MILKSHAKING MATTERS:

17 YEARS AFTER FIRST TEST, PROCEDURES STILL VARY

By Kimberly Rinker

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NJ Racing Commission

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Milkshaking—technically administering a mixture of bicarbonate, sugar and other substances in an attempt to enhance the performance of a racehorse—continues to be a controversial and oft-debated subject among horsemen, racetrack management and regulatory group agencies, especially in regard to testing.

In 1990 milkshaking was first brought to the forefront of harness racing as the latest speed-enhancing "fad" among trainers, and in 1991 Illinois became the first state to conduct TCO2 testing, which analyzes a horse's blood and can determine if an alkalizing agent such as baking soda has been given to a horse.

The TCO2 test measures the amount of carbon dioxide (CO2) in a horse's blood. National and international jurisdictions have agreed on the standard of 37 millimoles (mm) per liter for a non-Lasix horse, and 39 mm/l for a horse racing on the bleeder medication Lasix (Salix), as accepted tolerance levels.

Kentucky-based veterinarian Dr. Andy Roberts said horses should normally test in the low 30s of millimoles per liter, although the range could dip into the high 20s or to the mid 30s.

"If I saw a horse test 31-32, I'd think nothing of it," said Roberts. "And I could go to The Red Mile today and find horses training that could be at 35."

Roberts said the wide variance is something that is expected, but a level in the high 30s is a rare occurrence.

"With any normal laboratory value, it's a bell curve," he said. "If you say that people are usually five foot eight, well that might be the top of the bell curve. There are people that are six foot and there are people that are five foot. How many people are seven foot? Less than one percent—way out on the end of the bell curve.

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"So are there horses wandering around that might be 37s? Yes, there might be, but they are a very small, small percentage of the population. And if a horse is naturally high, he should be naturally high all the time."

PRE-RACE OR POST-RACE TESTING?

State racing agencies have established guidelines for TCO2 tolerance levels and penalties during the past two decades, and many jurisdictions continue to work at evolving those rules and regulations. However, testing procedures still vary from state to state, and often depend upon the state's funding for these procedures.

Conflicting opinions exist among equine professionals as to what constitutes a more accurate TCO2 reading—the pre-or post-race test—and arguments abound for both.

IN NEW JERSEY, IT'S POST-RACE

Frank Zanzuccki, executive director of the New Jersey State Racing Commission, believes post-race TCO2 tests are far more effective than pre-race tests.

"We take a post-race test for the Standardbreds, because we feel that it's a better indication of whether the horse has been given an alkalizing agent," Zanzuccki explained. "We felt that a pre-race test result was much more easily manipulated, and that a post-race test taken at least an hour after a horse has raced results in a more accurate blood gas reading."

The Garden State implemented TCO2 testing in 1993 for the first time, utilizing a pre-race test. The current TCO2 standards were adopted in 1997. Zanzuccki said that later in 2008, there will no longer be a distinction made for horses racing on Lasix (Salix).

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"The previous rule had a level of 39 millimoles per liter for Lasix horses and we're removing that rule, and will amend it sometime this year," Zanzuccki noted. "There will be no distinction for horses racing on Lasix—they'll be on the same level as non-Lasix horses—37 millimoles per liter."

New Jersey also adopted TCO2 pre-race testing for Thoroughbreds in October 2007—with the same levels and penalties as for Standardbreds.

"Initially, we felt that milkshaking was only a problem in the Standardbred industry because we felt that it was only useful for horses that were going longer distances," Zanzuccki said. "However, in the past several years, we've come to believe that it's become prevalent in Thoroughbred circles too."

According to Zanzuccki, New Jersey performed 6,152 TCO2 tests on racing Standardbreds in 2006, resulting in one positive. In 2007, 3,838 Standardbreds at Freehold and 3,010 pacers and trotters at the Meadowlands were tested, resulting in one high TCO2 test reading at the Big M. Also, 80 Thoroughbred samples were taken at Monmouth and the Meadowlands, with no positive tests.

KENTUCKY: BOTH PRE- AND POST-RACE

In June of 2007, Kentucky adopted a new policy in regard to TCO2 testing. Marc Guilfoil, director of Standardbred racing for the Kentucky Horse Racing Authority, said the change now allows the state to pull blood for both pre- and post-race TCO2 testing.

"We now test several races per day of both breeds at random," Guilfoil noted. "We had just two Standardbreds test high in 2007, and one Thoroughbred, and as new information becomes available, we're accessing new technology."

OHIO A PRE-RACE TESTING STATE

John Izzo, deputy director at the Ohio State Racing Commission (OSRC), said the Buckeye State has adopted two new policies in the last two years as well.

"We're now testing both breeds," Izzo stated. "Previously, we were only testing Standardbreds, and we're now testing Thoroughbreds, too. We're also testing pre-race, on-site, as opposed to post-race testing. We saw that other states were testing pre-race and decided that Ohio should be adopting a pre-race testing procedure, too.

"In 2005 we had eight high tests and in 2004 we had 12 high tests—all in the Standardbred industry," he added. "There were no positives those years at any Thoroughbred track."

During the 2006 Delaware County Fair, the OSRC used a new blood-gas analyzer machine for the first time, resulting in seven positive tests.

Izzo said that Ohio had a total of 23 high TCO2 tests in 2006—the last year for which figures are available. That figure includes the seven positives at Delaware, plus five at Raceway Park, seven at Scioto Downs, three at Lebanon Raceway and one at Northfield Park.

"We wanted state-of-the-art machines, and after they were approved, we were able to start using them throughout Ohio in early 2007," Izzo noted.

ILLINOIS STICKS WITH POST-RACE TEST

Doc Narotsky, race secretary at Maywood and Balmoral Park, was the first person to recognize a need for TCO2 testing when he became aware of milkshaking back in 1991.

"It was evident to many people that there was milkshaking going on, and it was determined that it should be stopped," Narotsky noted. "We worked with various testing procedures and found what we felt were appropriate levels. The decision to start the testing program was uniform among all Chicago racetracks."

As an avid runner of 10k events and triathlons, Narotsky said he was somewhat familiar with the use of alkalizing agents in human athletes.

"I heard rumors in the mid 1980s of some of the runners using alkalizing agents to help improve their performances," he said. "This was way before we were testing horses."

Today the Illinois Racing Board (IRB) performs post-race TCO2 testing on the winning horse and one random horse per race—rules that took effect on April 16,

2005. Illinois was the first state to initiate TCO2 testing—beginning in 1991—and now permits trainers to have their horses put in quarantine to determine if the horse has a naturally high TCO2 level.

"We're in the process of upgrading our blood-gas instrument," said IRB executive director Marc Laino. "However, we haven't changed or amended our rules in the past two years."

Narotsky believes testing should go even further.

"In bicycle racing, they test an athlete's hematocrit level, and if it's above a certain level, they're deemed unhealthy and are not allowed to race," Narotsky said. "I think we should test both the hematocrit and the TCO2 levels in racehorses. In both cases, if the levels are higher than the appropriate standard, the horses should be deemed unhealthy to race, and be scratched. These are quick and easy tests and it resolves a lot of problems."

WEG TESTS BOTH PRE-RACE, POST-RACE

Bruce Murray, vice president of Standardbred racing for the Woodbine Entertainment Group, which runs Woodbine and Mohawk, said that testing either pre- or post-race is conducted on a random selection basis by the Ontario Racing Commission (ORC) judges.

"Pre-race TCO2 tests are normally done on two horses per race, up to 24 tests per card," Murray noted. "We've developed a system that allows for horses to be selected completely by random. Further, there is the option to test any horse for up to 90 minutes after a race if the judges deem it necessary."

SARATOGA HORSEMEN LEARN A LESSON IN TESTING

In January 2006, the New York State Racing and Wagering Board adopted TCO2 pre-race testing for both harness and Thoroughbred tracks, with blood samples being sent to Cornell University's Equine Drug Testing Lab. Previously, only Standardbreds had been tested post-race since TCO2 testing was enacted in February 2005.

George Karam, president of the Saratoga Harness Horseperson's Association and second trainer for the John Stark Stable, described an epidemic of conflicting TCO2 tests that plagued Saratoga in summer 2007.

"We started getting a rash of positive TCO2 tests," Karam recalled. "It seemed they were coming in groups. We'd go five or six weeks with no high levels, and then there'd be two or three of them all at once—many coming from well-respected horsemen, who'd never had so much as a bute overage."

At Saratoga, both the state and the track perform pre-race, TCO2 testing.

"After some investigation and research, we found that the track was not using the proper collection protocol," Karam explained. "One of our horsemen—veterinarian, Dr. Harvey Stein, used to run the TCO2 tests at CalExpo before he relocated to New York. After he watched the way the test was performed at Saratoga, he spotted a discrepancy, and gave his professional opinion to track management. As a result, the racetrack changed their testing procedures."

The California Horse Racing Board (CHRB) adopted TCO2 tests in September 2005, with the University of California at Davis as the primary testing laboratory.

Karam said Saratoga had tested a horse, resulting in a high TCO2 level, and the state had tested the same horse, but came up with a normal reading.

"Saratoga tests the blood right there in the paddock, whereas the state sends their samples out to a separate lab," Karam noted. "Both samples were taken pre-race, with vastly different results. So it was apparent then that something was amiss.

"With Dr. Stein's help, we found out that the track was taking the blood, placing it in a tube and testing it, but they weren't using a heparin tube," Karam continued. "The heparin tube gives you a much more pure reading. It really wasn't the fault of anyone at the track, they just didn't know. As a result, a lot of innocent horse people were getting false positives and unjust charges."

A heparin tube is used almost exclusively for blood collection, anticoagulation, and biochemistry analysis. It is preferable because it can be used in a wide range of temperatures, without separation of proteins and enzymes. The heparin tube is critical to produce accurate test results. Standard collection tubes do not ensure accurate results.

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"Since Dr. Stein's testimony, and his recommendations being adopted by the tracks, there's been a much more reasonable amount of positives—only one since last year," Karam added. "We had been complaining that the testing wasn't accurate for about 21/2 years, because the positives would come when there were extremes in weather—either excessive heat or excessive cold.

"We've always been consistent in that we want a fair test and if someone is guilty, then so be it," Karam said. "Ultimately, we all want the same thing—fair racing for ourselves and the public. I'm confident now that our testing is accurate."