



RACING AND WAGERING WESTERN AUSTRALIA

TCO2 TESTING

16th April 2007

SPECIAL NOTICE TO ALL TRAINERS

All Trainers and Industry participants are asked to take note of the following change being made by the laboratories that test RWAA pre-race TCO₂ samples.

The Racing Chemistry Laboratory (WA) has advised Racing and Wagering WA that as of 1st June 2007 the laboratory would be applying a new measure of uncertainty to the reported Total Carbon Dioxide levels (TCO₂) from race day equine blood samples.

Previously the applied measure of uncertainty was (plus or minus) 1.2mmol/L which was afforded to the benefit of the trainer when determining whether a result of analysis constituted a breach of the rules of racing. In practice, 1.2 was deducted from the measured value and only if then it was still above the prescribed threshold of 36.0mmol/L was it considered to be an offence under the rules (ie. positive swab).

As of 1st June 2007, that figure of +/- 1.2mmol/L will reduce to +/- 1.0 mmol/L.

The effect of the reduction means that, based on the current prescribed threshold of 36.0 mmol/L, a sample would then have to have a measured value of 37.1 mmol/L to be considered a breach of the rules rather than the current required value of 37.3 mmol/L.

This change has arisen as a result of the Australian racing laboratories having recently commissioned a report on the estimation of measurement uncertainty in the determination of total carbon dioxide concentrations (TCO₂) using the Beckman Synchron EL-ISE autoanalyser. An internationally recognised and independent expert on the estimation of measurement uncertainty, Dr Brynn Hibbert of the University of New South Wales, compiled the report.

To carry out this commission, Professor Hibbert was supplied with all confirmatory and referee sample data generated by the four Australian racing laboratories since 2003; when the certified reference material became available for use as a quality control material.

Professor Hibbert has now completed his calculations and produced a final report on his findings which are summarised below.

- The currently used estimate of uncertainty, 1.2mmol/L at 99.7% confidence, significantly overestimates the true value.
- Adopting a value of 1.0mmol/L would produce a result with a greater than 99.999% chance of being correctly determined to be in breach of the rules.

On the basis of Professor Hibbert's report the Australian racing laboratories have confirmed that the uncertainty to be applied to TCO₂ measurements will be reduced from 1.2mmol/L to 1.0mmol/L with effect from 1 June 2007.

Any persons with queries regarding the implications of this change, what it means for them, or any related matters concerning TCO₂ testing should contact the RWAA Veterinarians on 9277 0777.

John A Zucal
Chairman of Stewards