

Lasix Is A “Failed Experiment”¹: Why the United States Should Follow Other Countries and Ban Lasix

Caitlyn Barnes*

INTRODUCTION

American horse racing began its storied history in New York when the first race was held in 1665, after which it grew in popularity until horse racing became a massive spectator sport.² Horse racing was once considered one of the most popular sports in the United States (U.S.), “but its popularity faded in the second half of the 20th century.”³ Later, in 1985, horse racing was regarded as the eighth favorite sport in America.⁴ By comparison, a Harris poll in 2016 found horse racing was the favorite sport of one percent of Americans, and it dropped to the thirteenth favorite sport in the country, behind track and field and swimming.⁵ The chairman of the Thoroughbred Owners of California, Mike Pegram, expressed his concern: “the Derby is bigger than ever,” but, “it [is] the everyday racing that [is] still struggling.”⁶

* Executive Editor, KY. J. OF EQUINE, AGRIC., & NAT. RESOURCES L., 2019-2020; B.A. Communications and Political Science, 2017, University of Kentucky; J.D. May 2020, University of Kentucky.

¹ Terry Conway, *The time has come to lose the Lasix*, DAILY LOCAL NEWS (July 19, 2008), https://www.dailylocal.com/news/the-time-has-come-to-lose-the-lasix/article_95178298-c24e-5b32-b6f2-df9fa9251a4e.html [<https://perma.cc/4NPX-HM2Y>].

² *American Horse Racing vs. the World: What's the Same, What's Different*, AMERICA'S BEST RACING (Dec. 14, 2017), <https://www.americasbestracing.net/the-sport/2017-american-horse-racing-vs-the-world-whats-the-same-whats-different> [<https://perma.cc/H25Y-CB9D>].

³ Reuters, *Horse Racing Fading in Revenue, Popularity*, NEWSWEEK (May 8, 2016, 4:26 PM), <https://www.newsweek.com/horse-racing-fading-revenue-popularity-457123> [<https://perma.cc/AD2A-847F>].

⁴ Bob Stamper, *What's Behind the Decline in Horse Racing's Popularity?*, WINCHESTER FEED COMPANY (Dec. 14, 2017), <https://www.winchesterfeed.com/whats-behind-the-decline-in-horse-racings-popularity/> [<https://perma.cc/B8TS-25NH>].

⁵ *Id.*; Ben Klayman, *A year after American Pharoah, U.S. horse racing faces uneasy future*, THOMAS REUTERS (May 7, 2016, 7:24 AM), <https://www.reuters.com/article/us-horseracing-kentucky-industry/a-year-after-american-pharoah-u-s-horse-racing-faces-uneasy-future-idUSKCN0XY08S> [<https://perma.cc/T8AU-3LKU>].

⁶ Reuters, *supra* note 3.

One reason the horse racing industry may be struggling is due to exercise-induced pulmonary hemorrhages (“EIPH”). EIPH affects the sport’s star athletes—the horses—and is a problem for the industry because it affects a horse’s chance to have a long and successful career.⁷ EIPH is a disorder characterized by the existence of blood in the airways of horses after exercise.⁸ Most thoroughbred and standardbred racehorses suffer from EIPH,⁹ and the industry has been looking for different ways to control its effects.¹⁰ One study that scoped Thoroughbreds and Standardbreds sixty to ninety minutes after racing found that fifty to sixty percent were “bleeders.”¹¹ Worse yet, ninety percent of horses scoped after three races bled at least once, according to studies.¹² This is to say that EIPH occurs in most, if not all, racehorses, but the severity of the bleed varies greatly between horses.¹³

Another reason EIPH poses a problem for the horse racing industry is the questionable use of horse racing drugs in the U.S., many of which are banned in other parts of the world and have harmed the popularity of the sport.¹⁴ One of these controversial drugs is furosemide, more commonly known as Lasix.¹⁵ Lasix attempts to limit or control bleeding caused by EIPH in racehorses.¹⁶ This drug is a diuretic that increases urine production and urinary frequency, reduces plasma volume, and is

⁷ Daniel Ross, *Lasix: The drug debate which is bleeding US horse racing dry*, THE GUARDIAN (Aug. 31, 2014, 7:00 AM), <https://www.theguardian.com/sport/2014/aug/31/lasix-drug-debate-bleeding-horse-racing> [https://perma.cc/YC7B-5CQN].

⁸ Renaud Léguillette et al., *Tracheobronchoscopic Assessment of Exercise-Induced Pulmonary Hemorrhage and Airway Inflammation in Barrel Racing Horses*, 30 J. VETERINARY INTERNAL MED. 1327 (2016).

⁹ *Id.*

¹⁰ *See Lasix and Blood Viscosity*, EQUINE HEALTH LABS, <https://www.equinehealthlabs.com/lasix-and-blood-viscosity> [https://perma.cc/G3T6-3ZSK].

¹¹ Ray Geor, *EIPH: Exercise-Induced Pulmonary Hemorrhage*, THE HORSE (Nov. 1, 2001), <https://thehorse.com/16537/eiph-exercise-induced-pulmonary-hemorrhage/> [https://perma.cc/4MXZ-C5VL].

¹² *Id.*

¹³ *Id.*

¹⁴ *See Stamper, supra note 4.*

¹⁵ Ross, *supra* note 7.

¹⁶ Kimberly Hickok, *The Science and Controversy Behind Horse Racing’s Most Popular Race Day Drug*, INSIDE SCI. (June 7, 2018, 3:30 PM), <https://www.insidescience.org/news/science-and-controversy-behind-horse-racing’s-most-popular-race-day-drug> [https://perma.cc/2WEU-LF79].

thought to lower blood pressure in the lungs.¹⁷ The reduction of blood pressure and plasma volume is believed by experts to prevent bleeding in racehorses.¹⁸

While Lasix may control bleeding to some extent, its true effectiveness is still unknown.¹⁹ Despite Lasix’s effect on the blood and cardiovascular system, studies on the drug differ in conclusions regarding its success at reducing bleeds.²⁰ Despite this lack of clarity, almost every horse in the U.S. receives Lasix, even on race days.²¹ Looking at race day programs proves this point; every horse that received Lasix before a race has an “L” listed next to its name.²²

The use of Lasix, especially on the day of a race, is highly contentious in the United States.²³ Some worry that banning Lasix will cause the end of the horse racing industry altogether.²⁴ Critics are concerned that a horse collapsing during a race due to overmedication will be the industry’s downfall.²⁵ In 1991, forty-five percent of racehorses in the U.S. used race-day injections, and by 2010, that number doubled to ninety-five percent of all U.S. racehorses receiving race-day injections.²⁶

¹⁷ EQUINE HEALTH LABS, *supra* note 10.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *See id.*

²¹ Mark Gaurino, *Kentucky Derby 2011: Drug use questions hang over US horse racing*, THE CHRISTIAN SCI. MONITOR (May 7, 2011), <https://www.csmonitor.com/USA/Sports/2011/0507/Kentucky-Derby-2011-Drug-use-questions-hang-over-US-horse-racing> [https://perma.cc/4PL8-SEYB].

²² *See* Sid Gustafson, *How to Play the Breeders’ Cup Lasix*, A VETERINARIAN’S TAKE BLOG (Nov. 2, 2017), https://sidgustafson.blogspot.com/2017/11/how-to-play-breeders-cup-lasix.html#W-M_sC_MzPB [https://perma.cc/JSH2-PE2N].

²³ *See generally* Tim Sullivan, *Churchill Downs and Keeneland join other horse racing tracks with Lasix ban*, COURIER J. (Apr. 18, 2019, 10:33 AM), <https://www.courier-journal.com/story/sports/2019/04/18/race-day-lasix-ban-gains-support-amid-horse-racing-deaths/3505879002/> [https://perma.cc/EVN2-MZSR] (stating that the decision to begin phasing out any race day use of Lasix at several major racetracks “finds interested parties in opposite corners”); *see also* Ross, *supra* note 7.

²⁴ Dale Romans, *Lasix benefits horses: ban would damage Kentucky racing*, LEXINGTON HERALD LEADER (June 12, 2012, 12:00 AM), <https://www.kentucky.com/opinion/op-ed/article44364129.html> [https://perma.cc/AWC9-5DGF].

²⁵ Jeff Barker, *Drug use may threaten horse racing's future*, BALTIMORE SUN (May 14, 2016, 4:38 PM), <https://www.baltimoresun.com/sports/horse-racing/bs-bz-horse-safety-20160514-story.html> [https://perma.cc/B8P3-F634].

²⁶ *Id.*

In sharp contrast, the United Kingdom, Japan, Australia, Germany, and most other developed countries do not allow Lasix to be used on horses the day of a race.²⁷ Germany has gone so far as to ban the use of Lasix during racehorse training entirely.²⁸ However, horse racing has not disappeared because of Germany's ban on Lasix,²⁹ and many think the ban will instead lead to a better horse racing breed.³⁰ On the other hand, the sufficiency of Lasix is questionable, and the need for it on a case-by-case basis is not always evident.³¹ There are also varying solutions available to solve the bleeding problem, such as changing a horses's training environment,³² or breeding horses that do not qualify as "bleeders" to eliminate the issue.³³

This Note will explain Lasix use in the U.S. and the effect it has on horses, how other countries restrict the use of Lasix, and what options other than Lasix are available to limit bleeding in horses. Part I will briefly discuss the history of horses in the horse racing industry, why horses bleed when they exercise, and the efforts made to limit bleeding. It will then examine what Lasix is and how it controls or limits bleeding caused by EIPH. Part II will then address U.S. regulations regarding Lasix and explain how horse trainers use Lasix not only during training but also a few hours prior to the race itself. This Part will compare the rules and regulations surrounding Lasix in other countries—such as the United Kingdom, Japan, Australia, and Germany—and the approaches these countries use to limit and control bleeding. Part III will argue that Lasix should be banned entirely and present reasons for a total ban, as well as alternative ways to limit bleeding in racehorses. By prohibiting the use of Lasix in the U.S., horse racing will not only join other countries in protecting the health of horses but will allow the sport to remain a vital and prosperous industry.

²⁷ Hickok, *supra* note 16.

²⁸ *Id.*

²⁹ See Brent Lambert, *A Look At The Global Popularity Of Horseracing*, FEEL GUIDE (Dec. 14, 2018), <https://www.feelguide.com/2018/12/14/a-look-at-the-global-popularity-of-horseracing/> [<https://perma.cc/2RHE-3ZXN>].

³⁰ Barker, *supra* note 25.

³¹ Ross, *supra* note 7.

³² *Id.*

³³ Hickok, *supra* note 16.

I. THE HISTORY OF THE UNITED STATES EQUINE
INDUSTRY, THE BLEEDING PROBLEM, AND THE LASIX
CONTROVERSY

As above-mentioned, horse racing in the U.S. dates back to 1665.³⁴ Although the sport has been around for about 350 years, there are still many unresolved issues and problems that remain. Part A of this section will provide a brief history of the horse racing industry in the United States. Part B will then discuss a significant problem within U.S. horse racing: “bleeding,” or exercise-induced pulmonary hemorrhages, a disorder experts view as a somewhat unpredictable condition.³⁵ Part C will then discuss the most common way the U.S. equine industry has resolved EIPH, specifically through the administration of Lasix.

A. The Horse Racing Industry in the United States

American horse racing is known to draw spectators in large numbers.³⁶ There are seven categories of horse racing in the U.S., but Thoroughbred Flat Horse Racing is considered the most popular.³⁷ Flat races are typically one and one-half miles long and run on either dirt, turf, or synthetic tracks.³⁸ Crowds gather in droves to watch races like the Kentucky Derby, the Preakness Stakes, and the Belmont Stakes—especially if a horse has an opportunity to secure the Triple Crown by winning all three races.³⁹ While Americans are very familiar with horse races like

³⁴ AMERICA’S BEST RACING, *supra* note 2.

³⁵ Natalie Voss, *Push Lasix To 24 Hours Pre-Race? Study Says ‘Hold Your Horses’*, PAULICK REPORT (Jan. 29, 2018, 3:19 PM), <https://www.paulickreport.com/horse-care-category/vet-topics/push-lasix-24-hours-pre-race-study-says-hold-horses/> [<https://perma.cc/AVJ9-H73L>].

³⁶ AMERICA’S BEST RACING, *supra* note 2.

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

the Kentucky Derby, there has been a decline in the everyday popularity of horseracing.⁴⁰

Many assert there is no need to disrupt a \$25 billion industry that has operated successfully for decades.⁴¹ The equine industry as a “whole generates approximately \$122 billion in total economic value” for the U.S.,⁴² with the racing sector of the equine industry making the largest impact on the national economy.⁴³ The equine sector supports more than 241,000 jobs and adds \$15.6 billion in value to the domestic economy.⁴⁴ These economic boosts add \$21 billion in value to the economy, and in total, create more than 231,000 jobs from both indirect and induced effects.”⁴⁵

Others posit placing the industry—or, at the very least, drug testing for horses—under the control of one person or agency would benefit the industry.⁴⁶ (It should be noted that a bill currently pending in the House would establish a “private, independent, self-regulatory, nonprofit corporation” and charge the horse racing industry with the “responsibility for developing and administering an anti-doping and medication control program” for horses defined by the act as “any Thoroughbred, Quarter, or Standardbred horses... that participates in covered horse races.”⁴⁷) Nearly every other country with a large horse racing industry has single person or agency that regulates the industry.⁴⁸ Although some functions of the American horse racing industry are overseen by the U.S. Jockey Club, “each state government has its own licensing rules and racing regulations.”⁴⁹ This lack of cohesion at the state level

⁴⁰ Reuters, *supra* note 3.

⁴¹ *Id.*

⁴² American Horse Council, *Equine Industry Survey: Working Horses Sector Adds \$1.9 Billion To U.S. Economy*, PAULICK REPORT (March 6, 2018, 3:41 PM), <https://www.paulickreport.com/horse-care-category/equine-industry-survey-working-horses-sector-adds-1-9-billion-u-s-economy/> [<https://perma.cc/U8FV-KZVJ>].

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *See* Reuters, *supra* note 3.

⁴⁷ Horse Racing Integrity Act of 2019, H.R.1754, 116th Cong. § 3(1), § 4(b)(1) (2019).

⁴⁸ *See generally*, AMERICA’S BEST RACING, *supra* note 2 (demonstrating the various methods of horse industry regulation); David McNeil, *Inside Japan’s racehorse breeding empire*, THE JAPAN TIMES (Aug. 20, 2016), <https://www.japantimes.co.jp/sports/2016/08/20/more-sports/horse-racing/inside-japans-racehorse-breeding-empire/#.XDU4GC3MzPB> [<https://perma.cc/8UAL-VKTL>].

⁴⁹ AMERICA’S BEST RACING, *supra* note 2.

can create confusion and a significant problem for those looking to compete in more than one state.

B. The Bleeding, or Exercise Induced Pulmonary Hemorrhages, Issue

At the forefront of American horse racing, Lasix proves to be a controversial treatment⁵⁰ used to control bleeds.⁵¹ Before the use of endoscopes in veterinary medicine, a horse was considered a bleeder only after blood was seen flowing from its nostrils after a race, due to a condition known as epistaxis.⁵² It was later discovered that epistaxis happens in only a limited percent of horses.⁵³ Bleeding is detected by scoping a horse after a race or intense exercise and is more accurately described as the “presence of blood in [a horse’s] windpipe or trachea after hard exercise.”⁵⁴

EIPH, more commonly referred to as “bleeding,” is the existence of blood in a horse’s airway after exercise.⁵⁵ A prevailing theory in the past decade of why horses bleed is that “some lung capillaries rupture under the high-pressure conditions that exist during heavy exercise.”⁵⁶ Most Thoroughbred and Standardbred racehorses suffer from EIPH.⁵⁷ Bleeding is also apparent across other high-performance equine athletes, “including cutting, reining, barrel, roping, polo, cross-country and 3-day event, show jumping, hunter-jumper, steeplechase, dressage, draft horses... [and] even sustained submaximal exercise induces EIPH.”⁵⁸ Experts view EIPH as a somewhat unpredictable condition because bleeding once does not automatically mean that the horse

⁵⁰ Ross, *supra* note 7.

⁵¹ EQUINE HEALTH LABS, *supra* note 10.

⁵² Geor, *supra* note 11.

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ Léguillette, *supra* note 8.

⁵⁶ Geor, *supra* note 11.

⁵⁷ EQUINE HEALTH LABS, *supra* note 10.

⁵⁸ Léguillette, *supra* note 8.

⁵⁸ David C Poole & Howard H Erickson, *Exercise-Induced Pulmonary Hemorrhage: Where are we now?*, 7 VETERINARY MED: RESEARCH AND REPORTS 133 (2016), <https://www.dovepress.com/exercise-induced-pulmonary-hemorrhage-where-are-we-now-peer-reviewed-fulltext-article-VMRR> [<https://perma.cc/QRH5-MXAT>].

will bleed every time it exercises or bleed enough to limit its performance.⁵⁹

However, EIPH is a significant problem for the horse racing industry.⁶⁰ The presence of EIPH can result in “decreased performance, lost training days, necessity for pre-race medication, banning of horses from racing, occasional death, and public perception.”⁶¹ EIPH also leads to exercise intolerance and “progressively damages a horse’s lungs in proportion to its lifetime starts and training history.”⁶² Most importantly to those in the horse racing industry, horses with either mild or no bleeding have four times higher of a chance to win races than their opponents with severe or moderate EIPH.⁶³

Horses are diagnosed as bleeders when a scope detects blood in a horse’s trachea.⁶⁴ Veterinarians then grade horses on a Grade 0–4 scale.⁶⁵ Grade 0 is the best outcome and means that there is no presence of blood in the trachea.⁶⁶ Grade 1 is when there is one or more specks of blood found in the trachea.⁶⁷ Grade 2 indicates there is either one long stream of blood or multiple streams of blood present that cover less than one-third of the trachea.⁶⁸ A horse characterized as Grade 3 will have multiple streams of blood covering more than one-third of the trachea.⁶⁹ A horse that qualifies as Grade 4 will have blood covering all of the trachea and may be evidenced by epistaxis.⁷⁰

A horse’s performance may be impacted depending on the grade it receives, but a horse diagnosed as a Grade 0 or 1 will not experience an impact on its performance.⁷¹ Grade 2 bleeders may

⁵⁹ Voss, *supra* note 35.

⁶⁰ Poole & Erikson, *supra* note 58.

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

⁶⁴ Ryan Goldberg, *Lasix: Demystifying the drug, methods of training without it*, DAILY RACING FORM (Nov. 17, 2011), <https://classic.drf.com/news/lasix-demystifying-drug-methods-training-without-it> [<https://perma.cc/R5DL-LK2Z>].

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ Goldberg, *supra* note 64.

⁷¹ *Id.*

or may not⁷² have altered performances, but Grade 3 horses’s performance may be reduced, and a Grade 4 horses will see a reduction in performance.⁷³

A 2005 study of 744 racehorses found 273 of the 415 horses that developed EIPH bled to a level one or less.⁷⁴ Those horses were more likely to finish in the top three positions in any given race, while horses that suffered a more severe degree of the disorder placed poorly.⁷⁵ This study shows that EIPH is a momentous dilemma in the horse racing industry because it affects a horse’s ability to be successful in races.

C. The Most Common Way Thought to Resolve the Bleeding Problem — Lasix

The horse industry has been searching for a way to cure the bleeding problem for decades.⁷⁶ In the 1940s, trainer Yorkie McLeod used a copper wire in an attempt to stop horses from bleeding.⁷⁷ McLeod tightly tied the copper wire around the base of the horse’s tail shortly before races and tight enough that the horse could feel it.⁷⁸ The copper wire was intended to act as a tourniquet, as if the “tail was the gateway to the lungs and held magical powers of coagulation.”⁷⁹ Unsurprisingly, it was not an effective way to stop bleeding.⁸⁰ However, a controversial drug, best known as Lasix, has been established as an effective way to control EIPH in horses.⁸¹

Lasix has been legal in every horse racing state since 1955, and in the 1970s, it was the first drug permitted to be administered on race days.⁸² Lasix’s therapeutic purpose is to control, limit, or stop

⁷² *Id.*

⁷³ *Id.*

⁷⁴ Ross, *supra* note 7. This study was conducted in Australia where horses cannot run on race-days on Lasix but can train on it. *Id.*

⁷⁵ *Id.*

⁷⁶ Goldberg, *supra* note 64.

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *See id.*

⁸¹ Joe Drape, *Lasix Reduces Bleeding in Horses’ Lung, Study Says*, N.Y. TIMES, (June 29, 2009), <https://www.nytimes.com/2009/06/30/sports/30racing.html> [<https://perma.cc/QG5G-6D6N>].

⁸² *Id.*; Goldberg, *supra* note 64.

bleeding in horses while they run or engage in other forms of exercise.⁸³ When a horse exercises after taking Lasix, blood pressure in the lungs is lowered, which reduces the level of stress on the pulmonary capillaries and, in turn, the severity of bleeding.⁸⁴ Lasix is also a diuretic.⁸⁵ It increases urine production and decreases blood volume and body weight.⁸⁶ Some argue that this enhances performance because the horse can lose around ten to twenty pounds, making the horse lighter and faster.⁸⁷

Studies have shown that Lasix has varying benefits.⁸⁸ While Lasix can diminish bleeding, there is ample evidence that shows it does not stop bleeding entirely.⁸⁹ A 1990 study conducted by the Jockey Club found thirty-two of fifty-two horses identified as bleeders still bled while running on Lasix.⁹⁰ The study also found that out of the 235 horses not characterized as bleeders, 62 bled while running on Lasix.⁹¹ The Breeders' Cup Ltd. and Hagyard Equine Medical Institute also conducted a study on the administration of Lasix in two-year-old horses on race day.⁹² In this study, the "horses sampled who had received the drug were found to have a higher incidence and severity of post-race bleeding, known as exercise-induced pulmonary hemorrhage, than the horses who did not receive the drug – a result some called 'beyond just chance.'"⁹³ The study also noted that some research showed Lasix to have minimal benefits, while others have found Lasix to

⁸³ Hickok, *supra* note 16.

⁸⁴ Geor, *supra* note 11.

⁸⁵ Hickok, *supra* note 16.

⁸⁶ Geor, *supra* note 11.

⁸⁷ Ross, *supra* note 7.

⁸⁸ Natalie Voss, *Breeders' Cup Lasix Study Yields 'Surprising' Results*, PAULICK REPORT (Dec. 16, 2013, 3:51 PM), <https://www.paulickreport.com/news/the-biz/breeders-cup-lasix-study-yields-surprising-results/> [<https://perma.cc/M7E7-S8GV>].

⁸⁹ Bill Finley, *Is Lasix all it's cracked up to be?*, ESPN, <http://www.espn.com/horse/columns/misc/1417524.html> [<https://perma.cc/L5H9-ARHG>].

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² Voss, *supra* note 88.

⁹³ *Id.*

have significant benefits.⁹⁴

II. LASIX IN NORTH AMERICA AS COMPARED TO OTHER COUNTRIES

There is a great deal of controversy surrounding EIPH and the use of Lasix, especially in North America.⁹⁵ In comparison, other countries do not seem to view Lasix as an issue. That is because every other country, and some major racetracks in the U.S.,⁹⁶ do not allow the administration of Lasix either on race day or at all.⁹⁷ In this section, Part A will discuss regulations regarding Lasix use in the U.S. Part B then will discuss the rules and regulations governing Lasix in other countries. These countries have strong equine and horse racing industries but do not allow Lasix to be administered on a race day or, in some cases, at any time. Part B will also examine why these countries do not use Lasix and how they handle the issue of bleeding or EIPH.

A. *Lasix in the United States*

1. *Rules and Regulations Regarding Lasix in the United States*

The U.S. Jockey Club oversees some aspects of the horse racing industry, but each state government has its own rules and regulations which govern licensing and racing.⁹⁸ Ninety-two percent of all horses that raced in the U.S. in 2001 ran on Lasix, and Kentucky and California had the highest percentage of horses running on Lasix.⁹⁹ Because each state has its own rules and regulations, the rules governing Lasix vary widely.¹⁰⁰ In 2001, New York allowed the administration of five to ten cc's of the drug, Illinois permitted three to five cc's, and Kentucky had no limit or

⁹⁴ *Id.*

⁹⁵ *See, e.g., id.;* Finley, *supra* note 89.

⁹⁶ Sullivan, *supra* note 23.

⁹⁷ *See* Hickok, *supra* note 16.

⁹⁸ AMERICAS BEST RACING, *supra* note 2.

⁹⁹ Finley, *supra* note 89.

¹⁰⁰ *Id.*

minimum regarding the dosage.¹⁰¹ Such regulatory variation among the states puts a strain on the horse industry; if a horse goes from Kentucky to New York, it is difficult to know how much Lasix is in the horse's system or how effective the dose will be on that day.¹⁰²

In Kentucky, no more than 500 milligrams of Lasix may be administered, and the shot must be administered at least four hours prior to the race.¹⁰³ In 2012, Kentucky's Governor, Steve Beshear, implemented a rule that only Kentucky Horse Racing Commission's veterinarians would be allowed to administer a dose of Lasix.¹⁰⁴ This rule made Kentucky the fourth state to mandate state veterinarians to administer the shot, rather than private veterinarians.¹⁰⁵ The rule hoped to increase the public's confidence in the sport and ensure that Lasix is the only drug given to a horse before a race.¹⁰⁶

While the new rule in Kentucky was intended to increase people's confidence in the sport, this regulation has caused problems within the state.¹⁰⁷ The first two incidents occurred at Keeneland; one horse was not supposed to receive a Lasix shot, yet it did.¹⁰⁸ On a different day, a horse was not given medication when it was supposed to get one.¹⁰⁹ At Churchill Downs, a horse scratched after receiving two shots of Lasix from two different state veterinarians.¹¹⁰ Again at Churchill Downs, a horse scratched after it received two shots of Lasix from the same state veterinarian.¹¹¹ The second shot, in the latter instance, also

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ 810 KY. ADMIN. REGS. 1:018 (2018).

¹⁰⁴ Gregory A. Hall, *Kentucky enacts Lasix rule as debate continues*, USA TODAY (Oct. 4, 2012, 6:39 PM), <https://www.usatoday.com/story/sports/horseracing/2012/10/04/kentucky-enacts-lasix-rule-in-horse-racing/1614039/> [<https://perma.cc/MD3E-Q3CY>].

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

¹⁰⁷ See Alicia Wincze Hughes, *New Kentucky rule for racehorses' Lasix shots under fire in wake of mistakes*, LEXINGTON HERALD LEADER (Nov. 18, 2012, 12:00 AM), <https://www.kentucky.com/sports/horses/keeneland/article44390049.html> [<https://perma.cc/N88K-LH6B>].

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ *Id.*

violated the rule that Lasix must be administered at least four hours before a race, as it was administered to the horse just three hours before the race.¹¹²

In response to the deaths of twenty-three horses in Santa Anita since December 26, 2018, most major U.S. racetracks formed a coalition and announced that Lasix would be phased out from the list of permissible race-day drugs.¹¹³ Beginning in 2020, Churchill Downs, Keeneland, and other prominent tracks race will not allow two-year-old horses to race while on Lasix; by 2021, this ban will apply to stakes races, as well.¹¹⁴ While this is a step in the right direction for the U.S., Lasix must be banned entirely to improve the horseracing industry and safety for the horses.

2. *Reasons Horsemen and Women Support Lasix*

Proponents of Lasix worry banning the drug is the first step toward the end of the horse racing industry.¹¹⁵ Equestrians and veterinarians, however, view banning Lasix as “pro-horse” and consider it a “positive in equine health and welfare.”¹¹⁶ The American Association of Equine Practitioners believes horses suffering from EIPH must receive appropriate medical attention, and Lasix is still the most effective medication to treat EIPH.¹¹⁷

One study looked at the effectiveness of Lasix on a racehorse’s performance in the U.S. and Canada.¹¹⁸ This study analyzed the racing records of over 22,000 horses and discovered about seventy-four percent of horses observed competed on Lasix.¹¹⁹ Those horses “raced faster, earned more money, and were more likely to win or finish in the top three positions than horses

¹¹² *Id.*

¹¹³ Sullivan, *supra* note 23.

¹¹⁴ *Id.*

¹¹⁵ See Romans, *supra* note 24.

¹¹⁶ Frank Angst, *Regulatory Changes Not Expected Following Lasix Studies*, BLOOD HORSE (Feb. 1, 2018), <https://www.bloodhorse.com/horse-racing/articles/225908/regulatory-changes-not-expected-following-lasix-studies> [<https://perma.cc/4DNN-KRAE>].

¹¹⁷ Kenneth Marcella, *Furosemide facts and fiction*, DVM360 MAGAZINE (Mar. 1, 2013), <http://veterinarynews.dvm360.com/furosemide-facts-and-fiction> [<https://perma.cc/4WGH-V5A6>].

¹¹⁸ *Id.*

¹¹⁹ *Id.*

that did not.”¹²⁰ In a six-furlong race, a horse on Lasix has an estimated three to 5.5 length advantage over a horse that is not racing on Lasix.¹²¹ The roots of this winning advantage were still unknown at the end of this study,¹²² though it could be weight loss from the diuretic properties of Lasix, or from an increase in airflow due to the lack of blood in the airways.¹²³ One thing is clear—Lasix is significantly associated with better performance in racehorses.¹²⁴

3. *Reasons People Oppose Lasix*

Opponents of Lasix are concerned that the collapse of an overmedicated horse during a race will bring the horse racing industry to its knees.¹²⁵ Many believe trainers are no longer using Lasix to control bleeding, but rather to ensure they are competing on an equal playing field.¹²⁶ This change in use is problematic because there is strong evidence that Lasix is detrimental to the long-term health of horses who take it.¹²⁷ In 1970, before nearly every horse was running on Lasix, a horse’s average number of starts per year was 10.22.¹²⁸ Now, a horse’s average number of starts is:

down to an alarmingly low 6.31. During that same period, the average field size has fallen from 8.62 to 8.17. It can’t be a coincidence that the introduction of Lasix came at precisely the time a trend began whereby horses make fewer and fewer starts each year. It appears that Lasix has done the exact opposite of what its proponents said it would do...

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² *Id.*

¹²³ Marcella, *supra* note 117.

¹²⁴ *Id.*

¹²⁵ See Barker, *supra* note 25.

¹²⁶ Bill Finley, *Lasix also one of the drugs that has no place in the game*, ESPN (Apr. 1, 2008), http://www.espn.com/sports/horse/columns/story?columnist=finley_bill&id=3324301 [<https://perma.cc/TT7V-E66X>].

¹²⁷ See *id.*

¹²⁸ *Id.*

Horses that have to rely on a drug to get through their race day don't figure to last as long as the ones that get by on mere hay, oats, and water.¹²⁹

Critics in the horse racing industry believe this illustrates Lasix does not resolve the bleeding problem or allow horses to train longer.¹³⁰

Opponents also argue that Lasix is used to prevent the detection of other illegal drugs.¹³¹ This rationale is why Olympic athletes are not allowed to use Lasix while competing.¹³² Louis Romanet, the chairman of the International Federation of Horseracing Authorities (“IFHA”), gave an address regarding Lasix at the Jockey Club Round Table in 2009.¹³³ He argued Lasix is unnecessary, unethical, and has the reprehensible result of diluting urine samples.¹³⁴ Further, Romanet claimed Lasix use makes it possible to conceal other drugs, which would make it more challenging to implement the IFHA's goals of international testing thresholds.¹³⁵ Romanet then called into question how the U.S. could continue to “recognize...world [champion] horses” that run on medication, and reminded the audience that no other sport would tolerate this situation.¹³⁶

The most persuasive argument for those opposed to Lasix is that almost every other country bans the use of Lasix on race day, and some even go so far as to ban the use of Lasix entirely.¹³⁷ Trainers in the U.S. have also maintained success in races that do not allow for pre-race Lasix.¹³⁸ For example, fifteen U.S.-based horses competed in the Dubai World Cup races in 2008, all of which

¹²⁹ *Id.*

¹³⁰ *Id.*

¹³¹ *See id.*

¹³² Finley, *supra* note 126.

¹³³ Steven Crist, *More questions than answers in Lasix debate*, DAILY RACING FORM (Aug. 28, 2009, 12:00 AM), <https://classic.drf.com/news/more-questions-answers-lasix-debate> [<https://perma.cc/ZK3W-4PDB>].

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *See* Hickok, *supra* note 16.

¹³⁸ *See* Finley, *supra* note 126.

ran on Lasix in the U.S., but did not run on the diuretic in those races.¹³⁹ Most would assume if the horses truly needed Lasix, they would not have been successful in those races, but that was not the case.¹⁴⁰ One of the horses even won the Dubai World Cup, which shows horses can race and succeed without Lasix.¹⁴¹

4. *Lasix in Other Countries*

(a) *Racing and Lasix in the United Kingdom*

Horse racing has the most established history in the United Kingdom (“U.K” or “England” or “Britain”); however, it was not until the 17th Century that horse racing became established in the country.¹⁴² In 1750, some of the horse racing industry’s most elite met and formed the “Jockey Club” to supervise and govern horseracing in England.¹⁴³ The Jockey Club still regulates horse racing,¹⁴⁴ but the industry is now, and for the last 250 years has been, controlled by the British Horseracing Authority (“BHA”).¹⁴⁵ A spokesperson for the BHA stated Britain has world-renowned standards in medication control, which is how they protect the sport’s image and status.¹⁴⁶

In the U.K, the general rule is that any medication or supplements, including herbal substances, are banned if the medication has ever or even claims to affect horses.¹⁴⁷ Lasix is prohibited as a race day medication but is allowed for use during training.¹⁴⁸ The BHA recently amplified its anti-doping regime by

¹³⁹ *Id.*

¹⁴⁰ *See id.*

¹⁴¹ *Id.*

¹⁴² AMERICA’S BEST RACING, *supra* note 2.

¹⁴³ *Horse Racing Industry*, EQUINE WORLD UK, http://www.equine-world.co.uk/horse_sports/horse_racing_history.asp [<https://perma.cc/K9JS-FTVF>].

¹⁴⁴ *Id.*

¹⁴⁵ AMERICA’S BEST RACING, *supra* note 2.

¹⁴⁶ Chris Cook, *BHA resists call to ban British trainers from using Lasix abroad*, THE GUARDIAN (Nov. 4, 2015, 1:25 PM), <https://www.theguardian.com/sport/2015/nov/04/british-horseracing-authority-resists-call-to-ban-trainers-using-lasix-abroad> [<https://perma.cc/L3VG-PB86>].

¹⁴⁷ *Prohibited Substances*, BRITISH HORSERACING AUTHORITY, <https://www.britishhorseracing.com/regulation/anti-doping-medication-control/prohibited-substances/> [<https://perma.cc/B4MS-8U3F>].

¹⁴⁸ Hickok, *supra* note 16.

increasing its testing procedures.¹⁴⁹ Previously, the winner of the race was automatically drug tested, and other horses may have been selected for testing.¹⁵⁰ Now, however, the BHA is automatically testing the first four finishers in all group races on flat and all grade one jump races.¹⁵¹ This policy change represents a “significant escalation of British racing’s war on drugs.”¹⁵²

One of the reasons the U.K. banned Lasix is because it could conceal other drugs in the horse’s system.¹⁵³ British trainers are allowed to run their horses on Lasix if they are competing in the United States, but the drug must clear the horse’s system before it races in Britain.¹⁵⁴ The BHA considered prohibiting British trainers from running horses on Lasix in the United States but ultimately decided that rule would exceed their authority.¹⁵⁵

Even though Lasix is allowed, trainers have varying beliefs on whether to run their horses on Lasix while competing in the United States.¹⁵⁶ For example, John Gosden did not race his horse on Lasix in the U.S. and came in second place at the Breeder’s Cup Turf.¹⁵⁷ Gosden does not believe BHA can regulate what trainers run their horses on in another country, but he made his feelings clear regarding Lasix when he asked, “[i]s there any other sporting, competitive activity in the world that permits the athletes involved to be injected with strong medication on the day before and on the day of the race?”¹⁵⁸ Other trainers decided it was necessary to run their horses on Lasix when competing in the United States because they would feel “aggrieved” if they barely lost to a horse that was competing on the drug.¹⁵⁹ This opinion

¹⁴⁹ Tom Kerr, *BHA ramps up anti-doping regime with increased testing in Pattern races*: *Racing Post* 11/27/18, RACING MEDICATION & TESTING CONSORTIUM (Nov. 27, 2018), <https://rmtcnet.com/bha-ramps-up-anti-doping-regime-with-increased-testing-in-pattern-races-racing-post-11-27-18/> [<https://perma.cc/S9DR-CQS5>].

¹⁵⁰ *Id.*

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ *What is the Lasix Controversy in Horse Racing?*, BOOKIEPLANET, <http://www.bookieplanet.com/online-betting-horse-racing/what-lasix-controversy-horse-racing> [<https://perma.cc/CJN4-Q5CF>].

¹⁵⁴ Cook, *supra* note 146.

¹⁵⁵ *Id.*

¹⁵⁶ *See id.*

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

further strengthens opponents's argument that Lasix levels the playing field rather than controls EIPH.¹⁶⁰

Proponents of Lasix point to the argument of a U.K. trainer, Nicky Henderson, who states that "plenty of trainers" use the medication, proving that other racing jurisdictions are dealing with the same problem.¹⁶¹ One of the U.K.'s leading trainers, Alan King, said he does not use Lasix in his training program.¹⁶² King asserted he never felt Lasix was necessary but also noted that bleeding might not be as much of a problem in the United Kingdom.¹⁶³ If a horse is a bad bleeder, a trainer may try to dehydrate the horse by not giving the horse water on the morning of the race.¹⁶⁴ Of the horses King trains, only ten percent are bleeders, and most of those are not bad bleeders, meaning ninety percent of King's horses do not have a bleeding issue.¹⁶⁵

Mark Johnston, a top racehorse conditioner in the U.K., will not touch Lasix regardless of what country the horse is running in because he has no personal desire to race horses on Lasix.¹⁶⁶ An experienced veterinarian once told Johnston that running without Lasix was like "running with your hands tied behind your back," but Johnston disagrees with this statement.¹⁶⁷ In 2009, Johnston took his horse to the Canadian International and "on an eight or ten-race card," only his horse, and one other were not racing on Lasix.¹⁶⁸ Johnston's horse, Jukebox Jury, came in second, and the other horse not on Lasix came in first.¹⁶⁹ The results illustrate that a horse can succeed in races without running on Lasix. If a horse does bleed, Johnston puts it on a short round of antibiotics because he believes the bleeding an infection in the lungs causes the

¹⁶⁰ See Cook, *supra* note 146.

¹⁶¹ Ross, *supra* note 7.

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ Natalie Voss, 'No Desire To Run On Lasix': British Trainers Rely On Minimalistic Medication Regimens, PAULICK REPORT (Dec. 14, 2017, 5:01 PM), <https://www.paulickreport.com/news/ray-s-paddock/no-desire-run-lasix-british-trainers-rely-minimalistic-medication-regimens/> [<https://perma.cc/BFC5-ZATT>].

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

bleeding, which demonstrates another way to handle bleeding, and these alternatives do not seem to affect a horse’s success.¹⁷⁰

Jeremy Brummitt, a bloodstock advisor and pinhooker, believes horses given Lasix during workouts, but not on race day, will need more time to prepare for races because the medication must clear their system.¹⁷¹ A horse would need about three weeks between the last administration of Lasix and the day of its race for the drug to clear its system.¹⁷² This process would mean that a horse would only race around three to four times a season.¹⁷³ If pre-race Lasix was prohibited, it would likely be in the best interest of the horses and trainers to not use Lasix at all.

B. Racing and Lasix in Australia and Japan

Horse racing was established in Australia by British colonists, where it quickly became a popular local sport.¹⁷⁴ Originally, Australian horse races were run by workhorses because there were no Thoroughbreds in the country.¹⁷⁵ Today, breeders from Australia produce topnotch Thoroughbred horses.¹⁷⁶ In Australia, “[r]acing is governed by several bodies, including the Australian Racing Board.”¹⁷⁷ Lasix is not allowed to be administered on a horse’s race day anywhere in Australia but is permissible in horse training.¹⁷⁸

In 2005, fifty-five percent of horses studied in Australia had some indication of EIPH.¹⁷⁹ Of the horses scoped after “three successive strenuous workouts,” almost all presented some evidence of bleeding by the end of the third workout.¹⁸⁰ In Australia, a first-time bleeder receives an automatic three-month

¹⁷⁰ *Id.*

¹⁷¹ *Id.*

¹⁷² Voss, *supra* note 166.

¹⁷³ *Id.*

¹⁷⁴ AMERICA’S BEST RACING, *supra* note 2.

¹⁷⁵ Matthew Bevan, *Melbourne Cup: Australia’s obsession with horseracing has rich and colourful history*, ABC (Nov. 2, 2015, 10:34 PM), <https://www.abc.net.au/news/2015-11-03/melbourne-cup-history-of-australian-horseracing/6908252> [<https://perma.cc/T2YN-WGN6>].

¹⁷⁶ AMERICA’S BEST RACING, *supra* note 2.

¹⁷⁷ *Id.*

¹⁷⁸ Hickok, *supra* note 16.

¹⁷⁹ Marcella, *supra* note 117.

¹⁸⁰ *Id.*

suspension, and a second incident results in obligatory retirement.¹⁸¹

During the 1990s in Japan, nearly 14 million people went to the racetrack.¹⁸² Currently, that number has dropped by more than half.¹⁸³ The industry does, however, produce more than \$25 billion through betting, which is roughly twice the amount spent in the United States.¹⁸⁴ The Japan Racing Association (“JRA”) strictly regulates the horse racing industry.¹⁸⁵ The JRA is a public company that acts “under the authority of the Ministry of Agriculture, Forestry, and Fisheries.”¹⁸⁶ The JRA sends 10 percent of its annual revenue, which is about \$2.8 billion, back to the government, where the money goes towards breeding and public and social welfare.¹⁸⁷ Japan does not allow for horses to compete on drugs that would “temporarily stimulate or depress race performance,” and Lasix is one of these banned drugs.¹⁸⁸ In Japan, a first-time bleeder automatically receives a one-month suspension, a second-time bleeder receives an automatic two-month suspension, and a third incident results in a three-month suspension.¹⁸⁹

Australia and Japan do not allow Lasix administration pre-race day, although it is permissible for training use. While neither country allows the drug, they have different methods of handling horses that bleed. Both require horses to abstain from racing for a set amount of time if the horse has repeat instances of bleeding. These regulations insinuate a horse’s health is still a top concern in these countries by not allowing a horse to harm itself by continuing to run if it has bleeding problems. Suspending or

¹⁸¹ Shane Anderson, *The great Lasix debate - How well is it understood?*, RACING.COM (Jan. 8, 2015), <https://www.racing.com/news/2015-01-08/the-great-lasix-debate---how-well-is-it-understood> [<https://perma.cc/B4JT-8Q4Q>].

¹⁸² David McNeil, *Inside Japan's racehorse breeding empire*, THE JAPAN TIMES (Aug. 20, 2016), <https://www.japantimes.co.jp/sports/2016/08/20/more-sports/horse-racing/inside-japans-racehorse-breeding-empire/#.XDU4GC3MzPB> [<https://perma.cc/8UAL-VKTL>].

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

¹⁸⁶ *Id.*

¹⁸⁷ *Id.*

¹⁸⁸ *Medication and Drugs*, HORSE RACING IN JAPAN (Feb. 2018), <http://japanracing.jp/en/horsemen/rule/medication.html> [<https://perma.cc/SVC9-KHHE>].

¹⁸⁹ Anderson, *supra* note 181.

banning bleeders from running illustrates other countries are taking the bleeding issue more seriously. It also indicates they are trying to reduce the likelihood of passing the bleeding gene. A horse forced to retire from racing due to this trait would not likely be bred since an owner would not want a horse’s career cut short due to a bleeding trait.

C. Racing and Lasix in Germany

Around 150 years after the formation of the English model of horse racing, the first horse race in Germany took place in August 1822.¹⁹⁰ Germany is home to the most internationally renowned racetrack located in Iffezheim.¹⁹¹ Today, Germany’s professionally organized sport has around fifty race tracks where countless races occur each year.¹⁹² Horse racing has become one of the most popular sports in Germany,¹⁹³ although generally, not as popular as in England or France.¹⁹⁴

Germany does not allow the use of Lasix regardless of whether it is administered pre-race or only in training.¹⁹⁵ Moreover, Germany will not allow a horse to register in their studbook if the horse has any usage history of Lasix.¹⁹⁶ Owners also may not breed horses that are known bleeders.¹⁹⁷ Germany is known as having a “no-nonsense policy when it comes to breeding

¹⁹⁰ Sabine Kaufmann, *Geschichte des Galopprennsports*, PLANET WISSEN (June 19, 2018), <https://www.planet-wissen.de/gesellschaft/sport/reiten/pwiegeschichtedesgalopprennsports100.html> [https://perma.cc/RJ3H-PJ56].

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ *Die Geschichte der Pferderennen im Überblick [The History of Horse Racing at a Glance]*, PFERDERENNEN-WETTEN.NET, <http://www.pferderennen-wetten.net/pferderennen-geschichte/> [https://perma.cc/7N9V-NYTG].

¹⁹⁴ *Deutschland [Germany]*, PFERDERENNEN-INTERNATIONAL, <http://www.pferderennen-international.de/pferde-deutschland.php> [https://perma.cc/EYU5-T8PS].

¹⁹⁵ Hickok, *supra* note 16; *See also Welt Anti-Doping Code International Standard*, NATIONALE ANTI DOPING AGENTUR DEUTSCHLAND (Jan. 1, 2018), https://www.wada-ama.org/sites/default/files/resources/files/2018_prohibited_list_german.pdf [https://perma.cc/XHM5-ULYZ].

¹⁹⁶ Harriet Fuller, *Ban Lasix or Racing Can Never be Totally Clean*, OVERTIME (Oct. 31, 2014), <http://www.overtimeonline.co.uk/ban-lasix-or-racing-can-never-be-totally-clean/> [https://perma.cc/NAM5-UDCL].

¹⁹⁷ Hickok, *supra* note 16.

stock.”¹⁹⁸ Under this policy, “a stallion that has raced on medication is allowed to produce registered foals, but those offspring are ineligible to earn breeders’ premiums that account for 24 [percent] of Germany’s purses for [two-year-olds] and [three-year-olds] and 20 [percent] for older horses.¹⁹⁹ Racing on medication [in Germany] thus eliminates a stallion’s commercial appeal.”²⁰⁰

III. BANNING LASIX AND ALTERNATIVE WAYS TO CONTROL BLEEDING

The U.S. should ban the use of Lasix for both pre-race administration and at any other time, including training. Those opposed to a Lasix ban are afraid that it will lead to a collapse of the horse racing industry, which is an appropriate concern because chronic diuretic use can cause a higher risk of a horse breaking down.²⁰¹ There is a real need to control or limit bleeding in horses, and while Lasix does help manage this problem, there are many alternate options to eliminate bleeding. Germany exemplifies the best way to reduce bleeding by not breeding horses categorized as bleeders.²⁰² Although it would take time and would require a major change in the horse racing industry, a Lasix ban would lead to a better breed of racehorses.²⁰³ In the meantime, a change in a horse’s training environment and the use of nasal strips could help control bleeding in horses.²⁰⁴

A. *Reasons to Eliminate Lasix*

Sid Gustafson, an equine veterinarian and expert in the field with over thirty years of experience, stated, “science and

¹⁹⁸ Eric Mitchell, *Breed Integrity*, BLOOD HORSE (June 21, 2011, 9:46 AM), <http://cs.bloodhorse.com/blogs/wgoh/archive/2011/06/21/breed-integrity-by-eric-mitchell.aspx> [<https://perma.cc/4XSU-SEHJ>].

¹⁹⁹ *Id.*

²⁰⁰ *Id.*

²⁰¹ Sid Gustafson, *Goodbye Lasix, and Good Riddance*, N.Y. TIMES (Oct. 28, 2011, 9:14 AM), <https://therail.blogs.nytimes.com/2011/10/28/goodbye-lasix-and-good-riddance/> [<https://perma.cc/6EPB-FFX9>].

²⁰² Hickok, *supra* note 16.

²⁰³ Barker, *supra* note 25.

²⁰⁴ Hickok, *supra* note 16.

research continue to reveal and demonstrate that race day drugs have not been helpful to the safety of the sport.”²⁰⁵ Dr. Gustafson believes that pre-race Lasix allows for many other medications and drugs to be given to horses.²⁰⁶ Additionally, Lasix jurisdictions have more horse breakdowns than jurisdictions that do not allow the drug.²⁰⁷ A breakdown refers to when a horse’s leg breaks under the forces the horse exerts on its body; this injury can often be fatal.²⁰⁸ While Lasix does prevent pulmonary hemorrhages, it has many other negative effects on the body.²⁰⁹

Lasix changes the electrolyte balance in a horse, making it susceptible to heatstroke and metabolic dysfunction.²¹⁰ Chronic use, which is what most horses in the United States would fall under, affects locomotory abilities required for horses to run soundly.²¹¹ This interference happens because the diuretic alters “cardiac function, muscle function, nerve function, and most every other physiologic function.”²¹² These symptoms illustrate that diuretics weaken horses, making them more susceptible to breakdowns.²¹³ Therefore, eliminating Lasix would lead to greater “endurance, durability, [and] soundness” in horses as well as safer racing.²¹⁴

One could assume that since many other countries, such as the U.K., Japan, and Australia, allow Lasix use during training, the U.S. should just ban pre-race Lasix. Such a tactic, however, would not be a successful way to control bleeding or eliminate health concerns for horses. One study found that administering Lasix twenty-four hours before a race was not as effective at controlling bleeding as administering the drug four hours before the race.²¹⁵ This data indicates that banning pre-race Lasix would

²⁰⁵ Gustafson, *supra* note 201.

²⁰⁶ *Id.*

²⁰⁷ *Id.*

²⁰⁸ Lisa Wade and Gwen Sharp, *On Horse Racing, “Break Downs,” and Our Humanity*, THE SOCIETY PAGES (June 7, 2013), <https://thesocietypages.org/socimages/2013/06/07/on-horse-racing-break-downs-and-our-humanity/> [<https://perma.cc/JK8D-9EXV>].

²⁰⁹ Gustafson, *supra* note 201.

²¹⁰ *Id.*

²¹¹ *Id.*

²¹² *Id.*

²¹³ *Id.*

²¹⁴ *Id.*

²¹⁵ Voss, *supra* note 35.

not be as successful at controlling bleeding. A horse would still suffer from bleeding during a race because the medicine is no longer as effective, and the underlying issue of the bleeding trait has not been addressed.

Banning pre-race Lasix would also not eliminate concerns for the horse's health and safety caused by the diuretic. A study found that Lasix caused a significant increase in salt and water intake.²¹⁶ This study analyzed six horses, and despite the horse's intake of sodium chloride increasing, four of the horses expelled more sodium in their urine than they took in.²¹⁷ This study shows the horses were unable to properly correct their sodium balance back to normal just by licking a salt block, which is what horses consume after a race where they received Lasix.²¹⁸ If a horse could not make up their salt loss, it would lead to poor performance.²¹⁹ Therefore, simply banning pre-race Lasix does not resolve all horse-related health concerns.

Also, horses have had fewer starts in races since the introduction of Lasix.²²⁰ The average number of horse starts has dropped from 10.22 to 6.31.²²¹ Joe Appelbaum, President of the New York Thoroughbred Horsemen, said:

Increasing the number of starts our horses make would do more to benefit horse racing than anything I can think of. Owners would receive more utility from their purchases, trainers would have additional chances to earn, tracks would fill races

²¹⁶ Denise Steffanus, *Study Suggests Furosemide Creates Lingering Sodium Imbalance Horses Struggle To Correct*, PAULICK REPORT (Nov. 14, 2017, 1:14 PM), <https://www.paulickreport.com/horse-care-category/vet-topics/study-suggests-furosemide-creates-lingering-sodium-imbalance-horses-struggle-correct/> [https://perma.cc/H868-THEL].

²¹⁷ *Id.*

²¹⁸ *Id.*

²¹⁹ *Id.*

²²⁰ Conway, *supra* note 1.

²²¹ *Id.*

easier, bettors would have more options - it's really a virtuous cycle.²²²

The field size, which refers to the number of horses competing in a race, has also dropped from 8.62 to 8.17.²²³ Proponents for Lasix have argued that it is necessary for the horse, and bleeders need the drug to “stay in the game.”²²⁴ In reality, however, the decrease in starts and field size demonstrates Lasix is not allowing horses to compete longer than they could before the widespread use of given Lasix.

B. Alternate Ways to Reduce EIPH And Allow for the Elimination of Lasix

1. Reducing Bleeding in Horses Through Genetics and Breeding

In the United States, winning bloodlines are prioritized, which has led to a rather inbred population.²²⁵ Horse owners know they will receive a much higher pay-off in selling the right to breed with their Kentucky Derby winner than what the horse earned from the race.²²⁶ After American Pharaoh won the Triple Crown, “his stud fees started at \$200,000 per cover.”²²⁷ Some of the top stallions can breed over 200 mares in a season, and the best course of action for an owner is to breed a winning stallion as much as possible in the first three years.²²⁸ Breeders pay exorbitant amounts to breed with winning horses to develop prizewinning

²²² Jeffrey Cannizzo, *Increasing field sizes is the key to racing's future health - even for Saratoga*, THOROUGHBRED RACING COMMENTARY (July 31, 2018), <https://www.thoroughbredracing.com/articles/increasing-field-sizes-key-racings-future-health-even-saratoga/> [<https://perma.cc/AWE9-UA3C>].

²²³ Conway, *supra* note 1.

²²⁴ *Id.*

²²⁵ Hickok, *supra* note 16.

²²⁶ Paul Sullivan, *Forget the Kentucky Derby Prize. The Big Return on Investment Is in Breeding*, N.Y. TIMES (May 4, 2018), <https://www.nytimes.com/2018/05/04/your-money/horse-breeding-kentucky-derby.html> [<https://perma.cc/D775-HMJD>].

²²⁷ *Id.*

²²⁸ *Id.*

offspring.²²⁹ Many believe this has led to the bleeding issue in the United States.²³⁰ By selecting high-performing horses to breed, breeders may be inadvertently selecting the EIPH trait.²³¹

As previously stated, bleeding is an inherited trait, but this means breeding could eliminate the trait through careful, selective breeding.²³² In order to best eliminate the bleeding issue, horses categorized as grade 4 should not breed, and those at grade 3 should likely also not. This change in breeding policy would hopefully eliminate or reduce EIPH such that Lasix would not be needed, other methods of controlling any remaining bleeding, like nasal strips, would be as or more effective than the drug, and would ultimately produce a better racehorse.

In the 1970s, before essentially every horse was running on Lasix, horses such as Secretariat and Alydar became champions by running “primarily on hay, oats, and water.”²³³ Horse trainer Bruce Jackson has not only worked with horses in the U.S., but also in England, Australia, and Germany, where horses are not allowed to run on Lasix.²³⁴ Jackson believes that Lasix needs to be banned in graded races and stakes races because the horses that win those races are the ones that will be bred and have the most significant effect on the gene pool.²³⁵ Horses that would have qualified as bleeders without Lasix have won big races, then bred and created the next generation of racehorses.²³⁶ These new horses are then also bleeders who will be dependent upon Lasix in the current system because “black rabbits do not breed white rabbits.”²³⁷ Horses categorized as grade 3 or 4 bleeders should not be allowed to breed so as to eliminate the bleeding trait from the

²²⁹ *Breeding Racehorses: The Basics*, RACING.COM (Mar. 11, 2016), <https://www.racing.com/relaxed/news/2016-03-11/breeding-racehorses-the-basics> [<https://perma.cc/QT6N-K2UG>].

²³⁰ *See, e.g.*, Hickok, *supra* note 16.

²³¹ Christa Lesté-Lasserre, *Stop the Bleeding*, THE HORSE (Sep. 23, 2014), <https://thehorse.com/149748/stop-the-bleeding/> [<https://perma.cc/PG93-HGNJ>].

²³² Hickok, *supra* note 16.

²³³ Conway, *supra* note 1.

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ *Id.*

²³⁷ *Id.*

gene pool. While this process will take time, it will ultimately lead to a better breed of horses.

2. *Reducing EIPH Through Nasal Strips*

Equine nasal strips offer another method to control or limit bleeding.²³⁸ Nasal strips open the horse’s nasal passage, decreasing resistance to breathing and respiratory pressure, which in turn reduces the chance of bleeding.²³⁹ Few trainers or owners use nasal strips, and some attribute their underuse to the lack of the added benefit that Lasix provides: nasal strips do not make horses faster.²⁴⁰

Like Lasix, nasal strips do not entirely stop a horse from bleeding.²⁴¹ A recent clinical study found that nasal strips decreased the severity of bleeding by about fifty percent.²⁴² Although nasal strips are not a complete remedy, they are “drug-free and have been proven to be as effective as Lasix in reducing” EIPH.²⁴³ Nasal strips also have the advantage of being equally as effective each time with each use.²⁴⁴ In contrast, another study found that Lasix’s effectiveness at reducing bleeding decreases with continued administration.²⁴⁵ This finding adds credence to the argument that trainers prefer Lasix to maintain a competitive edge rather than to limit bleeding.

3. *Reducing EIPH Through a Change in a Horse’s Training Environment*

Another way the bleeding problem could be controlled without the use of Lasix is by changing the horse training environments. Many believe that “climate, training facilities and racing programs make Lasix more necessary in the [United States]

²³⁸ Hickok, *supra* note 16.

²³⁹ *Id.*

²⁴⁰ *Id.*

²⁴¹ *Id.*

²⁴² *Id.*

²⁴³ *Protect From EIPH (Lung Bleeding)*, FLAIR EQUINE NASAL STRIPS, <https://flairstrips.com/protect-from-eiph-lung-bleeding/> [https://perma.cc/34EC-PDBW].

²⁴⁴ *Id.*

²⁴⁵ *Id.*

than elsewhere.”²⁴⁶ In the U.S., the majority of horses “are trained during a short window of time in the morning within the tighter confines of the racetrack.”²⁴⁷ In comparison, horses trained in Europe are “exercised for longer and in quieter surroundings more conducive to keeping horses that bleed settled and calm.”²⁴⁸

Most horses in Europe are trained at yards and away from tracks.²⁴⁹ Gina Rarick, a former American journalist and current trainer in France, believes few in Europe are concerned with bleeding.²⁵⁰ The training style in Europe is very different than in the United States.²⁵¹ Rarick’s training illustrated this when she:

has her horses gallop and trot about six miles a day, all with riders on their backs. She breezes her horses 1 1/4 miles two or three days a week and gives them a fast, head-to-head, half-mile gallop three or four days before a race. Rarick never draws her horses; she’ll give them water up to an hour before post time.²⁵²

This conditioning regimen in Europe is similar to the training style before Lasix was popular; it is unlike the short, fast runs now standard in America.²⁵³

Some trainers prefer training and racing horses in less dusty environments or those with less air pollution to better control the risk of bleeding in horses.²⁵⁴ Changing training areas is important because repeated bleeding leads to low-grade lung inflammation, which can exacerbate EIPH over time.²⁵⁵ Dirt is hard on a horse’s lungs, and some believe dirt racing is one of the reasons that bleeding has become such an issue in the United States.²⁵⁶ Nathan Slovis, the director of the McGee Medical and

²⁴⁶ Ross, *supra* note 7.

²⁴⁷ *Id.*

²⁴⁸ *Id.*

²⁴⁹ Goldberg, *supra* note 64.

²⁵⁰ *Id.*

²⁵¹ *Id.*

²⁵² *Id.*

²⁵³ *Id.*

²⁵⁴ *Id.*

²⁵⁵ Geor, *supra* note 11.

²⁵⁶ Gustafson, *supra* note 22.

Critical Care Center at the Hagyard Equine Medical Institute in Lexington, KY, “recommended keeping dust levels down, feeding hay on the ground, and ensuring better ventilation in stalls” in order to control EIPH.²⁵⁷

Dust and air pollution contributing to EIPH is a much larger issue in the U.S. than in other countries.²⁵⁸ This might be because American racetracks are in some of the “densest, dustiest, and polluted areas, [for example,] the Aqueduct sits next to John F. Kennedy Airport, Hollywood Park [is] near Los Angeles International Airport, [and] Arlington Park [is] close to an industrial park outside Chicago.”²⁵⁹ Although moving race tracks to better locations would be costly and time-consuming, taking steps to train horses in less dusty environments would help control a horse’s EIPH.²⁶⁰ It would be best to move race tracks from highly polluted areas even if the process would be cumbersome.

CONCLUSION

Horse racing has been a successful sport in the U.S. since 1665,²⁶¹ and with the total ban of Lasix, the industry could continue to thrive. While Lasix is effective at controlling bleeding in horses,²⁶² it does not stop horses from bleeding entirely.²⁶³ Proponents of Lasix argue that banning the drug will harm horses and bring the horse racing industry to its knees.²⁶⁴ However, arguments in favor of Lasix are unmerited. Europe has managed to go without the drug and has continued to have a successful horse racing industry.²⁶⁵ Trainers from the U.K. are largely supportive of not administering the medication on race day, but some concede they are willing to give Lasix to their horse pre-race when competing in the United States.²⁶⁶ American usage is not due to concern about the horse’s safety, but because trainers are not

²⁵⁷ Goldberg, *supra* note 64.

²⁵⁸ *Id.*

²⁵⁹ *Id.*

²⁶⁰ *Id.*

²⁶¹ AMERICA’S BEST RACING, *supra* note 2.

²⁶² *See, e.g.*, Hickok, *supra* note 16.

²⁶³ *See, e.g.*, Finley, *supra* note 89.

²⁶⁴ *See, e.g.*, Romans, *supra* note 24.

²⁶⁵ Fuller, *supra* note 196.

²⁶⁶ Cook, *supra* note 146.

willing to lose a race in which the other horses are running on Lasix, causing them to lose twenty to thirty pounds.²⁶⁷

Supporters of Lasix feel it is the best way to control or limit bleeding in horses.²⁶⁸ There are, however, ample alternatives to control bleeding. Nasal strips are proven to be just as effective as Lasix at lessening bleeding.²⁶⁹ The nasal strips also do not dehydrate the horse and have the added benefit of being effective every use.²⁷⁰ Changes in training styles and locations of racetracks could also alleviate the bleeding problem.²⁷¹

Most importantly, because the bleeding trait in horses is genetic, proper breeding practices could eliminate the problem. The U.S. should follow Germany's lead and should ban the breeding of horses categorized as Grade 4 and possibly even Grade 3 bleeders.²⁷² While implementing this change will take time and could cause a temporary drop in the popularity of horse racing, this will cause a better breed of racehorses in the long-term, which will lead to a more successful horse racing industry.²⁷³

²⁶⁷ *Id.*

²⁶⁸ *See, e.g.,* Angst, *supra* note 116; Marcella, *supra* note 117.

²⁶⁹ FLAIR EQUINE NASAL STRIPS, *supra* note 243.

²⁷⁰ *Id.*

²⁷¹ Goldberg, *supra* note 64.

²⁷² *See, e.g.,* Hickok, *supra* note 16; NATIONALE ANTI DOPING AGENTUR DEUTSCHLAND, *supra* note 195.

²⁷³ Barker, *supra* note 25.