinion that fusaric acid could account for the poor performance of the Riley stable horses in the previous month, Professor Smith relied on information given to him by Mark Riley. Professor Smith's conclusion as to the effect of fusaric acid and by extension to the elevated TCO₂ concentration, is for present purposes I think somewhat tenuous in the absence of evidence in Diablo Rosso, or any other stable horses for that matter, of the symptoms to which Professor Smith referred and also when the strike rate of Riley-trained horses around that period is considered.

In fairness to Professor Smith, in the end he acknowledged that he had insufficient information.

Having considered all the evidence, I am persuaded by the opinion of Dr Cust that the very low level of fumonisin revealed by feed sampling would have very little effect on the TCO₂ level. Although Dr Walker, when taking the subject sample, reported nothing untoward with the horse, I also accept that this is not necessarily conclusive of a horse's health. Dr Clarke relies on the Gribbles bicarbonate levels. Notwithstanding Dr Vine's criticism of their accuracy of measurement for TCO₂ purposes, if it be assumed for present

purposes that an accurate assessment of TCO₂ concentration may be transposed from them, on the evidence, as to the level of toxin in the feed samples, and the evidence I accept of Dr Cust as to the effect of that level of fumonisin on the TCO₂ concentrations, that would not of itself achieve the TCO₂ level recorded on 4 August 2011.

I would also add that an uncertainty or unknown fact in all of this is the timing and effect of the administration, if any, of alkalinising agents around the time the blood samples, the subject of the Gribbles tests, were taken.

I respectfully disagree with my colleagues' conclusion in this case. The facts and circumstances in my assessment provide a compelling basis in my mind for which a reasonable inference may be drawn that Mr Riley had the opportunity to administer alkalinising agents to Diablo Rosso on 4 August 2011 and did in fact do so. In saying that, I am satisfied to the standard required by the Briginshaw test, having regard to the seriousness of the charge and gravity of the consequences.

It follows that I would find the charge proven.
