

Track safety has come a long way in a short period of time

# BEYOND SCRATCHING THE SURFACE

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RICK SAMUELS

BY FRANK ANGST

As New York-area racing fans awakened to pouring rain Friday, June 7, plenty of breakfast conversations turned to speculation of the day's races' being canceled and the dimming prospects for a fast track June 8, Belmont Stakes (gr. I) day.

But well before those conversations started, the New York Racing Association already had rolled out one of the most high-tech fleets of maintenance vehicles in the world. Each vehicle includes custom-made equipment designed for the challenges of each NYRA track, which at Belmont can include spring downpours and strong winds.

As the vehicles rolled over the massive Belmont dirt oval, which was scheduled to use both turns of its 1½-mile main track in the Brooklyn Handicap (gr. II) later that day and in the Belmont Stakes a day later, signals from space reached the global positioning satellite (GPS) equipment attached to each vehicle. The sensors provided real-time monitoring of speed and positioning—location to the foot—of each vehicle on Big Sandy, which on this morning resembled a lake more than a beach.

For more than a year before this rainy day, NYRA had been using the space-age information generated daily to build a maintenance record at its tracks. That



KEVIN THOMPSON

GPS technology is being used in track maintenance vehicles in New York

information, along with his experience and staff input, gave NYRA director of racing surfaces Glen Kozak the confidence to take action after the last June 6 race to prepare for the deluge. Soon, he would pay more attention to the weather report—updated every 15 minutes—and adjust plans as needed.

Kozak welcomes the wealth of information.

“There’s no doubt you go with your gut on a lot of this stuff, but it’s nice to be able to correlate numbers either to the way the track is reacting or to where you’d like to

get the track,” Kozak said.

While trucks and tractors rolling around Belmont may be a familiar sight, Racing Surfaces Testing Laboratory executive director Dr. Mick Peterson said there’s more than meets the eye. In recent years several tracks have added technology and information gathering to their surface maintenance.

“In New York we’re at the point now where we have this real-time tracking, weather stations providing updates. Then they have very complete data that they’re entering every day,” Peterson said. “They go out and measure points on the cushion every day—cushion-depth measurements—that goes in the database. They’re measuring moisture content and how that affects the toe going into the material.”

On Belmont day Kozak would face what Peterson calls one of the toughest decisions for track operators: when to make the transition from a sealed track to one that has been opened up with harrows. With reliable records adding to the foundation of experience, real-time information, and custom equipment, NYRA’s crew met the weekend’s challenge. The previous day, 65 horses completed their races without incident on a sloppy, sealed track. On Saturday 128 starters finished healthy on two yielding turf courses and a main track that started the day muddy and sealed and finished as a fast surface.

“All kinds of rumors were flying Fri-

day that we might cancel and what have you. But the track was prepped Thursday night, and although we had a lot of rain Friday, without wind, it wasn't a factor with the jockeys," Kozak said. "The track itself was in real good shape on Friday, and we were fortunate to have the rain end so that we could have a good track for Saturday's races."

## Cooperative Effort

Through groups and events such as the RSTL, the Track Superintendents' and Arena Managers' Field Day, the Welfare and Safety of the Racehorse Summit, as well as meetings at the Symposium on Racing & Gaming, track operators are pooling knowledge. Kozak said the biggest difference he's seen in track maintenance is the amount of quality information available. In early 2012 NYRA followed the leads of Breeders' Cup and Keeneland Race Course by adding GPS technology to its vehicles.

"Once you have that in place, you've got data you are able to go back and look at," Kozak said. "We always kept things manually written down. Now you can go back and see trends. You can go through it easily. You're not thumbing through 50 pages of notes to see how much rain we had. Now you go back to the date and you have information every 15 minutes on what the weather did. You know what the wind was. You know the track condition and how much water you put down, what equipment was out on the track, how fast the tractors were going.

"It's getting to pinpoint a lot more things, and they're accurate. That's the nice thing. Plus, you can explain to horse-men what you're doing and why you're doing it. You can show how the track responded the last time we received a half-inch of rain when it was sealed properly."

NYRA and other tracks are sharing that maintenance information with the non-profit RSTL, which was launched in the spring of 2009 and features wide industry representation. With about 60 tracks participating on some level, the RSTL uses state-of-the-art testing to provide 24 different soil measurements, including clay mineralogy and particle size. Tests on synthetic surfaces look at wax composition and types of fibers in the track. A machine that mimics a horse's hoof registers mechanical measurements on how the surface handles the pounding. Ground-penetrating radar can provide information on the base.

The RSTL has compiled test results for a materials database and is working on a maintenance database. Peterson said tracks were used to sending in soil samples for testing so that was a logical starting point for RSTL, but the maintenance

database may prove more beneficial.

"We're getting to the point where when they start talking about the track not being the way it used to be, we can now go back to the database and say, 'OK, well it's clear that you have less silica or more silica in your sand than you did before.'



RSTL's Dr. Mick Peterson

So the materials database is getting to the point now where we can troubleshoot things," Peterson said. "If we don't see something in the materials database, it usually goes back to those core maintenance procedures, things like when and how you add water."

Larry A. Swartzlander, director of operations for the California Authority of Racing Fairs, said the RSTL's scientific approach can be particularly beneficial for young superintendents.

"There's a way to take care of these surfaces, and the lab has done a good job of formalizing that," Swartzlander said. "It just puts structure and knowledge in place for people who may not have as much background. It's no longer a case of just running a harrow across the track and thinking that's all you do."

While the RSTL compiles and provides information, the superintendents' field day allows participants opportunity to hear about new developments and best practices. This year's three-day event will be conducted in August at Del Mar. NTRA Safety and Integrity Alliance executive director Mike Ziegler said it is one of the industry's most successful racetrack continuing education programs.

"It has provided an opportunity for these guys to talk and share best practices," Ziegler said. "It's a great opportunity

## EQUINE INJURY DATABASE

Befitting a sport that takes pride in the depth of information it captures, Thoroughbred racing has been collecting data in recent years to address safety issues.

In 2008 The Jockey Club launched the first national Equine Injury Database, which houses information on any racing injury that results in an equine death within 72 hours of a race. More than 90 racetracks in the U.S. and Canada participate.

While some tracks and states are compiling additional equine injury information—for instance injuries during training hours—the database has the advantage of generating statistics using the same parameters each year, which allows for ready comparison.

Dr. Tim Parkin, a veterinarian and epidemiologist who serves as EID consultant, said the 1.5 million starts in the database now allows the industry to start identifying in statistically meaningful ways the individual factors contributing to fatalities. In examining those starts, the EID said race-related fatal injuries have occurred at a rate of 1.92 per 1,000 starts from 2009-12. Parkin has further examined these numbers, noting different risk factors. In the area of racing surfaces the EID has determined the risk of fatality on synthetic surfaces was significantly lower than the risk of fatality on turf surfaces, which was significantly lower than the risk of fatality on dirt surfaces.

The Racing Surfaces Testing Laboratory is taking a similar approach in compiling information on the makeup of track surfaces and maintenance. It hopes to combine its information with data from the EID to improve safety in the sport.

NTRA Safety and Integrity Alliance executive director Mike Ziegler said progress in the past five years in compiling safety information and beginning to use that information to improve safety has been impressive.

"We went from past performances to now knowing the where, when, how, and who, whenever an injury occurs on the track," Ziegler said. "The long-term goal is to create tools to help identify at-risk situations."

The EID does not require public disclosure to participate, but several tracks and regulators are choosing to make the safety numbers public, readily available to participants and fans.

By Frank Angst

for communicating ideas.”

Kozak said hearing how other superintendents address problems is beneficial.

“Each track has its own component to deal with, whether it be shade or location. But you might find a problem that is consistent from one track to another,” Kozak said. “And you get to see how to respond to it; what type of equipment you use. Getting guys who have been in the industry a long time to share that information is probably the most important thing.”

Much of the track safety emphasis followed a difficult stretch of high-profile catastrophic breakdowns that included 2006 Kentucky Derby Presented by Yum! Brands (gr. I) winner Barbaro in the Preakness Stakes (gr. I), Pine Island in the 2006 Breeders’ Cup Distaff (gr. I), and Eight Belles after finishing second in the 2008 Derby.

Since that time, racing has followed

with increased industry safety efforts such as the NTRA Safety and Integrity Alliance and the Jockey Club Thoroughbred Safety Committee that have looked at a variety of safety issues, including racing surfaces, in an effort to make the sport safer. Coincidence or not, since the catastrophic breakdown of Eight Belles, racing’s biggest days have registered strong safety numbers. According to examination of past performance charts and follow-up information by *The Blood-Horse*, from 1,019 starters in Triple Crown and Breeders’ Cup races since that Derby, there have been one fatality and one career-ending injury.



The fatality occurred when Rough Sailing lost his footing, slipped, and fell during the 2010 Breeders’ Cup Juvenile Turf (gr. IIT) at Churchill Downs. The career-ending breakdown came in the 2011 Breeders’ Cup Marathon (gr. II) at Churchill when

Mike Ziegler, executive director of the NTRA Safety and Integrity Alliance

A. U. Miner broke down. While fractures in his left front sesamoid ended his racing career, he did recover after surgery and will enter stud next season.

But track superintendents involved on those big days say day-to-day safety is their goal.

“You want it to be a safe day and you want to give horsemen the best possible track,” Kozak said. “Of course, there’s more media attention on any of the marquee events, but we try and have things as safe as we possibly can every day.”

Swartzlander said the same type of commitment exists at California fair tracks.

“At the fairs we have all of the families out. It’s often their first trip to the races,” Swartzlander said. “You want to present a safe sporting event to them. Our tracks are very safe. We put a lot of money into them every year. I’d put our tracks up against anybody’s in the world.”

Safety efforts targeting surfaces are being carried out at a time when more emphasis has been placed on pre-race veterinary exams, adjusting medication rules and withdrawal times, and changing claiming rules and purse structures as the industry takes various actions to improve safety.

## SAFETY ISSUES HAD TURNING POINT IN 2006

For the Thoroughbred industry, improving equine and human health and safety has been an ongoing process, and one that will never end.

The first Welfare and Safety of the Horse Summit, organized by The Jockey Club through the Grayson-Jockey Club Research Foundation, in 2006 marked a turning point for the industry. Safety issues hadn’t been ignored, but the industry had no cohesive plan for research and implementation of policy.

The first summit dealt with on-track racehorse injuries and led to creation of the Equine Injury Database. Other issues discussed in 2006 such as shoeing, racing surfaces, and health and medical records also have been addressed in the past six years.

The summit, also held in 2008, 2010, and 2012, set the tone for heightened awareness of equine safety and

dovetailed with efforts by The Jockey Club Thoroughbred Safety Committee and a similar group under the Thoroughbred Owners and Breeders Association. About five months after the high-profile breakdown of the filly Eight Belles in the gallop-out after the 2008 Kentucky Derby Presented by Yum! Brands (gr. I), the National Thoroughbred Racing Association Safety and Integrity Alliance was created.

The alliance marked the industry’s first attempt at comprehensive safety reform involving racetracks. Though formed in part to improve public perception of Thoroughbred racing, the alliance was able to find enough core support from major racing associations to implement a voluntary accreditation program.

The code of standards, updated every year, includes many policies that stemmed from the biennial summit meet-

ings. Tracks must comply with the latest code of standards.

Though the alliance can’t mandate change, it can withhold accreditation should racetracks fail to meet specific criteria such as having pre-race veterinary examinations for all horses and participating in the injury database.

Alliance executive director Mike Ziegler said the program has been “highly collaborative” in that the code of standards is developed through policies deemed necessary by the industry. As of July 2013 there were 22 accredited racetracks the NTRA said account for about 70% of pari-mutuel handle in the United States.

Most major tracks in the country are accredited and have been re-accredited under an every-two-years review program. The NTRA said it expects several other tracks to undergo the accreditation ex-

amination this year.

“The best thing that has come out of this is that today’s best practices at some tracks will become tomorrow’s standards at other tracks,” Ziegler said. “I think there will always be the ability to step up (safety).”

The industry’s safety initiatives have produced an unexpected benefit: a heightened awareness of the need to care for Thoroughbreds that no longer can race and adoption of anti-horse slaughter policies by many racetracks.

Ziegler is also executive director of the Thoroughbred Aftercare Alliance, which was formed in February 2012 to facilitate accreditation of various racehorse retirement and second-career programs. In June of this year the TAA received 27 applications for accreditation from facilities in 13 states.

By Tom LaMarra

"I think historically the easiest area to 'blame' a catastrophic breakdown on was the racing surface," Ziegler said, "when actually it's multi-factorial and it can come down to so many different things that we, as an industry, should never get complacent and just say that it's one aspect's fault."

Peterson said the industry must continue to address all possible injury factors.

"If we can bring everybody up to the level of the current best tracks, it will be huge for the industry," Peterson said. "Saratoga has a great record. It's not the same every year. On average they have a great record, and in some years they have a fantastic record. If they can get to that fantastic record every year, they're at Hong Kong level in terms of injury rates."

"Then if you take one of the tracks that struggles with its catastrophic injury rate and we can get them up to Saratoga-in-a-bad-year level, and we get Saratoga up to a fantastic level, that would mean the dirt tracks can be in the same category as the synthetic tracks."

Peterson suspects the expense of synthetic tracks is curtailing industry interest in North America. They have registered strong safety numbers though, earning a significantly lower fatality rate when compared to dirt or turf. Perhaps the synthetic tracks are making traction with fans. Six of North America's eight tracks featuring synthetic surfaces registered strong gains in total handle last year as Arlington Park was up 12.5%; Del Mar, 8.8%; Keeneland, 9.8%; Presque Isle Downs, 14.1%; and Woodbine, 7.2%. This came in a year that North American tracks overall registered just 1.2% handle growth.

Safe tracks are taking pride in their accomplishments. In the past three full seasons at Presque Isle, the track has had less than one breakdown per 1,000 starts according to the Equine Injury Database. After a strong 2011 season of just 0.45 breakdowns per 1,000 starts, the track, which features a Tapeta Footings surface, said it will continue to emphasize safety as a way of drawing new fans.

"This is a family-friendly event," said general manager Mike Tamburelli in a statement. "We have a lot of children and young people who come here to watch the horses run. Unfortunately, it is part of life that accidents occur and horse racing is no exception, so we are very proud to offer the safest racing in the nation."

Efforts continue to make all surfaces as safe as possible. Peterson said catastrophic injury statistics have not shown dramatic improvement since the industry committed more resources to the problem, but he's confident injury numbers can be reduced.

"You have to take a really long view of this. You have to pick off issues at each track," Peterson said, explaining that even as safety is improved in one area, say racing surfaces, injury numbers can spike if another area regresses. "But if we keep improving, we'll get there. But it's not going to be next week." <sup>B</sup>



Dr. Mick Peterson, a professor at Colorado State University and co-founder of the Racing Surfaces Testing Laboratory with Dr. Wayne McIlwraith, has spent years developing tests and equipment that measure specific qualities in track surfaces with an end goal of improving safety.

In recent years Peterson has used his biomechanical track tester, which mimics the impact of a horse's foot on a surface, for research purposes. The data collected from the track tester have been important in furthering Peterson's studies.

"If we control certain things on the racetrack that are done every day, we can produce a consistent surface," said Peterson, who noted two track testers are being used in Europe and two in the United States. "It doesn't matter if it's a synthetic, dirt, or turf track. We've gotten to the point where we can tell (track superintendents), 'If you do this under these circumstances, you can keep a consistent racing surface.'"

Peterson is excited about a new initiative led by the New York Racing Association tracks where the RSTL is tracking their surface maintenance via GPS equipment on tractors and water trucks. Several cushion-depth measurements of the New York tracks are also being taken daily to detect surface grades.

"We're obtaining more information for track superintendents to make better decisions," said Peterson, adding the cushion-depth information could eventually be provided as a handicapping tool. "Eventually, (superintendents) will get text messages that tell them, 'You're down one inch of water.' It's still up to them to make the judgment to call the water truck driver and tell him to add an extra load. But this is augmenting their information and judgment with data."

Another recent development for the RSTL is the financial support Thoroughbred owner Bill Casner has pledged for the organization to track statistics that reflect the results of Peterson's racing surface studies.

"We can begin to take some of the tracking with the maintenance and Equine Injury Database, and when we merge those two sources of information, that's when we can say, 'This is what's right; this is what's better; this improves the safety of the surface,'" said Peterson.

"People can look at the industry as a whole and get discouraged, but we have made progress and highlighting some of that is critical, because we've got to keep going," he added.

Peterson said the RSTL has developed several new tests to further examine the safety of various surfaces. For example, Santa Anita Park, which replaced its synthetic Cushion Track surface with dirt in 2010, is supporting an initiative to study the durability of different types of sand, while Keeneland is focusing on an effort to examine how wax in the track's Polytrack synthetic surface can change over time.

"Individual tracks have been very good at championing each of these initiatives," said Peterson, whose future goals center on integrating information about track maintenance.

"We need to continue to give information to the superintendents that don't have it and make sure we capture the information from the superintendents that are doing it," he said. "It's grading, aerating, watering, and using the cultivator...all these little minutiae the superintendents make decisions on day in and day out. (Integrating information) is the critical part of the puzzle."

By Esther Marr