Widespread Drug Contamination Found at Racetracks

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Since racetrack environments contain residues of multiple drugs that can be detected by standard testing procedures, environmental drug contamination as an explanation for positive drug tests in racehorses needs to be considered like it currently is in human athletes, said researcher Steven A. Barker, BS, MS, PhD, Everett D. Besch Distinguished Professor of Veterinary Medicine at Louisiana State University's School of Veterinary Medicine.

"Tests currently used to detect concentrations of drugs in equine urine and/or blood samples are so sophisticated and sensitive that it is possible that the detected drugs could arise from contamination rather than due to systemic administration by a veterinarian," suggested Barker.

To test this theory, Barker collected samples at four Louisiana tracks from soil in stalls (including the regulated test barn stalls), on stall surfaces, barn dust, and lagoon waters on the backstretch. Researchers employed standard testing procedures to examine the samples for a large variety of drugs including non-steroidal anti-inflammatory drugs, caffeine, amphetamines, barbiturates, opiates, bronchodilators, and furosemide, among others.

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"Non-steroidal anti-inflammatory drugs including phenylbutazone, flunixin, and naproxen, were identified in all of the tested samples with the highest concentrations found in the samples collected from the stall floors," said Barker.

The second most commonly identified contaminant was caffeine.

"Since it is unlikely that horses are being directly administered caffeine, this finding simply highlights the fact that humans are inadvertently and unwittingly contaminating their horses' environment," said Barker.

Given that sub-nanogram quantities of drugs can currently be detected, it is important for regulatory personnel, veterinarians, trainers, and owners alike to garner an awareness of potential sources of contamination.

According to Barker, many states have instituted thresholds for non-steroidals; however, recent changes to the rules have made violation levels of flunixin (one of the most abundant contaminants) more susceptible to having arisen from contamination. The same is true of naproxen, which is now a "zero tolerance" substance in many states under the new "Model Rules."

"While we have yet to examine the degree to which environmental contamination contributes to positive test results in racehorses, it is certainly possible that environmental contamination is occurring. It is indistinguishable from late-term withdrawal residues, making the issue of drug testing more complex for the industry," suggested Barker.

The study, "Drug contamination of the equine racetrack environment: a preliminary examination," was published in the October 2008 edition of the *Journal of Veterinary Pharmacology and Therapeutics.*