

September 2019
pabred.com

PA-BRED REMINDERS

- **Early registration:**
Within 365 days of foaling
- **Yearling registration:**
Dec. 31 of yearling year
- **Stallion registration:**
Feb. 15 of year breeding
- **Broodmare domicile:**
Dec. 1 or 14 days after a public sale or entering state if being bred back to PA-sire

VISIT PABRED.COM

- Racing and breeding news
- PA-Bred entries/results
- Rules, regulations, forms

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New Bolton developing biological passports, with help from Pennsylvania breeders

by Natalie Voss

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It sounds like something out of a science fiction movie: Rows of vials in a laboratory freezer, each containing detailed biological maps of what's going on inside the bodies of dozens of horses at specific moments in time. The frozen blood samples might one day hold the keys to making racing clean and drug-free, predicting injuries before they happen and helping veterinarians fight illness with new and powerful tools. Sound too good to be true? Researchers at Penn Vet's New Bolton Center hope it's not.

The Center's Equine Pharmacology Laboratory is in the process of gathering and analyzing data from racing Thoroughbreds—both those who have been seen at New Bolton for an orthopedic injury and horses active on the track—for its BioBank, a giant cache of stored, carefully-preserved samples. They hope one day the information could be used for biological passports, which have a number of potential uses in competition horses.

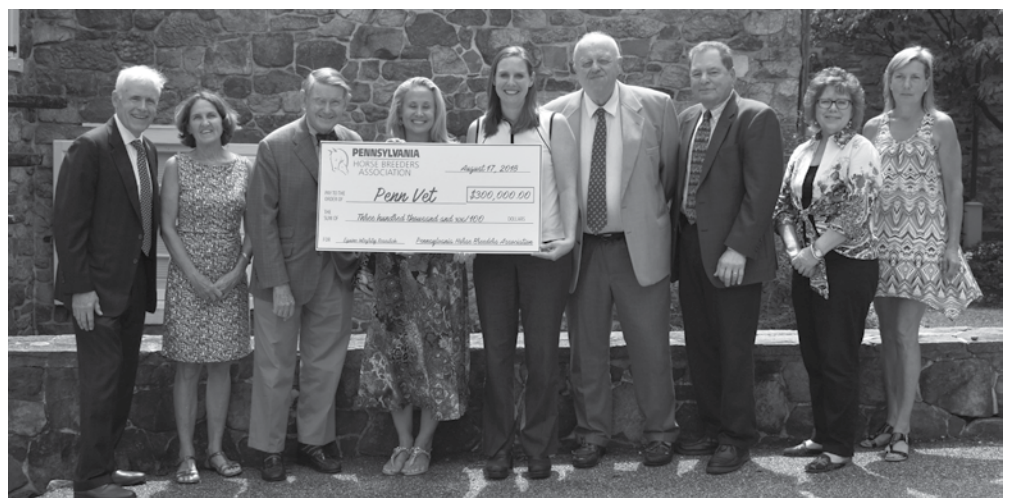
Biological passports would track biomarkers and proteins in a horse's body over time. They could show natural or artificial changes which could signal an injury or disease or the horse's reaction to a drug or other substance.

The BioBank project has received tremendous support from the Pennsylvania Horse Breeders' Association (PHBA), which last year donated \$300,000 to the lab as part of a tiered, multi-year project. PHBA executive secretary Brian Sanfratello said the organization's support was based on concerns from its membership.

"Our board sent all the members a survey. We got quite a few back and set up a couple focus groups. We wanted to know what was important to breeders," Sanfratello said. "There were quite a few things in the list but one of them was being able to race on a level playing field and making sure that the horses that we breed are not taken advantage of by medication and doping."

"Once we did this we got together with Mary [Robinson, director of the Equine Pharmacology Lab] and basically said, 'How can we help?'"

The PHBA is supporting the BioBank project generally, allowing New Bolton to purchase additional storage freezers for samples and funding a new staff position to help the clinic collect samples. But the group is particularly interested in the applications of biological passports to catching a new practice called gene doping.



How could someone possibly 'dope' a horse's genes?

First of all, the phrase 'gene doping' may refer to two practices: gene editing, which involves changing the DNA before an animal is born to create something that didn't form naturally, and gene therapy, which involves implanting a selected piece of DNA into an adult animal to increase natural production of a protein or other factor. Dr. Robinson said the first type of gene therapy became approved by the Food and Drug Administration two years ago for use in the human medical field, focusing on a hereditary retinal condition. There is still no FDA-approved type of gene therapy available for veterinary use, largely because research into the way it works is in the early stages.

There's a lot researchers still don't know about gene editing—including whether it's been attempted on horses in competition settings. Scientists don't know how often attempts at changing an animal's genetic code may fail, or backfire if the genetic material gets inserted into the wrong place. And it's not known how easy it would be for a horseman to find someone who knows how to perform the procedure.

It is possible to do gene editing in horses, but it's also not unequivocally a bad thing. Robinson said some types of gene editing could be used appropriately in a therapeutic context by veterinarians treating a horse. If and when that becomes possible, racing will have to confront the line between appropriate, therapeutic use and performance enhancement—as it has with many other types of medications and treatments so far.

"Gene therapy is just like any other drug that's been developed. It's just the newest form of treatment that we've come up with," Robinson said. "There are certainly plenty of drugs that are approved in horses but not allowed in racehorses.

Just because it gets approved doesn't mean it'll be permitted."

The PHBA and other groups are interested in the application of biological passports to catch gene doping and medication doping for one reason in particular—it keeps regulators ahead of the curve.

"If the horse is out of whack, above the regular biomarkers, we don't have to worry about what kind of drug that horse is being given, but we know they're being given something," Sanfratello said. "People are going to cheat. It's a very small percentage, but you're going to have cheating and when you finally find what they're using, they're onto something else. We just wanted to try to do what we could to make sure that at some point in time we have to rely less on finding a medication that a horse is using and more on the fact that something is being used."

Sanfratello said he dreams of the day when a veterinarian can take a stallside blood test with a handheld device and know within seconds whether a horse should be allowed to race that day. That day is still years away; research into biomarkers can be slow because scientists need a large pool of samples to get an idea of what is 'average' for a given parameter across the population. There are also likely some proteins and markers which change in the same animal over the course of days or weeks, the same way testosterone naturally fluctuates with a horse's circadian rhythms. The required size of a sample pool probably varies depending upon the specific marker or protein that's being studied.

Right now, Robinson said the BioBank has samples stored from 75 horses and she hopes to see that number climb to 300. New Bolton has been collecting samples from Thoroughbred racing patients to the clinic who are being treated for orthopedic injuries, but she's still looking for more 'normal' samples—that is, those that come from

active Thoroughbred racehorses who aren't being treated for an injury. Robinson and a clinical veterinarian travel throughout Pennsylvania to collect blood samples. They do a soundness exam and pull a complete blood count in addition to taking their BioBank sample; results from both can be sent to the horse's regular veterinarian for their own use. Then, Robinson records as much detail as possible about the horse and the sample collection, then spins and freezes the blood for later use in research studies. Robinson and Sanfratello hope to one day partner with The Jockey Club to acquire biological material from the hair samples breeders mail in for DNA confirmation when registering foals.

Robinson's research team has already had success with BioBank projects. At a conference this fall, she will present initial results from a study designed to detect the transport vehicle used to carry artificial DNA in a horse's body in the gene editing process. Her hope is if she can identify transport vehicles, it won't matter what piece of genetic code someone is trying to insert or how successful the gene therapy was. A fellow New Bolton researcher is pairing BioBank data with results from high-tech imaging, thanks to funding from the PHBA and the Grayson-Jockey Club Research Foundation.

But it's going to take lots of time and money before Sanfratello's vision of a rapid response test becomes reality; in the meantime, the lab is open to help from the racing community. Robinson said there are two ways the public can help New Bolton reach its goals of improving integrity and equine health. If you have an active racehorse in Pennsylvania and are interested in having the horse sampled for the BioBank, contact the Equine Pharmacology Research Laboratory at 610-925-6610. Anyone wishing to donate to the project may contact Margaret Leardi, director of development for the New Bolton Center, at 610-925-6189.

A few words from the Executive Secretary

The second annual Million Dollar PA Day at the Races was held Aug. 3 at Parx, where 450 breeders and guests, along with owners and trainers, saw amazing competitive PA-Bred races and came together to celebrate our statebreds and breeding program. Congratulations to all the competitors! We hope to continue the high spirits and good luck from Pennsylvania's Day at the Races into the fall months for broodmare domicile.

Don't miss out on being part of one of the top breeding programs in the country! As a reminder, Broodmare Domicile Reports are due to the PHBA by

Dec. 1. Broodmares must be in the state by Dec. 1, or within 14 days of a public sale.

If you're breeding back to a registered PA stallion, you must complete the domicile report within 14 days of entering the state and reside continuously for 60 days through foaling. Forms can be found online at www.pabred.com. It would be greatly appreciated if you can fill out and submit the form online. If you are unable to submit the form online, you may either print out a report and mail it in, or let us know and we'll mail a copy to you.

Forms have been mailed and emailed to our

stallion owners to have stallions listed in our annual directory. Submissions will be due to our office by the end of September. The Stallion Directory is distributed with *The BloodHorse* and available at Parx and Penn National, as well as online. Don't miss out on this free service!

Online registration is coming soon! We hope to have it completed by the end of 2019!



Contact Information:

State Horse Racing Commission
Harrisburg, PA • 717-787-1942

Parx Racing
Bensalem, PA • 215-639-9000

Hollywood Casino at Penn National Race Course
Grantville, PA • 717-469-2211

Presque Isle Downs & Casino
Erie, PA • 866-374-3386

Pennsylvania HBPA
Grantville, PA • 717-469-2970

Pennsylvania Thoroughbred Horsemen's Association
Bensalem, PA • 215-638-2012



**THE PA-BRED PREMIUM
EARN MORE!**

JOIN THE PHBA

Whether you are currently a breeder or an owner, or if you are just considering getting involved in this exciting industry, there are many reasons to join the PHBA. The PHBA is devoted to those involved in Pennsylvania's Thoroughbred breeding industry. A not-for-profit organization founded in 1948, we provide a number of services to members, including informational assistance, educational opportunities and a variety of social events.

The goal of the organization is to advocate on behalf of the state's breeding industry. We are mandated by statute as administrator of the Pennsylvania Breeding Fund program, and as official registrar of the Pennsylvania-Bred roster of eligible program participants.

Working with industry leaders over the years, PHBA has achieved several goals that have brought reform and benefits to breeders, owners, racetracks and the public. The PHBA is vital to everyone involved in breeding throughout Pennsylvania. Your support and participation can help Pennsylvania's breeding industry continue to grow and prosper.

2019 PA-Bred Stakes Schedule

ALL BREEDING FUND STAKES WILL INCLUDE A 25% PA-SIRED BONUS FOR 1ST, 2ND AND 3RD.
Dates and conditions for all the PA-Bred Stakes are subject to change.
Please contact the racing offices for the most current schedules.

Sat., April 27	\$100,000 Lyman S , 3 & up, 7 fur.
Parx	1st-Midnightcharly, 2nd-Long May You Run, 3rd-Jw'strickymischief
	\$100,000 Foxy J. G. S , 3 & up, fillies & mares, 7 fur.
	1st-Zipper's Hero, 2nd-Sweetest Yet, 3rd-Its a Journey
Sat., June 1	\$100,000 Danzig S , 3YO, 6 fur.
Penn	1st-Call Paul, 2nd-Thiscatcanjump, 3rd-Kaiju
	\$100,000 New Start S , 3YO fillies, 6 fur.
	1st-Gotta Be Strong, 2nd-I'm the Talent, 3rd-Key Light
Sun., June 9	\$100,000 Lyphard S , 3 & up, fillies & mares, 1 $\frac{1}{16}$ mi., turf
Penn	1st-Imply, 2nd-Wildcat Cartridge, 3rd-Smokinpaddylassie
	\$100,000 Robellino S , 3 & up, 1 $\frac{1}{16}$ mi., turf
	1st-Fast and Accurate, 2nd-Beyond Smart, 3rd-Driven to Compete
Sat., June 22	\$100,000 Crowd Pleaser S , 3YO, 1 $\frac{1}{16}$ mi., turf
Parx	1st-Chilly in Charge, 2nd-Wrong Color, 3rd-Kelli's Smile
	\$100,000 Power by Far S , 3 & up, fillies & mares, 5 fur., turf
	1st-Wildcat Combat, 2nd-Afleet Tizzy, 3rd-The Circle Game
Sun., July 7	\$100,000 Leematt S , 3 & up, 1 mi.
PID	1st-Jaguar Poz, 2nd-Missin the Big Dog, 3rd-Fast and Accurate
	\$100,000 Northern Fling S , 3 & up, fillies & mares, 1 mi.
	1st-Imply, 2nd-Darcy Mae, 3rd-Trolley Ride
Sat., Aug. 3	\$100,000 Banjo Picker Sprint S , 3 & up, 6 fur.
Parx	1st-Midtowncharlybrown, 2nd-Midnightcharly, 3rd-The Man
	\$100,000 Roanoke S , 3 & up, 1 $\frac{1}{16}$ mi.
	1st-Someday Jones, 2nd-Grasshoppin, 3rd-Navy Commander
	\$100,000 Marshall Jenney S , 3 & up, 5 fur., turf
	1st-Hollywood Talent, 2nd-Amblin Man, 3rd-Smooth B
	\$100,000 Dr. Teresa Garofalo Memorial S , 3 & up, fillies & mares, 6 fur.
	1st-Afleet Tizzy, 2nd-Sweet Bye and Bye, 3rd-Trace of Grace
	\$100,000 Mrs. Penny S , 3 & up, fillies & mares, 1 $\frac{1}{16}$ mi., turf
	1st-Imply, 2nd-Pink Elephant, 3rd-Shemakesmehappy
Mon., Sept. 9	\$100,000 Malvern Rose S , 3YO fillies, 1 mi.
PID	
Sat., Sept. 21,	\$100,000 Alphabet Soup S , 3 & up, 1 $\frac{1}{16}$ mi., turf
Parx	
	\$100,000 Plum Pretty S , 3 & up, fillies & mares, 1 $\frac{1}{16}$ mi.
Mon., Sept. 23	\$100,000 Mark McDermott S , 2YO, 6 fur.
PID	
	\$100,000 Mrs. Henry D. Paxson Memorial S , 2YO fillies, 6 fur.
Wed., Nov. 27	\$100,000 Blue Mountain Juvenile Fillies S , 2YO fillies, 6 fur.
Penn	
Sat., Dec. 7	\$100,000 Pennsylvania Nursery S , 2YO, colts & geldings, 7 fur.
Parx	

Total: \$2,750,000

PA-Bred Fund Statistics: Top Earners

January 1 through June 30, 2019

LEADING EARNERS - TOTAL AWARDS

Breeder Name	Breeder	Stallion	Total	Breeder Name	Breeder	Stallion	Total
Wyn Oaks Farm LLC	147,651	57,699	205,350	Cavanaugh Breen Farm LLC	85,179	0	85,179
Northview Stallion Station Inc.	0	197,631	197,631	Peter Giangliullo	66,662	16,599	83,261
Donald L. Brown Jr.	146,135	36,534	182,669	Godstone Farm LP	54,677	12,256	66,933
Glenn E. Brok LLC	115,382	63,055	178,437	Stonehedge Farm of PA	61,040	0	61,040
Barlar LLC	109,641	29,095	138,737	Henry R. Nothhaft	36,332	18,490	54,822
Blackstone Farm LLC	124,297	1,200	125,497	Patricia L. Chapman	24,528	29,378	53,906
Arrowwood Farm Inc.	121,061	0	121,061	Xanthus Farms Inc.	50,480	988	51,468
William J. Solomon VMD	59,593	58,222	117,815	Thomas G. McClay	46,674	0	46,674
Pewter Stable	100,497	14,388	114,885	Donald Clifford Wilson	43,390	0	43,390
Fantasy Lane Stable Inc.	68,141	43,975	112,117	Spring Run Farm LLC	42,861	0	42,861
Godric LLC	109,424	0	109,424	Luisita M. Cuprill	42,651	0	42,651
Sylmar Farm Inc.	100,949	0	100,949	Richard Molineaux	42,599	0	42,599

LEADING STALLIONS

Fund Money includes Stallion Awards only

Stallion Name	Stallion Owner / Manager	No. of Races	Award Total	Stallion Name	Stallion Owner / Manager	No. of Races	Award Total
Jump Start	Northview Stallion Station Inc.	279	101,932	Any Given Saturday	William J. Solomon VMD	74	16,017
Weigelia	Wyn Oaks Farm LLC	180	57,699	Fairbanks	Northview Stallion Station Inc.	59	13,316
El Padrino	Northview Stallion Station Inc.	100	51,058	Petionville	Everest Stables Inc.	33	12,746
Uptowncharlybrown	Uptowncharlybrown Stud LLC	51	47,755	Well Spelled	Godstone Farm LP	39	12,256
Talent Search	Glenn E. Brok LLC	68	37,490	Partner's Hero	Peter Giangliullo	30	11,347
Messner	Donald L. Brown Jr.	44	36,534	City Sharpster	Charles A. Cuprill	66	10,763
E Dubai	Barlar LLC	42	29,095	Winchill	Pewter Stable	12	10,331
Smarty Jones	Patricia L. Chapman	115	28,230	Offlee Wild	William J. Solomon VMD	45	10,030
Mad Flatter	Glenn E. Brok LLC	76	27,919	Toccet	Castleton Lyons Inc.	7	9,660
Medallist	Northview Stallion Station Inc.	31	23,703	Reflect Times	Flint W. Stites	31	9,095
Silver Train	Henry R. Nothhaft	70	18,490	Ecclesiastic	Walmac Stud Management LLC	25	8,305
Albert the Great	William J. Solomon VMD	58	17,477	Eurosilver	Dromoland Farm Inc.	23	7,558

LEADING HORSES

Fund Money includes: PA-Bred Races, Breeder and Stallion Awards and PA-Bred Owner-Bonus Payments

Horse	Pedigree	Breeder	Races	Restricted	Stakes	Breeder Award	Stallion Award	Owner Bonus	Total
Midnightcharly *	Uptowncharlybrown - Torchwood	Godric LLC	6	0	57,600	69,024	17,256	18,560	162,440
Gotta Be Strong	Strong Mandate - Gotta Rush	Scott Naylor	6	0	59,400	37,600	0	34,400	131,400
Imply *	E Dubai - Allude	Barlar LLC	2	0	59,400	40,932	10,233	6,480	117,045
Wildcat Combat *	Messner - She Is a Lioness	Donald L. Brown Jr.	3	0	57,000	43,604	10,901	3,760	115,265
Zipper's Hero *	Partner's Hero - Open Zipper	Peter Giangliullo	4	0	61,500	32,300	8,075	0	101,875
Thiscatcanjump *	Jump Start - Cat Mistress	Richard A. Malouf	5	0	19,200	39,568	9,892	14,720	83,380
Promised Storm *	El Padrino - Innovative	Cavanaugh Breen Farm LLC	4	0	0	41,584	10,396	27,360	79,340
Winning the Medal *	Medallist - Fountain	Richard Molineaux	6	0	0	42,599	10,650	23,228	76,477
Chasing My Halo *	Weigelia - Halo Effect	Wyn Oaks Farm LLC	8	0	0	42,897	10,724	18,812	72,433
Chilly In Charge	Take Charge Indy - Holiday Chills	Horseshoe Valley Equine Center LLC	2	0	58,800	11,760	0	0	70,560
Call Paul	Friesan Fire - Avani Force	Vicky Schowe	1	0	57,600	11,520	0	0	69,120
Fast and Accurate	Hansen - It's Heidi's Dance	John R. Penn	1	0	55,800	11,160	0	0	66,960
I'm the Talent *	Talent Search - Oh Lolly Lolly	Golden Oak Farm LLC	2	0	19,800	28,800	6,255	10,800	65,655
Sweetest Yet	Drosselmeyer - Even Sweeter	Stonehedge Farm of PA	7	0	18,600	20,280	0	22,368	61,248
D T Goodie *	Jump Start - Free Strike	Donald Clifford Wilson	8	0	0	40,198	10,050	10,256	60,504
Dennis' Diamond *	E Dubai - Snow Sprite	Dennis Johnson	6	0	0	35,667	8,917	12,448	57,032
The Circle Game	Oxbow - Dixieland Knockout	Pewter Stable	5	0	9,500	22,451	0	23,820	55,771
Cardcounter *	Talent Search - Miss Foreesta	Glenn E. Brok LLC	5	0	0	30,916	7,729	15,440	54,085
Wait for It *	Uptowncharlybrown - Kimberley Diamond	Fantasy Lane Stable Inc.	3	0	0	28,203	7,051	17,668	52,922
Every Step *	Messner - Every Breath	Donald L. Brown Jr.	5	0	0	29,990	7,498	14,736	52,224
Celesse	Line of David - Cherokee Moonlight	Horseshoe Valley Equine Center LLC	5	0	0	21,392	0	30,560	51,952
Flashonforty *	Medallist - Flash Riot	Daniel W. McConnell Sr.	6	0	0	29,760	7,440	12,000	49,200
American Ali	Freedom Child - Little Ali Oop	David Ritter	7	0	0	21,084	0	27,456	48,540
Red Razzo *	Toccet - High Iron Lass	Roger Cettina	6	0	0	38,640	9,660	0	48,300

*Denotes PA-sired