

# **Indiana Horse Racing Commission Staff Report**

## **Regarding the Regulation of Cobalt**



**August 28, 2014  
Joe Gorajec  
Executive Director**

**August 28, 2014**

## **Staff Report**

### **Executive Summary**

The excessive use of cobalt may enhance performance of, and potentially become toxic to, a horse to which it has been administered. The blood samples of a number of standardbreds, thoroughbreds, and Quarter Horses competing in racing in 2014 at Hoosier Park and Indiana Grand have been analyzed for cobalt. A review of these results indicate that excessive cobalt administration is jeopardizing the integrity of Indiana's racing product and endangering the health and welfare of racehorses. Immediate action by the Indiana Horse Racing Commission is recommended.

### **Background**

The administration of excessive amounts of cobalt<sup>1</sup> to race horses in training has been on the outer edges of racing's radar screen for a number of years. Awareness of the potential dangers of excess cobalt in racehorses increased in January 2014 when the Paulick Report published "*Is Cobalt a Killer of Horses?*" (Attachment 1).

Recently, a Racing Medication and Testing Consortium (RMTC)-coordinated project funded by the Kentucky Equine Drug Research Council and conducted by Dr. Heather Knych, an Assistant Professor at the University of California at Davis, School of Veterinary Medicine, was utilized to determine a threshold level for cobalt. A second research project, funded by the United States Trotting Association (USTA), is nearly complete.

### **Reasons for Concern**

The thoughts of racing regulators on cobalt administration are summarized in an August 4, 2014 ARCI press release (Attachment 2).

*"Racing regulators are concerned that cobalt treatments may be given to racehorses with an intent to affect performance by inducing red blood cell production similar to the prohibited use of erythropoietin (EPO). All horses have some degree of cobalt in their system as a result of diet and environmental factors. Excessive amounts may indicate a deliberate administration, above and beyond what would be considered appropriate or normal for vitamin or mineral supplements."*

---

<sup>1</sup> The proposed Indiana rules recommend a 25 parts per billion ("ppb") threshold.

In a letter to the Commission, Richard Sams, Ph.D., Laboratory Director of LGC Science, Inc. (“LGC”)<sup>2</sup> provides an explanation of the horse racing industry’s concern with excessive cobalt usage (Attachment 3). Dr. Sams states:

***On the nature of cobalt.*** “Cobalt is an essential trace dietary mineral required by all mammals including horses. A normal horse diet contains sufficient cobalt to meet these requirements.....Since dietary sources of cobalt supply all of the cobalt required by horses for the synthesis of all of the vitamin B12 that is required, administration of cobalt by any route is unnecessary and may carry risk of toxicity due to systemic exposure.”

***On potential performance enhancing effects.*** “The potential for cobalt (as  $\text{Co}^{+2}$  or cobaltous ion) to stimulate EPO production in mammals was discovered in the late 1950s. Subsequent experiments in humans revealed that daily administration of 150 mg of cobaltous chloride to healthy males resulted in a substantial increase in red blood cells within one to three weeks of initiating treatment.....The ability of cobalt as cobaltous ion to stimulate erythropoiesis in horses has not been demonstrated (August 2014). If administration of single or multiple doses of cobalt as cobaltous chloride or other cobaltous salt inhibits degradation of HIF in horses, I would expect that this would stimulate erythropoiesis similarly to what has been observed in other species and that horses will respond by synthesizing new red blood cells in the same manner that they respond to the administration of human recombinant EPO.” (internal citations omitted.)

***On potential toxicity.*** “Excessive systemic concentrations of cobalt as cobaltous ion have been shown to cause polycythemia (excessive numbers of circulating red blood cells) in mammals as a result of the stimulation of erythropoietin. Additionally, there have been reports of heart dysfunction (e.g., cardiomyopathy) and thyroid impairment with high systemic concentrations of cobaltous ion in humans and laboratory animals.....The toxicity of cobalt in horses is unknown because natural exposure of horses to high amounts of cobalt salts is highly unlikely and experimental studies involving administration of high doses of cobalt salts to horses have been limited to small numbers of horses in single doses. The risk of toxicity to horses after multiple parenteral doses of cobalt salts is unknown at this time. If horses respond similarly to other mammals to repeated oral or parenteral administration of excessive amounts of cobalt as cobaltous salts, then I would expect to see clinical signs of toxicity that would likely be a function of the dose and duration of treatment.”

## **Results of Testing**

The Commission Staff requested analysis of 354 blood samples from 23 days of racing. Twelve days were selected from Hoosier Park (standardbred) and eleven from Indiana Grand (thoroughbred and Quarter Horse).

---

<sup>2</sup> Dr. Sam is also Chairman of the Veterinary Pharmacology Subcommittee to the ARCI Drug Testing Standards and Practices Committee (2005-present), Technical Consultant of the Racing Medication and Testing Consortium (2001-present), and a Member of the Veterinary Pharmacology Subcommittee to the ARCI Drug Testing Standards and Practices Committee (1995-present).

Results indicate cobalt abuse among all racing breeds. A threshold of 25 ppb (parts per billion), as recommended by the RMTCC<sup>3</sup>, was utilized in determining excessive levels.

Overall, 21 horses (5.9 percent) tested high for cobalt. See **Table 1** for breakdown by breed.

It is important to note that post-race testing is performed on approximately 20 percent of the horses that race each day. Thus, in all likelihood, the number of horses competing with excessive levels of cobalt during the twenty-three test days was greater, possibly five times greater. This extrapolation would suggest that more than 100 horses raced with excessive cobalt levels on these 23 days.

Breed	# of Horses	# of Samples >25 ppb	%
SB	180	14	7.8%
TB	127	4	3.1%
QH	47	3	6.4%
<b>TOTAL</b>	354	21	5.9%

The unfair competitive advantage of cobalt abuse is more vividly depicted when displayed on a per horse basis on a given race day. In **Table 2**, three days of cobalt results (in descending order of detection) from Hoosier Park are shown. When you compare the cobalt levels over 25ppb to those under, the data is compelling.

DAY 1		DAY 2		DAY 3	
1	48.0	1	306.8	1	48.5
2	43.7	2	85.8	2	15.0
3	14.0	3	53.4	3	9.0
4	9.0	4	10.4	4	7.5
5	8.9	5	7.3	5	5.7
6	7.2	6	4.9	6	5.6
7	6.1	7	4.3	7	2.5
8	5.3	8	4.1	8	2.1
9	5.3	9	3.7	9	1.5
10	4.9	10	3.2	10	1.5
11	4.1	11	3.1	11	1.4
12	3.7	12	2.4	12	1.2
13	3.3	13	2.4	13	1.2
14	3.2	14	2.2	14	1.2
15	2.0	15	1.6	15	0.8
16	1.5	16	1.3		
17	1.5	17	1.3		
18	1.1	18	0.9		

DAY 4		DAY 5		DAY 6	
1	614.8	1	1127.0	1	848.1
2	5.4	2	20.0	2	435.5
3	3.4	3	8.1	3	217.5
4	3.0	4	6.9	4	7.3
5	2.2	5	6.1	5	7.1
6	1.8	6	5.5	6	7.1
7	1.1	7	4.3	7	6.9
8	0.9	8	4.3	8	5.7
9	0.8	9	4.1	9	5.0
10	0.7	10	3.5	10	4.5
11	0.7	11	3.1	11	4.3
12	0.5	12	2.2	12	4.2
		13	2.0	13	4.0
		14	1.3	14	3.6
		15	1.0	15	3.4
		16	1.0	16	3.3
		17	0.9	17	3.3
		18	0.8	18	3.2
		19	0.7	19	2.7
				20	2.7
				21	2.6
				22	1.0

<sup>3</sup> See Letter from Dr. Dionne Benson, Executive Director of RMTCC, regarding the threshold level (Attachment 4), and slide presentation (Attachment 5).

**Table 3** shows the individual test results from three days of thoroughbred and Quarter Horse racing at Indiana Grand.

Results for all 354 horses tested during the 23 days selected are provided at **Exhibit A**.

## **An Emergency Exists**

In considering the issue at hand, the Indiana Horse Racing Commission's mission statement, which is excerpted from the enabling pari-mutuel statute, is pertinent and instructive:

*“Ensuring that pari-mutuel wagering on horse races in Indiana will be conducted with the highest of standards and the greatest level of integrity.”*

Test results have demonstrated that cobalt abuse is ongoing in all breeds at both of Indiana's pari-mutuel race tracks. It is likely occurring on a daily basis. The remainder of the 2014 flat racing season will highlight, several prestigious stake races including the \$500,000 Indiana Derby (Grade II), the Indiana Oaks (Grade II), and the Michael G. Schaefer Memorial Stakes.

On the Standardbred side, gross purses will approach if not exceed \$2,000,000 on October 18, 2014, as the best Indiana-sired horses compete in the culmination of the season-long Sire Stakes. The Sire Stakes has already been tainted by cobalt as at least one of the 24 finals has been won by a horse with excessive levels.

Standardbred horsemen speaking through their Association's president, Jack Kieninger, have issued a plea for immediate commission action:

*“We trust the Commission in this matter, and believe that for the primary reason that cobalt is a potentially fatal substance, this is an issue that simply cannot wait for other agencies to act. We feel a strong urge to protect the horses themselves as well as protecting the fairness of the races they participate in. To wait could take months if not years to end this deplorable practice.”* (Attachment 6.)

It is the Commission's responsibility to ensure that these races, as well as all racing under its jurisdiction, are conducted with the highest standards and the greatest level of integrity.

## **Laboratory**

Neither of the Commission's current primary laboratories – LGC (Lexington) or Industrial Laboratory (Denver) – are equipped to test for cobalt at this time. Such testing requires specialized equipment that is generally unnecessary in a typical racing laboratory environment.

The University of Kentucky Veterinary Diagnostic Laboratory (UKVDL) has agreed to test IHRC samples for cobalt. LGC will continue to receive, prepare and deliver all samples to the UKVDL for cobalt testing.

## **Industry Support**

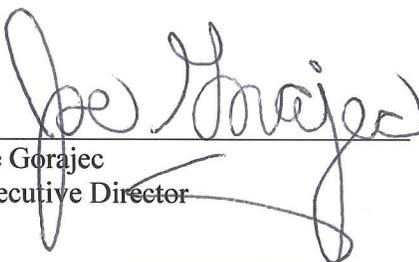
The initiative to regulate cobalt is being supported by the Indiana Standardbred Association (Attachment 6), the Indiana Standardbred Advisory Committee and the Indiana Standardbred Advisory Board (Attachment 7).

August 28, 2014

**Staff Recommendations**

1. Promulgate proposed rules establishing a 25 ppb threshold for cobalt in both post race and out of competition testing, and identifying cobalt as a Class A substance. The effective date of the threshold levels will be with races beginning on September 30, 2014 and out of competition testing samples on January 1, 2015. The effective date of the out of competition testing rule will be December 31, 2014. See **Exhibit B**.
2. Approve the University of Kentucky Veterinary Diagnostic Laboratory as the primary testing laboratory and University of California Davis as the split sample testing laboratory for cobalt testing.
3. Pursuant to 71 IAC 2-21, waive 71 IAC 8-4-3 requiring ISO 17025 accreditation for the split sample laboratory at UC Davis.
4. Direct the commission staff to report to the commission the results of all cobalt testing completed pursuant to the promulgated rules upon the conclusion of the 2014 race meets.
5. Prior to the commencement of pari-mutuel racing in 2015 the commission staff shall report on any progress made nationally on the issue of cobalt testing in race horses. The report shall include, but not be limited to, updates from the Association of Racing Commissioners International (RCI), Racing Medication and Testing Consortium (RMTC) and the evaluation of any relevant studies and peer reviewed publications. The report shall include any staff recommendations.

August 28, 2014  
Date

  
Joe Gorajec  
Executive Director

# INDEX

<b>Exhibit A:</b>	2014 Cobalt Survey
<b>Exhibit B:</b>	Proposed Rules
<b>Attachment 1:</b>	Is Cobalt a Killer of Horses – Paulick Report
<b>Attachment 2:</b>	ARCI Press Release – August 4, 2014
<b>Attachment 3:</b>	Letter from Richard Sams, PhD., Laboratory Director of LGC Science, Inc.
<b>Attachment 4:</b>	Letter from Dr. Dionne Benson, Executive Director of RMTC
<b>Attachment 5:</b>	Cobalt Regulation in Racing – Dr. Dionne Benson
<b>Attachment 6:</b>	Letter from Jack Kieninger, Indiana Standardbred Association President
<b>Attachment 7:</b>	Letter from Standardbred Advisory Board and Breed Development Advisory Committee

# Exhibit A

## Indiana Horse Racing Commission - 2014 Cobalt Survey

180 Total Samples

<b>Standardbred</b>	
<b>Concentration</b>	
1	353.0
2	306.8
3	152.2
4	135.3
5	127.7
6	85.8
7	62.6
8	61.7
9	56.8
10	53.4
11	48.5
12	48.0
13	47.4
14	43.7
15	21.8
16	21.4
17	17.2
18	16.4
19	16.0
20	15.0
21	14.8
22	14.0
23	13.8
24	13.3
25	11.3
26	10.5
27	10.4
28	9.8
29	9.4
30	9.2
31	9.0
32	9.0
33	8.9
34	8.6
35	8.5
36	8.5
37	8.2
38	7.9
39	7.7

127 Total Samples

<b>Thoroughbred</b>	
<b>Concentration</b>	
1	1127.0
2	614.8
3	247.7
4	25.9
5	20.1
6	19.5
7	12.9
8	9.2
9	8.4
10	8.0
11	7.6
12	7.1
13	7.1
14	6.5
15	6.4
16	5.9
17	5.8
18	5.6
19	5.5
20	5.4
21	5.4
22	5.2
23	5.0
24	4.9
25	4.8
26	4.8
27	4.6
28	4.4
29	4.4
30	4.2
31	4.1
32	3.9
33	3.5
34	3.5
35	3.4
36	3.4
37	3.2
38	3.0
39	2.9

47 Total Samples

<b>Quarter Horse</b>	
<b>Concentration</b>	
1	848.1
2	435.5
3	217.5
4	17.3
5	15.8
6	8.1
7	7.4
8	7.3
9	7.1
10	7.1
11	6.9
12	6.9
13	6.1
14	5.7
15	5.5
16	5.0
17	4.7
18	4.5
19	4.3
20	4.3
21	4.3
22	4.2
23	4.1
24	4.0
25	3.6
26	3.5
27	3.4
28	3.3
29	3.3
30	3.2
31	3.1
32	3.1
33	2.8
34	2.7
35	2.7
36	2.7
37	2.6
38	2.4
39	2.0

**Exhibit A**

<b>Standardbred</b>	
<b>Concentration</b>	
40	7.5
41	7.3
42	7.2
43	7.0
44	6.6
45	6.3
46	6.2
47	6.2
48	6.1
49	6.1
50	5.9
51	5.8
52	5.7
53	5.7
54	5.6
55	5.6
56	5.4
57	5.3
58	5.3
59	5.3
60	5.2
61	5.0
62	5.0
63	4.9
64	4.9
65	4.9
66	4.8
67	4.8
68	4.7
69	4.5
70	4.5
71	4.5
72	4.4
73	4.3
74	4.2
75	4.1
76	4.1
77	4.1
78	4.0
79	3.9
80	3.7
81	3.7
82	3.7
83	3.7
84	3.6

<b>Thoroughbred</b>	
<b>Concentration</b>	
40	2.9
41	2.9
42	2.8
43	2.7
44	2.5
45	2.5
46	2.4
47	2.4
48	2.3
49	2.2
50	2.2
51	2.2
52	2.0
53	1.9
54	1.9
55	1.9
56	1.9
57	1.8
58	1.8
59	1.8
60	1.8
61	1.8
62	1.7
63	1.7
64	1.6
65	1.6
66	1.6
67	1.6
68	1.5
69	1.5
70	1.5
71	1.5
72	1.5
73	1.5
74	1.4
75	1.4
76	1.3
77	1.3
78	1.3
79	1.3
80	1.3
81	1.3
82	1.3
83	1.3
84	1.2

<b>Quarter Horse</b>	
<b>Concentration</b>	
40	1.8
41	1.8
42	1.0
43	0.9
44	0.8
45	0.7
46	0.7
47	0.6

# Exhibit A

<b>Standardbred</b>	
<b>Concentration</b>	
85	3.5
86	3.5
87	3.5
88	3.4
89	3.4
90	3.3
91	3.3
92	3.3
93	3.2
94	3.2
95	3.2
96	3.1
97	3.1
98	3.1
99	3.1
100	3.0
101	3.0
102	2.9
103	2.9
104	2.9
105	2.8
106	2.8
107	2.8
108	2.7
109	2.7
110	2.6
111	2.5
112	2.5
113	2.5
114	2.4
115	2.4
116	2.4
117	2.3
118	2.3
119	2.3
120	2.2
121	2.2
122	2.1
123	2.1
124	2.1
125	2.1
126	2.0
127	2.0
128	2.0
129	1.9

<b>Thoroughbred</b>	
<b>Concentration</b>	
85	1.2
86	1.2
87	1.2
88	1.2
89	1.2
90	1.2
91	1.1
92	1.1
93	1.1
94	1.1
95	1.0
96	1.0
97	1.0
98	1.0
99	1.0
100	1.0
101	0.9
102	0.9
103	0.9
104	0.9
105	0.9
106	0.9
107	0.9
108	0.9
109	0.8
110	0.8
111	0.8
112	0.8
113	0.8
114	0.8
115	0.7
116	0.7
117	0.7
118	0.7
119	0.6
120	0.6
121	0.6
122	0.5
123	0.5
124	0.5
125	0.4
126	0.3
127	0.3

## Exhibit A

<b>Standardbred</b>	
<b>Concentration</b>	
130	1.9
131	1.9
132	1.9
133	1.7
134	1.7
135	1.6
136	1.5
137	1.5
138	1.5
139	1.5
140	1.5
141	1.5
142	1.5
143	1.5
144	1.4
145	1.4
146	1.4
147	1.4
148	1.4
149	1.4
150	1.3
151	1.3
152	1.3
153	1.3
154	1.3
155	1.3
156	1.2
157	1.2
158	1.2
159	1.2
160	1.2
161	1.1
162	1.1
163	1.1
164	1.0
165	1.0
166	1.0
167	1.0
168	0.9
169	0.9
170	0.9
171	0.9
172	0.8
173	0.8
174	0.8

## Exhibit A

<b>Standardbred</b>	
<b>Concentration</b>	
175	0.8
176	0.8
177	0.8
178	0.7
179	0.6
180	0.5

## STANDARD BRED RULES

71 IAC 6-1-3 Claiming procedure (Effective 9/30/14)

Authority: IC 4-31-3-9

Affected: IC 4-31

Sec. 3. (a) A person desiring to claim a horse must have the required amount of money on deposit with the horsemen's bookkeeper at the time the completed claim form is deposited.

(b) The claimant shall provide all information required on the claim form provided by the association.

(c) The claim form shall be completed and signed by the claimant or his authorized agent prior to placing it and the necessary transfer fees in an envelope provided for this purpose by the association and approved by the commission. The claimant shall seal the envelope and identify on the outside the date, race number, and track name only.

(d) The envelope shall be delivered to the designated area or licensed delegate at least thirty (30) minutes before post time of the race from which the claim is being made. That person shall certify on the outside of the envelope the time it was received.

(e) The claim shall be examined by the judges or their designee prior to the start of the race. The association's designee shall be prepared to state whether sufficient funds are on deposit in the amount equivalent to the specified claiming price and any other required fees and taxes. The judges shall have a public announcement made and information scrolled on the simulcast video stating there has been a claim made or, in the case of multiple claims, the number of claims made on a horse during the post parade. The successful claimant will be announced after the completion of the race.

(f) The judges shall disallow any claim made on a form or in a manner which fails to comply with all requirements of this rule.

(g) Documentation supporting all claims for horses, whether successful or unsuccessful, shall include details of the method of payment either by way of:

(1) a photostatic copy of the check presented;

(2) written detailed information to include:

(A) the name of the claimant;

(B) the bank;

(C) the branch;

(D) the account number; and

(E) the drawer of any checks; or

(3) details of any other method of payment.

This documentation is to be kept on file at race tracks for twelve (12) months and is to be produced to the commission for inspection at any time during the twelve (12) month period.

(h) When a claim has been submitted, it is irrevocable and is at the risk of the claimant.

(i) In the event more than one (1) claim is submitted for the same horse, the successful claimant shall be determined by lot by the judges or their designee, and all unsuccessful claims involved in the decision by lot shall, at that time, become null and void, notwithstanding any future disposition of such claim.

(j) Upon determining that a claim is valid, the judges shall notify the paddock judge of:

(1) the name of the horse claimed;

(2) the name of the claimant; and

(3) the name of the person to whom the horse is to be delivered.

Also, the judges shall cause a public announcement to be made.

(k) Every horse entered in a claiming race shall race for the account of the owner who declared it in the event, but title to a claimed horse shall be vested in the successful claimant from the time the horse is deemed to have started, and the successful claimant shall become the owner of the horse, whether it be alive or dead, sound or unsound, or injured during or after the race. A horse entered in a claiming race cannot be sold or transferred until the completion of the race.

(l) A horse entered in a claiming race cannot be scratched from a claiming race for the purpose of being sold privately.

(m) A post-race test may be taken from any horse claimed out of a claiming race. The trainer of the horse at the time of entry for the race from which the horse was claimed shall be responsible for the claimed horse until the post-race sample is collected. The horse's halter must accompany the horse. Altering or removing the horse's shoes will be considered a violation. The successful claimant/trainer shall have the right to measure the horse's hoppers

## Exhibit B

and any other equipment that he deems necessary before the horse leaves the test barn. The claimant or his/her authorized designee shall be permitted access into the test barn. The equipment must remain on the claimed horse until the claimant or his/her designee has an opportunity to measure hobbles or any other equipment he deems necessary.

(n) Any person who refuses to deliver a horse legally claimed out of a claiming race shall be suspended, together with the horse, until delivery is made.

(o) A claimed horse shall not:

(1) be eligible to start in any race in the name or interest of the owner of the horse at the time of entry for the race from which the horse was claimed;

(2) remain in or be returned to the same stable or to the care or management of the first owner or trainer; or

(3) be sold or transferred to anyone;

for a period of sixty (60) days unless reclaimed out of another claiming race.

(p) The claiming price shall be paid to the owner at the time of entry for the race from which the horse was claimed only when the successful claimant is not in pending status by the USTA, the judges are satisfied that the claim is valid, and the successful claimant is recognized as the owner of record.

(q) The judges, at the option of the claimant, shall rule a claim invalid if the horse has been found ineligible to the race from which it was claimed.

(r) Mares and fillies **that** are in foal are ineligible for claiming races. Upon receipt of the horse, if a claimant determines within forty-eight (48) hours that a claimed filly or mare is in foal, he or she may, at his or her option, return the horse to the owner of the horse at the time of entry for the race from which the horse was claimed.

(s) If a claimant demonstrates that the sex of the horse is other than reported in the official racing program, he or she may, within forty-eight (48) hours of the claim, at his or her option, return the horse to the owner of the horse at the time of entry for the race from which the horse was claimed. The judge shall rule the claim of the returned horse invalid.

**(t) If the post race serum or plasma sample of the horse contains cobalt in excess of the threshold established in 71 IAC 8-1-9, the claimant will be notified of the test result and he or she may, within forty-eight (48) hours of notification, at his or her option, return the horse to the owner of the horse at the time of entry for the race from which the horse was claimed.**

(u) When the judges rule that a claim is invalid and the horse is returned to the owner of the horse at the time of entry for the race in which the invalid claim was made:

(1) the amount of the claiming price and any other required fees and taxes shall be repaid to the claimant;

(2) any purse monies earned subsequent to the date of the claim and before the date on which the claim is ruled invalid shall be the property of the claimant; and

(3) the claimant shall be responsible for any reasonable costs incurred through the care, training, or racing of the horse while it was in his or her possession.

(v) No horse claimed out of a claiming race shall race outside the state of Indiana for the earlier of:

(1) a period of sixty (60) days; or

(2) the conclusion of the last standardbred race meet under the jurisdiction of the Indiana horse racing commission in that year.

(w) Notwithstanding the provisions of subsection (u), a claimed horse shall be allowed to compete out of state while on the sixty (60) day hold period in any stake, or early and late closer, it is listed as being paid prior to the claim. (Indiana Horse Racing Commission; 71 IAC 6-1-3; emergency rule filed Feb 10, 1994, 9:20 a.m.: 17 IR 1149; emergency rule filed Aug 10, 1994, 3:30 p.m.: 17 IR 2907; emergency rule filed Feb 13, 1998, 10:00 a.m.: 21 IR 2400; emergency rule filed Feb 20, 2001, 10:08 a.m.: 24 IR 2101; errata filed Jun 21, 2001, 3:21 p.m.: 24 IR 3652; readopted filed Oct 30, 2001, 11:50 a.m.: 25 IR 899; emergency rule filed Jan 21, 2004, 2:30 p.m.: 27 IR 1915; emergency rule filed May 10, 2005, 3:20 p.m.: 28 IR 2747; emergency rule filed Mar 10, 2006, 11:00 a.m.: 29 IR 2215; emergency rule filed Mar 12, 2008, 1:53 p.m.: 20080326-IR-071080191ERA, eff Mar 11, 2008 [IC 4-22-2-37.1 establishes the effectiveness of an emergency rule upon filing with the Publisher. LSA Document #08-191(E) was filed with the Publisher March 12, 2008.]; emergency rule filed Mar 19, 2009, 11:07 a.m.: 20090401-IR-071090195ERA, eff Mar 12, 2009 [IC 4-22-2-37.1 establishes the effectiveness of an emergency rule upon filing with the Publisher. LSA Document #09-195(E) was filed with the Publisher March 19, 2009.]; emergency rule filed Jan 25, 2012, 12:20 p.m.: 20120201-IR-071120056ERA; emergency rule filed Apr 5, 2013, 3:50 p.m.: 20130410-IR-071130135ERA

71 IAC 8-1-7 Drug classification and penalties (Effective 9/30/14)

Authority: IC 4-31-3-9

Affected: IC 4-31-12

Sec. 7. (a) **Except as provided in (b), upon** a finding of a violation of this rule, the judges shall consider the classification level of the violation as currently established by the Uniform Classification Guidelines of Foreign Substances and Recommended Penalties and Model Rule as revised by the ARCI in August 1996 and any other subsequent revision effective after said date, which are incorporated by reference herein, and impose penalties and disciplinary measures consistent with the recommendations contained therein. Provided, however, that in the event a majority of the judges determine that mitigating circumstances require imposition of a lesser penalty they may impose the lesser penalty. In the event a majority of the judges wish to impose a greater penalty or a penalty in excess of the authority granted them, then, and in such event, they may impose the maximum penalty authorized and refer the matter to the commission with specific recommendations for further action.

**(b) Cobalt shall carry a category “A” penalty, as established by the Recommended Penalties and Model Rule, regardless of its presence in a post race or out of competition sample.**

*(Indiana Horse Racing Commission; 71 IAC 8-1-7; emergency rule filed Feb 10, 1994, 9:20 a.m.: 17 IR 1170; emergency rule filed Feb 13, 1998, 10:00 a.m.: 21 IR 2413; readopted filed Oct 30, 2001, 11:50 a.m.: 25 IR 899; readopted filed Mar 23, 2007, 11:31 a.m.: 20070404-IR-07107003ORFA) NOTE: Expiration postponed by Executive Order #13-27, posted at 20140108-IR-GOV130576EOA.*

71 IAC 8-1-9 Environmental contaminants and substances of human use (Effective 9/30/14)

Authority: IC 4-31-3-9

Affected: IC 4-31-12

Sec. 9. (a) Substances described in subsection (b) are recognized as either:

(1) environmental contaminants in that they are endogenous to the horse or that they can arise from plants traditionally grazed or harvested as equine feed or are present in equine feed because of contamination during cultivation, processing, treatment, storage, or transportation phases; or

(2) substances of human use and addiction and which could be found in the horse due to its close association with humans.

(b) Regulatory thresholds have been set for the following substances:

(1) Arsenic – not to exceed three-tenths (0.3) micrograms per milliliter total arsenic in urine.

(2) Caffeine – not to exceed one hundred (100) nanograms per milliliter of caffeine in serum or plasma.

**(3) Cobalt – not to exceed twenty-five (25) parts per billion of cobalt in serum or plasma. A sample from a horse tested and found by the Commission’s primary lab to have cobalt in excess of this threshold shall be placed and remain on the veterinarian’s list until the concentration of cobalt in serum or plasma has fallen below the designated threshold.**

~~(4)~~ (4) Estradiol – not to exceed forty-five one-thousandths (.045) micrograms per milliliter of free plus conjugated 5 $\alpha$ -estrane-3 $\beta$ ,17 $\alpha$ -diol, in the urine of male horses other than geldings.

~~(5)~~ (5) Hydrocortisone – not to exceed one (1) microgram per milliliter of hydrocortisone in urine.

~~(6)~~ (6) Methoxytyramine – not to exceed four (4) micrograms per milliliter of free plus conjugated methoxytyramine in urine.

~~(7)~~ (7) Salicylate and salicylate acid – not to exceed seven hundred fifty (750) micrograms per milliliter of salicylate and salicylate acid in urine or six and one-half (6.5) micrograms per milliliter of salicylate and salicylate acid in serum or plasma.

~~(8)~~ (8) Theobromine – not to exceed two (2) micrograms per milliliter of theobromine in urine or three-tenths (0.3) micrograms per milliliter in serum or plasma.

(c) If the preponderance of evidence presented in the hearing shows that a positive test is the result of environmental contamination or inadvertent exposure due to human drug use, it should be considered as a mitigating factor in any disciplinary action taken against the affected trainer. *(Indiana Horse Racing Commission; 71 IAC 8-1-9; emergency rule filed Mar 3, 2011, 11:50 a.m.: 20110309-IR-071110100ERA; readopted filed Nov 26, 2013, 11:25 a.m.: 20131225-IR-071130345RFA; emergency rule filed Jul 3, 2014, 11:57 a.m.: 20140709-IR-071140251ERA)*

71 IAC 8-3-5 Out of competition testing **(EFFECTIVE JANUARY 1, 2015)**

Authority: IC 4-31-3-9

Affected: IC 4-31-12

## Exhibit B

Sec. 5. (a) Any horse eligible to race in Indiana under this subsection is subject to testing without advance notice for prohibited substances, practices, and procedures as specified in subsection (f), while the horse is located on the grounds of a racetrack under the jurisdiction of the commission, or stabled off association grounds while under the care or control of trainer or owner licensed by the commission under the restrictions listed in subsection (e). A horse is eligible to race in Indiana if it is listed:

- (1) on an owner's or trainer's license application; or
- (2) a stall application, nomination list; or
- (3) on the horse sign-in sheet at any time during the meet; or
- (4) has raced at any Indiana race meet during the calendar year.

A horse shall be presumed eligible if it is a racing breed, at least two (2) years old and an Indiana bred or sired horse. The owner of such an Indiana bred or sired horse may render the horse ineligible for the testing as described in this regulation by indicating in writing the Indiana bred or sired horse is not intended to race in Indiana, pursuant to subsection (b) below provided that the owner of such an Indiana bred or sired horse provides such written notice to the office of the commission thirty (30) days before the horse turns two (2) years old or within thirty (30) days after the owner acquires the horse. In this event, the horse shall be deemed ineligible for racing in Indiana as provided for in subsection (b) below.

(b) If a horse to be tested is not covered under subsection (a), the executive director or judges may nevertheless test any such horse as eligible to race in Indiana for prohibited substances, practices, and procedures specified in subsection (f), unless the owner or trainer or other authorized representative or designee of such horse immediately represents in writing that the horse is not intended to be, and will not be, raced in Indiana for a minimum of three hundred sixty-five (365) days. If the owner, trainer, or other authorized representative or designee so represents, the horse shall be deemed ineligible for racing in Indiana for no less than three hundred sixty-five (365) days from that date. This three hundred sixty-five (365) day ineligibility to race in Indiana shall follow the horse even if sold or transferred to another owner or trainer. An owner or trainer may, however, consent to the collection of a sample from a horse selected for testing under this rule, even if the horse is not presently intended to be raced in Indiana, and if such horse tests negative, it will remain eligible to race in Indiana.

(c) The executive director or judges may order any horse of a licensed trainer to report to a track under the jurisdiction of the commission for out of competition testing. The trainer is responsible to have the horse or horses available at the designated time and location. In the event that a horse is ordered to report to a track pursuant to the authority granted by this subsection, a licensed trainer is entitled to reimbursement by the commission for mileage (at the current rate paid by the state of Indiana as specified in the current Indiana financial management circular) to and from the location where the horse was stabled when the horse was ordered to report to the track. Under no circumstances will a trainer be entitled to reimbursement for mileage in excess of the actual mileage to the track from the place where the horse was stabled when ordered to report and from the track to the place where the horse is first stabled following the testing. The trainer is not entitled to receive reimbursement from the commission for any other expense relating to any order under this subsection to report to a track for out-of-competition testing.

(d) The official veterinarian, a licensed veterinarian authorized by the commission, a veterinary technician under the direct supervision of the official veterinarian, or a licensed veterinarian authorized by the commission may take a urine, blood, or hair sample from a horse for testing as provided for in this section.

(e) Unless sample collection occurs on the grounds of a racetrack or other location within Indiana under the commission's jurisdiction, the commission's representatives must arrive for the taking of blood, urine, or hair samples from an eligible horse as defined in subsections [subsection] (a) or (b), only between the hours of 7:00 a.m. and noon, after announcing their presence at the premises where the horse(s) to be tested is (are) located and showing their credentials to collect samples from the horse(s) selected for testing for prohibited substances, practices, and procedures as specified in subsection (f). The commission's representatives or designees will request to meet with the trainer or owner of the selected horse(s). If neither is available, the collection will be deferred until the trainer and/or owner, or their representative or designee, becomes reasonably available, but the collection must occur not later than one (1) hour after the commission's designee arrives at the premises in the case of an eligible horse under subsection (a), and not later than two (2) hours in the case of an eligible horse under subsection (b). If the collection does not occur within the time provided for in this subsection, any horse that would have been subject to testing and eligible to race in Indiana will be deemed to be ineligible for racing in Indiana pursuant to the provisions of subsections (a) and (b). In addition, the owner and/or trainer of the horses may be subject to any other sanctions allowed by Indiana law and regulations, including, but not limited to, a fine, suspension, and/or summary suspension. It is a defense to any action brought against an owner and/or trainer for sanctions or as a result of any declaration a horse is ineligible because the sample collection did not occur within the time provided for by this

## Exhibit B

subsection that good cause existed that prohibited the owner, trainer, and/or their representative or designee from complying with the time limits set forth in this subsection. The owner, trainer, and/or their representative or designee has the burden of proving the good cause defense by a preponderance of the evidence.

(f) Prohibited substances, practices, and procedures are defined as the following:

(1) blood doping agents including, but not limited to, erythropoietin (EPO), darbepoetin, Oxyglobin, Hemopure, Aranesp, or any substance that abnormally enhances the oxygenation of body tissues;

(2) gene doping agents or the nontherapeutic use of genes, genetic elements, and/or cells that have the capacity to enhance athletic performance or produce analgesia;

(3) naturally produced venoms, synthetic analogues of venoms, derivatives of venoms, or synthetic analogues of derivatives of venoms;

(4) substances capable of producing a repartitioning effect that are not FDA-approved for use in horses, including, but not limited to, ractopamine, zilpaterol, or any similar agent;

(5) AAS (androgenic-anabolic steroids) other than endogenous concentrations of the naturally occurring substances as defined in 71 IAC 8-1-8 or AAS in a horse placed on the veterinarian's list in accordance with 71 IAC 8-1-8(f); and

**(6) Cobalt in excess of the threshold provided in 71 IAC 8-1-9. In the event a sample from a horse results in cobalt in excess of the threshold, the horse shall be placed on the veterinarian's list until the concentration of cobalt in serum has fallen below the designated threshold.**

(7) the presence in a horse of any substance at anytime listed in subdivision (1), (2), (3), (4), or (5) in an eligible as defined in subsections (a) and (b) above is prohibited and is a violation of this rule.

(g) The trainer and/or his/her designees shall cooperate with the official veterinarian or any licensed veterinarian or licensed veterinary technician authorized by the commission or any commission employee by:

(1) assisting in the immediate location and identification of the eligible horse selected for out of competition testing; and

(2) providing a stall or safe location to collect the samples.

The executive director or judges may summarily suspend, exclude, and/or otherwise penalize any trainer and/or other authorized representative or designee who does not fully cooperate with a commission employee or representative in assisting and identifying an eligible horse or providing a safe stall to collect samples in a timely fashion. If any such person is summarily suspended, excluded, or otherwise penalized, she/he shall be entitled to a hearing in accordance with Indiana law and regulations. A summary suspension, exclusion, or sanctions for failure to cooperate shall not issue, however, if a horseman meets his or her burden to establish the good cause defense set forth under subsection (e). This provision does not apply to an owner or trainer who timely provides written notice under subsection (a) or (b) that a horse sought to be tested is not intended to be raced in Indiana and thereby renders the horse ineligible pursuant to subsection (b).

(h) The collection of blood, urine, or hair samples under this rule shall be divided in three (3) parts to be analyzed as follows:

(1) approved primary laboratory for screening;

(2) approved primary laboratory for confirmation; and

(3) approved laboratory for split sample testing as chosen by the owner or trainer.

The commission shall approve the laboratories for screening, confirmation, and split sample testing.

(i) In the absence of extraordinary mitigating circumstances, a minimum penalty of a ten (10) year suspension will be assessed for any violation of subsection (f)(1) and (f)(2) of this rule [*subsection (f)(1) and (f)(2)*]. The Association of Racing Commissioners International, Inc. Uniform Classification Guidelines for Foreign Substances and Recommended Penalties and Model Rule will be considered for violations of (f)(3), (f)(4), and (f)(5) of this rule [*subsection (f)(3), (f)(4), and (f)(5)*] with additional penalties for any drug not FDA approved for use in horses. (*Indiana Horse Racing Commission; 71 IAC 8-3-5; emergency rule filed Jul 23, 2007, 9:16 a.m.: 20070808-IR-071070461ERA, eff Jul 18, 2007 [IC 4-22-2-37.1 establishes the effectiveness of an emergency rule upon filing with the Publisher. LSA Document #07-461(E) was filed with the Publisher July 23, 2007.]; errata filed Aug 14, 2007, 1:28 p.m.: 20070829-IR-071070461ACA; emergency rule filed Mar 12, 2008, 1:53 p.m.: 20080326-IR-071080191ERA, eff Mar 11, 2008 [IC 4-22-2-37.1 establishes the effectiveness of an emergency rule upon filing with the Publisher. LSA Document #08-191(E) was filed with the Publisher March 12, 2008.]; emergency rule filed Mar 19, 2009, 11:07 a.m.: 20090401-IR-071090195ERA, eff Mar 12, 2009 [IC 4-22-2-37.1 establishes the effectiveness of an emergency rule upon filing with the Publisher. LSA Document #09-195(E) was filed with the Publisher March 19, 2009.]; emergency rule filed Mar 3, 2011, 11:50 a.m.: 20110309-IR-071110100ERA; emergency rule filed Sep 10, 2012, 2:01 p.m.: 20120912-IR-071120525ERA; emergency rule filed May 7, 2014, 2:27 p.m.: 20140514-IR-071140143ERA, eff May 15, 2014)*

## THOROUGHBRED/QUARTER HORSE RULES

71 IAC 6.5-1-6 Transfer of claimed horse (Effective 9/30/14)

Authority: IC 4-31-3-9

Affected: IC 4-31

Sec. 6. (a) Upon successful claim, the stewards shall issue, upon forms approved by the commission, an authorization of transfer of the horse from the original owner to the claimant. Copies of the transfer authorization shall be forwarded to and maintained by the stewards and the racing secretary. Upon notification by the stewards, the horsemen's bookkeeper shall immediately debit the claimant's account for the claiming price, applicable taxes, and transfer fees. No claimed horse shall be delivered by the original owner to the successful claimant until authorized by the stewards.

(b) A person shall not refuse to deliver a properly claimed horse to the successful claimant.

(c) Transfer of possession of a claimed horse shall take place immediately after the race has been run. If the horse is required to be taken to the detention barn for post-race testing, the successful claimant or the successful claimant's representative shall maintain physical custody of the claimed horse. However, the original trainer or the original trainer's representative shall accompany the horse, observe the testing procedure, and sign the test sample tag.

(d) When a horse is claimed out of a claiming race, the horse's engagements are transferred with the horse to the claimant.

(e) Ownership interest in any horse claimed from a race shall not be resold or transferred back to the original owner for thirty (30) days after such horse was claimed, except by claim from a subsequent race.

(f) A claimed horse shall not remain in the same stable or under the control or management of its former owner.

**(g) If the post race serum or plasma sample of the horse contains cobalt in excess of the threshold established in 71 IAC 8.5-1-9, the claimant will be notified of the test result and he or she may, within forty-eight (48) hours of notification, at his or her option, return the horse to the owner of the horse at the time of the entry for the race from which the horse was claimed.**

(Indiana Horse Racing Commission; 71 IAC 6.5-1-6; emergency rule filed Jun 15, 1995, 5:00 p.m.: 18 IR 2863, eff Jul 1, 1995; readopted filed Oct 30, 2001, 11:50 a.m.: 25 IR 899; readopted filed Mar 23, 2007, 11:31 a.m.: 20070404-IR-071070030RFA; readopted filed Nov 26, 2013, 11:25 a.m.: 20131225-IR-071130345RFA)

71 IAC 8.5-1-7 Drug classification and penalties (Effective 9/30/14)

Authority: IC 4-31-3-9

Affected: IC 4-31-12

Sec. 7. (a) **Except as provided in (b), upon** a finding of a violation of this rule, the stewards shall consider the classification level of the violation as currently established by the Uniform Classification Guidelines of Foreign Substances and Recommended Penalties and Model Rule as revised by the ARCI in August 1996 and any other subsequent revision effective after said date, which are incorporated by reference herein, and impose penalties and disciplinary measures consistent with the recommendations contained therein. Provided, however, that in the event a majority of the stewards determine that mitigating circumstances require imposition of a lesser penalty they may impose the lesser penalty. In the event a majority of the stewards wish to impose a greater penalty or a penalty in excess of the authority granted them, then, and in such event, they may impose the maximum penalty authorized and refer the matter to the commission with specific recommendations for further action.

**(b) Cobalt shall carry a category "A" penalty, as established by the Recommended Penalties and Model Rule, regardless of its presence in a post race or out of competition sample.**

(Indiana Horse Racing Commission; 71 IAC 8.5-1-7; emergency rule filed Jun 15, 1995, 5:00 p.m.: 18 IR 2881, eff Jul 1, 1995; emergency rule filed Feb 13, 1998 10:00 a.m.: 21 IR 2421; errata filed Mar 5, 1998, 1:46 p.m.:

## Exhibit B

21 IR 2392; readopted filed Oct 30, 2001, 11:50 a.m.: 25 IR 899; readopted filed Mar 23, 2007, 11:31 a.m.: 20070404-IR-071070030RFA) NOTE: Expiration postponed by Executive Order #13-27, posted at 20140108-IR-GOV130576EOA.

71 IAC 8.5-1-9 Environmental contaminants and substances of human use (Effective 9/30/14)

Authority: IC 4-31-3-9

Affected: IC 4-31-12

Sec. 9. (a) Substances described in subsection (b) are recognized as either:

(1) environmental contaminants in that they are endogenous to the horse or that they can arise from plants traditionally grazed or harvested as equine feed or are present in equine feed because of contamination during cultivation, processing, treatment, storage, or transportation phases; or

(2) substances of human use and addiction and which could be found in the horse due to its close association with humans.

(b) Regulatory thresholds have been set for the following substances:

(1) Arsenic – not to exceed three-tenths (0.3) micrograms per milliliter total arsenic in urine.

(2) Caffeine – not to exceed one hundred (100) nanograms per milliliter of caffeine in serum or plasma.

**(3) Cobalt—not to exceed twenty-five (25) parts per billion of cobalt in serum or plasma. A sample from a horse tested and found by the Commission’s primary lab to have cobalt in excess of this threshold shall be placed and remain on the veterinarian’s list until the concentration of cobalt in serum or plasma has fallen below the designated threshold.**

(4) Estradiol – not to exceed forty-five one-thousandths (.045) micrograms per milliliter of free plus conjugated  $5\alpha$ -estrane- $3\beta$ , $17\alpha$ -diol, in the urine of male horses other than geldings.

(5) Hydrocortisone – not to exceed one (1) microgram per milliliter of hydrocortisone in urine.

(6) Methoxytyramine – not to exceed four (4) micrograms per milliliter of free plus conjugated methoxytyramine in urine.

(7) Salicylate and salicylate acid – not to exceed seven hundred fifty (750) micrograms per milliliter of salicylate and salicylate acid in urine or six and one-half (6.5) micrograms per milliliter of salicylate and salicylate acid in serum or plasma.

(8) Theobromine – not to exceed two (2) micrograms per milliliter of theobromine in urine or three-tenths (0.3) micrograms per milliliter in serum or plasma.

(c) If the preponderance of evidence presented in the hearing shows that a positive test is the result of environmental contamination or inadvertent exposure due to human drug use it should be considered as a mitigating factor in any disciplinary action taken against the affected trainer. (Indiana Horse Racing Commission; 71 IAC 8.5-1-9; emergency rule filed Mar 3, 2011, 11:50 a.m.: 20110309-IR-071110100ERA; emergency rule filed Jul 3, 2014, 11:57 a.m.: 20140709-IR-071140251ERA)

71 IAC 8.5-2-5 Out of competition testing (Effective **January 1, 2015**)

Authority: IC 4-31-3-9

Affected: IC 4-31-12

Sec. 5. (a) Any horse eligible to race in Indiana under this subsection is subject to testing without advance notice for prohibited substances, practices, and procedures as specified in subsection (f), while the horse is located on the grounds of a racetrack under the jurisdiction of the commission, or stabled off association grounds while under the care or control of a trainer or owner licensed by the commission under the restrictions listed in subsection (e). A horse is eligible to race in Indiana if it is listed:

(1) on an owner's or trainer's license application; or

(2) a stall application, nomination list; or

(3) on the horse sign-in sheet at any time during the meet; or

## Exhibit B

(4) has raced at any Indiana race meet during the calendar year.

A horse shall be presumed eligible if it is a racing breed, at least two (2) years old and an Indiana bred or sired horse. The owner of such an Indiana bred or sired horse may render the horse ineligible for the testing as described in this regulation by indicating in writing the Indiana bred or sired horse is not intended to race in Indiana, pursuant to subsection (b) below provided that the owner of such an Indiana bred or sired horse provides such written notice to the office of the commission thirty (30) days before the horse turns two (2) years old or within thirty (30) days after the owner acquires the horse. In this event, the horse shall be deemed ineligible for racing in Indiana as provided for in subsection (b) below.

(b) If a horse selected to be tested is not covered under subsection (a), the executive director or stewards may nevertheless test any such horse as eligible to race in Indiana for prohibited substances, practices, and procedures specified in subsection (f), unless the owner or trainer or other authorized representative or designee of such horse immediately represents in writing that the horse is not intended to be, and will not be, raced in Indiana for a minimum of three hundred sixty-five (365) days. If the owner, trainer, or other authorized representative or designee so represents, the horse shall be deemed ineligible for racing in Indiana for no less than three hundred sixty-five (365) days from that date. This three hundred sixty-five (365) day ineligibility to race in Indiana shall follow the horse even if sold or transferred to another owner or trainer. An owner or trainer may, however, consent to the collection of a sample from a horse selected for testing under this rule, even if the horse is not presently intended to be raced in Indiana, and if such horse tests negative, it will remain eligible to race in Indiana.

(c) The executive director or stewards may order any horse of a licensed trainer to report to a track under the jurisdiction of the commission for out of competition testing. The trainer is responsible to have the horse or horses available at the designated time and location. In the event that a horse is ordered to report to a track pursuant to the authority granted by this subsection, a licensed trainer is entitled to reimbursement by the commission for mileage (at the current rate paid by the state of Indiana as specified in the current Indiana financial management circular) to and from the location where the horse was stabled when the horse was ordered to report to the track. Under no circumstances will a trainer be entitled to reimbursement for mileage in excess of the actual mileage to the track from the place where the horse was stabled when ordered to report and from the track to the place where the horse is first stabled following the testing. The trainer is not entitled to receive reimbursement from the commission for any other expense relating to any order under this subsection to report to a track for out-of-competition testing.

(d) The official veterinarian, a licensed veterinarian authorized by the commission or a veterinary technician under the direct supervision of the official veterinarian, or a licensed veterinarian authorized by the commission may take a urine, blood, or hair sample from a horse for testing as provided for in this section.

(e) Unless sample collection occurs on the grounds of a racetrack or other location within Indiana under the commission's jurisdiction, the commission's representatives must arrive for the taking of blood, urine, or hair samples from an eligible horse as defined in subsections [subsection] (a) or (b), only between the hours of 7:00 a.m. and noon, after announcing their presence at the premises where the horse(s) to be tested is (are) located and showing their credentials to collect samples from the horse(s) selected for testing for prohibited substances, practices, and procedures as specified in subsection (f). The commission's representatives or designees will request to meet with the trainer or owner of the selected horse(s). If neither is available, the collection will be deferred until the trainer and/or owner, or their representative or designee, becomes reasonably available, but the collection must occur not later than one (1) hour after the commission's designee arrives at the premises in the case of an eligible horse under subsection (a), and not later than two (2) hours in the case of an eligible horse under subsection (b). If the collection does not occur within the time provided for in this subsection, any horse that would have been subject to testing and eligible to race in Indiana will be deemed to be ineligible for racing in Indiana pursuant to the provisions of subsections (a) and (b). In addition, the owner and/or trainer of the horses may be subject to any other sanctions allowed by Indiana law and regulations, including, but not limited to, a fine, suspension, and/or summary suspension. It is a defense to any action brought against an owner and/or trainer for sanctions or as a result of any declaration a horse is ineligible because the sample collection did not occur within the time provided for by this subsection that good cause existed that prohibited the owner, trainer, and/or their representative or designee from

complying with the time limits set forth in this subsection. The owner, trainer, and/or their representative or designee has the burden of proving the good cause defense by a preponderance of the evidence.

(f) Prohibited substances, practices, and procedures are defined as the following:

- (1) blood doping agents including, but not limited to, erythropoietin (EPO), darbepoetin, Oxyglobin, Hemopure, Aranesp, or any substance that abnormally enhances the oxygenation of body tissues;
- (2) gene doping agents or the nontherapeutic use of genes, genetic elements, and/or cells that have the capacity to enhance athletic performance or produce analgesia;
- (3) naturally produced venoms, synthetic analogues of venoms, derivatives of venoms, or synthetic analogues of derivatives of venoms;
- (4) substances capable of producing a repartitioning effect that are not FDA-approved for use in horses, including, but not limited to, ractopamine, zilpaterol, or any similar agent;
- (5) AAS (androgenic-anabolic steroids) other than endogenous concentrations of the naturally occurring substances as defined in 71 IAC 8.5-1-8 or AAS in a horse placed on the veterinarian's list in accordance with 71 IAC 8.5-1-8(f); and

**(6) Cobalt in excess of the threshold provided in 71 IAC 8.5-1-9. In the event a sample from a horse results in cobalt in excess of the threshold, the horse shall be placed on the veterinarian's list until the concentration of cobalt in serum has fallen below the designated threshold.**

(7) the presence in a horse of any substance at anytime listed in subdivision (f)(1), (f)(2), (f)(3), (f)(4), or (f)(5) [subdivision (1), (2), (3), (4), or (5)] in an eligible as defined in subsections (a) and (b) above is prohibited and is a violation of this rule.

(g) The trainer and/or his/her designees shall cooperate with the official veterinarian, or any licensed veterinarian or licensed veterinary technician authorized by the commission, or any commission employee by:

- (1) assisting in the immediate location and identification of the eligible horse selected for out of competition testing; and
- (2) providing a stall or safe location to collect the samples.

The executive director or stewards may summarily suspend, exclude, and/or otherwise penalize any trainer and/or other authorized representative or designee who does not fully cooperate with a commission employee or representative in assisting and identifying an eligible horse or providing a safe stall to collect samples in a timely fashion. If any such person is summarily suspended, excluded, or otherwise penalized, she/he shall be entitled to a hearing in accordance with Indiana law and regulations. A summary suspension, exclusion, or sanctions for failure to cooperate shall not issue, however, if a horseman meets his or her burden to establish the good cause defense set forth under subsection (e). This provision does not apply to an owner or trainer who timely provides written notice under subsection (a) or (b) that a horse sought to be tested is not intended to be raced in Indiana and thereby renders the horse ineligible pursuant to subsection (b).

(h) The collection of blood, urine, or hair samples under this rule shall be divided in three (3) parts to be analyzed as follows:

- (1) approved primary laboratory for screening;
- (2) approved primary laboratory for confirmation; and
- (3) approved laboratory for split sample testing as chosen by the owner or trainer.

The commission shall approve the laboratories for screening, confirmation, and split sample testing.

(i) In the absence of extraordinary mitigating circumstances, a minimum penalty of a ten (10) year suspension will be assessed for any violation of subsection (f)(1) and (f)(2) of this rule [subsection (f)(1) and (f)(2)]. The Association of Racing Commissioners International, Inc. Uniform Classification Guidelines for Foreign Substances and Recommended Penalties and Model Rule will be considered for violations of (f)(3), (f)(4), and (f)(5) of this rule [subsection (f)(3), (f)(4), and (f)(5)] with additional penalties for any drug not FDA approved for use in horses. (Indiana Horse Racing Commission; 71 IAC 8.5-2-5; emergency rule filed Jul 23, 2007, 9:16 a.m.: 20070808-IR-071070461ERA, eff Jul 18, 2007 [IC 4-22-2-37.1 establishes the effectiveness of an emergency rule upon filing with the Publisher. LSA Document #07-461(E) was filed with the Publisher July 23, 2007.]; errata filed Aug 14, 2007, 1:28 p.m.: 20070829-IR-071070461ACA; emergency rule filed Mar 12, 2008, 1:53 p.m.: 20080326-

## Exhibit B

IR-071080191ERA, eff Mar 11, 2008 [IC 4-22-2-37.1 establishes the effectiveness of an emergency rule upon filing with the Publisher. LSA Document #08-191(E) was filed with the Publisher March 12, 2008.]; emergency rule filed Mar 19, 2009, 11:07 a.m.: 20090401-IR-071090195ERA, eff Mar 12, 2009 [IC 4-22-2-37.1 establishes the effectiveness of an emergency rule upon filing with the Publisher. LSA Document #09-195(E) was filed with the Publisher March 19, 2009.]; emergency rule filed Mar 3, 2011, 11:50 a.m.: 20110309-IR-071110100ERA; emergency rule filed Sep 10, 2012, 2:01 p.m.: 20120912-IR- 071120525ERA; emergency rule filed May 7, 2014, 2:27 p.m.: 20140514-IR-071140143ERA, eff May 15, 2014)

## Attachment 1

### IS COBALT A KILLER IN HORSES?

by Ray Paulick | January 13, 2014 8:13 am

Cobalt isn't listed in the 15 pages of drugs published by the Association of Racing Commissioners International in its "Uniform Classification Guidelines for Foreign Substances[1]." So it caught many people by surprise last week when Jeff Gural, owner of Meadowlands Racing and Entertainment, said two trainers would be banned from the New Jersey harness track because horses in their care tested out of competition were found to have massive amounts of Cobalt in their system.

But should it really have been a surprise?

Articles in scientific journals discussing use of Cobalt for blood doping by human athletes have been around nearly a decade. Experiments with laboratory rats show that Cobalt improved endurance. Administration of Cobalt in human athletes has similar results to recombinant human erythropoietin (EPO), adding red blood cells. It is inexpensive and easy to acquire, but difficult to find in drug tests because the detection window is brief – between four and six hours.

Cobalt also can be fatal.

A 2013 article in Hematology magazine, entitled "Blood manipulation: current challenges from an anti-doping perspective," said chronic Cobalt exposure can have severe side effects.

"Regular intake of high Cobalt salt doses comes with a real risk of organ injury, such as thyroid dysfunction, cardiotoxicity, and heart failure," Danish author Jakob Morkeberg writes. HIF's (hypoxia-inducible factor stabilizers) can affect several other genes from the EPO gene, some of which might have tumor-growth-promoting potential. Therefore, using this substance could pose a real health risk to the athlete."

That's what the Ontario Racing Commission advised in August 2009 when it posted a notice to the industry[2] under the headline, "Warning: if used in excess, Cobalt sulfate can harm your horse."

The dangers of Cobalt were known long before the substance was used as a performance-enhancing drug in human or equine athletics.

In the mid-1960s a brewery in Quebec, Canada, was among several North American beer makers to add Cobalt to its formula to stabilize foam. An alarming number of heavy beer drinkers in Quebec developed heart disease[3] and died from cardiovascular failure, and the evidence led to the breweries that were adding Cobalt to their beer. The practice was quickly stopped, and so, too, did the deaths.

Tests taken out of competition by security personnel for Meadowlands were sent to the Hong Kong Jockey Club laboratory for evaluation. According to sources, the Standardbred trainers whose horses tested for high levels of Cobalt were also administering large doses of thyroxin to reduce risk of thyroid problems. This is not just a North American problem: Australian racing authorities, concerned with possible Cobalt use, are developing threshold levels in urine.

All that's needed to test for Cobalt is an ICP mass spectrometer and personnel trained on the diagnostic equipment. But post-race testing is thought to be virtually useless, since the substance is detectable only for a short time after dosing.

In the wake of last week's actions by Meadowlands[4] in neighboring New Jersey, the New York Gaming Commission said it is acquiring the necessary equipment and will begin testing for Cobalt.

## Attachment 1

"The Commission supports efforts by track operators to exclude parties who put horse health and safety in jeopardy and call into question the integrity of horse racing," The New York Gaming Commission said in a statement published in the New York Daily News. "New York's Equine Drug Testing Program is continually evolving. The Morrisville laboratory has acquired on loan the equipment to test for Cobalt. Personnel are being trained to test for Cobalt, and George Maylin (the director of Equine Drug Testing in New York) has been consulting with Meadowlands officials to help establish the proper thresholds for determining Cobalt positives."

In December, the California Horse Racing Board began testing for Cobalt in horses examined post-mortem in the state's necropsy program. However, none of the seven horses in Bob Baffert's care that died over a 16-month period from November 2011 to March 2013 were tested for Cobalt, either at the time of the original examination or during subsequent re-testing. In the CHRB report on the investigation of the Baffert sudden death horses[5], the trainer admitted to investigators that all of his horses routinely were being given thyroxin.

A statement from a CHRB communications officer who indicated Arthur would not respond to questions directly said: "Cobalt has not historically been an issue in livestock deaths. The Cobalt issue in racing is fairly new. Dr. Arthur doubts that any jurisdiction was testing for Cobalt at the time of these deaths."

Regarding the sudden death Baffert horses, the spokesman said: "Dr. Arthur contacted the lab in November to inquire about re-testing for Cobalt. He was told there were no samples left. By that, the lab meant liver samples, the tissue typically used at the lab for heavy metal testing. Upon further investigation, the lab does have samples of other tissues and fluids from all but two of the horses. The validated method of testing for Cobalt is for liver. Nonetheless, Dr. Arthur is working with his colleagues on methods and a determination of which of those other tissues would be the next best for Cobalt testing. This additional testing will be done once they have those answers."

Gural, as the owner of Meadowlands, is circumventing commissions. His team of experts and security personnel has established a policy – testing with threshold levels – making it clear anyone giving this dangerous substance to their horses will not be welcome to participate at his racetrack.

### Endnotes:

1. Uniform Classification Guidelines for Foreign Substances: <http://www.arci.com/druglisting.pdf>
2. notice to the industry: <http://www.ontarioracingcommission.ca/whatsnew.aspx?id=609>
3. beer drinkers in Quebec developed heart disease: <http://annals.org/article.aspx?articleid=682984>
4. actions by Meadowlands: <http://www.paulickreport.com/news/the-biz/the-meadowlands-uncovers-use-of-new-performance-enhancing-drug/>
5. investigation of the Baffert sudden death horses: [http://www.chrb.ca.gov/veterinary\\_reports/baffert\\_sudden\\_death\\_report\\_final\\_1121.pdf](http://www.chrb.ca.gov/veterinary_reports/baffert_sudden_death_report_final_1121.pdf)

**Source URL:** <http://www.paulickreport.com/news/ray-s-paddock/is-cobalt-a-killer-in-horses/>

---

Copyright ©2014 **The Paulick Report** unless otherwise noted.

---



# Press Release

## Cobalt Options Weighed by Regulators

DEL MAR, CA – North American racing regulators have decided to consider the results of two scientific research studies that have been commissioned to help detect the deliberate administration of cobalt in racehorses before making a formal recommendation of a regulatory testing limit to commission testing.

At the RCI Model Rules Committee meeting last week, a proposed threshold was presented and later withdrawn by representatives of the Racing Medication and Testing Consortium (RMTC) pending further discussion by the RMTC Board of Directors. That threshold, which is based on an analysis of an RMTC-coordinated project that is funded by the Kentucky Equine Drug Research Council and conducted by Dr. Heather Knych, an Assistant Professor at the University of California at Davis School of Veterinary Medicine, was advanced with the support of 8 of the 14 members of the RMTC Scientific Advisory Committee.

A second research project, funded by the United States Trotting Association (USTA), is near completion according to remarks made at the meeting by Ivan Axelrod, Chairman of the USTA. That project is being conducted by George Maylin, DVM, PhD, at the New York Drug Testing and Research Program at Morrisville State College in New York. He is assisted by Karyn Malinowski, PhD, and Kenneth McKeever, MS, PhD, FACSM, the Director and Associate Director, respectively, of the Equine Science Center at Rutgers University in New Jersey.

Racing regulators are concerned that cobalt treatments may be given to racehorses with an intent to affect performance by inducing red blood cell production similar to the prohibited use of erythropoietin (EPO). All horses have some degree of cobalt in their system as a result of diet and environmental factors. Excessive amounts may indicate a deliberate administration, above and beyond what would be considered appropriate or normal for vitamin or mineral supplements.

Concerns have been raised about horses with extremely elevated levels of cobalt and regulators are eager to better understand if an equine welfare threat exists.

In 2009, the Ontario Racing Commission issued a notice from then-Veterinary Supervisor, Dr. Bruce Duncan, who noted that “when administered in appropriate quantities, there is likely very little performance benefit. And when used in excess, this element can be toxic to horses.”

The California Horse Racing Board (CHRB) has issued the following notice to horsemen and veterinarians:

"Cobalt toxicity has been associated with myocardial (heart muscle) and other organ pathology in humans and other animals. High cobalt levels have been associated with the parenteral or oral administration of cobalt salts. While there is no documented evidence of cobalt toxicity in racehorses, the CHRB considers the administration of cobalt salts a potential equine health and safety issue."

But the New Jersey Agriculture Experiment Station at Rutgers University indicates on their website the following:

"High blood cobalt probably would indicate high doses of B-12 being given (the trace mineral is easier to test than the actual vitamin). The calming effect would be undesirable in a racehorse. It is virtually non-toxic and rapidly excreted through the kidneys if given in large doses, so there is no negative consequence other than possibly a quieter horse. It is recommended to give B-12 to stressed horses at around 30 microgram/kg of feed. There are no requirements for cobalt established for horses so it is uncertain what normal or excessive blood concentrations of cobalt would be. The National Research Council (2007) has set the maximum tolerable intake for cobalt to be 25 mg/kg (ppm) in the total ration but admits they base that decision on data from other species. There is no indication that horses on normal rations need supplemental cobalt."

In addition, Dr. Dionne Benson, Executive Director of the RMTC, reiterated statements at last week's meeting that she has previously made to the press indicating that it is unclear at what point cobalt can become toxic to a horse.

The RCI Board of Directors discussed whether to handle findings of excessive levels of cobalt indicating a deliberate administration of cobalt absent a documented deficiency and veterinarian prescribed treatment as "horse tampering".

"It's one thing for a horse to be treated for a condition by its veterinarian, but quite another to be tampered with prior to a race," RCI President Ed Martin said. "Tampering is bad enough, but if we find that the tampering endangers the horse, then it's time to throw the book at someone."

Although the RMTC-proposed threshold was withdrawn, a number of regulators had lingering questions as to the extent that data from Standardbred horses was included in their recommendation. Duncan Patterson, Chairman of RCI's Drug Testing Standards and Practices Committee, recommended that the association consider the two studies before adopting a formal recommendation to commissions and laboratories.



## Attachment 3

**LGC Science, Inc.**  
1745 Alysheba Way  
Suite 160  
Lexington, KY 40509

Tel: 859-721-0180  
Fax: 859-264-0371

August 20, 2014

Joe Gorajec  
Executive Director  
Indiana Horse Racing Commission  
1302 N. Meridian, Suite 175  
Indianapolis, IN 46202

Dear Mr. Gorajec:

Cobalt is an essential trace dietary mineral required by all mammals including horses. A normal horse diet contains sufficient cobalt to meet these requirements. Cobalt ingested by the horse in its feed is utilized by bacteria in the gastrointestinal tract to produce vitamin B-12 (cyanocobalamin). Since dietary sources of cobalt supply all of the cobalt required by horses for the synthesis of all of the vitamin B12 that is required, administration of cobalt by any route is unnecessary and may carry risk of toxicity due to systemic exposure (see below).

The potential for cobalt (as  $\text{Co}^{+2}$  or cobaltous ion) to stimulate EPO production in mammals was discovered in the late 1950s (Goldwasser *et al.*, 1957; Goldwasser *et al.*, 1958). Subsequent experiments in humans revealed that daily administration of 150 mg of cobaltous chloride to healthy males resulted in a substantial increase in red blood cells within one to three weeks of initiating treatment. Consequently, cobaltous salts were used therapeutically from the 1950s to the 1980s to treat anemia in humans. However, this use was discontinued due to toxicity and the introduction of recombinant human EPO (*e.g.*, Epogen<sup>®</sup>) in human medicine.

The mechanism by which cobaltous ion stimulates erythropoiesis has been demonstrated in a series of studies in which it has been shown that cobaltous ion stabilizes hypoxia-indicating factors (HIF) in the blood (Brügge *et al.*, 2007). The HIF proteins then dimerize and the dimer stimulates the production of endogenous EPO which promotes the synthesis of new red blood cells. The ability of cobalt as cobaltous ion to stimulate erythropoiesis in horses has not been demonstrated (August 2014). If administration of single or multiple doses of cobalt as cobaltous chloride or other cobaltous salt inhibits degradation of HIF in horses, I would expect that this would stimulate erythropoiesis similarly to what has been observed in other species and that horses will respond by synthesizing new red blood cells in the same manner that they respond to the administration of human recombinant EPO.

Excessive systemic concentrations of cobalt as cobaltous ion have been shown to cause polycythemia (excessive numbers of circulating red blood cells) in mammals as a result of the

stimulation of erythropoietin. Additionally, there have been reports of heart dysfunction (*e.g.*, cardiomyopathy) and thyroid impairment with high systemic concentrations of cobaltous ion in humans and laboratory animals. Cobalt intoxication was observed in a number of beer drinkers in the 1960s as a result of brewers adding cobalt to beer to maintain the foam head (Alexander 1972). The toxicity was characterized by abrupt onset of left ventricular failure, cardiogenic shock, and acidosis resulting in an overall mortality rate of 43 percent in affected individuals (Alexander 1972). Recognition of the relationship between the cobalt in beer and the cardiomyopathy resulted in the removal of cobalt from beer and rapid disappearance of cobalt-beer cardiomyopathy.

The toxicity of cobalt in horses is unknown because natural exposure of horses to high amounts of cobalt salts is highly unlikely and experimental studies involving administration of high doses of cobalt salts to horses have been limited to small numbers of horses in single doses. The risk of toxicity to horses after multiple parenteral doses of cobalt salts is unknown at this time. If horses respond similarly to other mammals to repeated oral or parenteral administration of excessive amounts of cobalt as cobaltous salts, then I would expect to see clinical signs of toxicity that would likely be a function of the dose and duration of treatment.

The potential for abuse of cobalt as a performance-enhancing substance in human athletic competition was cited by Lippi *et al.* in 2006. He noted the widespread availability of cobalt as cobaltous salts in supplements marketed for use by athletes, the widespread availability of effective tests to detect and confirm the use of human recombinant EPO thereby increasing the risk of detection of this substance, and the fact that the World Anti-Doping Agency had not identified cobalt as a prohibited substance. Lippi *et al.* (2006) argued that these factors likely contributed to the use of cobalt salts by human athletes as performance enhancers.

Regulation of a substance that is present normally in blood or urine samples requires knowledge of the normal range and the statistical distribution of values across that range. However, limited research had been done to determine normal plasma or serum concentrations of circulating cobalt in the horse before 2014. The results of one study of 9 healthy horses compared to horses infected with a virus indicated that the concentration in normal horses was  $1.9 \text{ ng/mL} \pm 3.7 \text{ ng/mL}$  (ppb) (Yörük *et al.*, 2007). In an unpublished survey of cobalt in 39 Thoroughbred horses that had not been treated with cobalt, a mean total serum cobalt concentration of  $2.9 \pm 1.1 \text{ ng/mL}$  was reported (Sams, unpublished).

Evidence has been provided by horse trainers, regulatory veterinarians, racing analysts, and breed registry representatives that cobalt is being administered intravenously to Standardbred and Thoroughbred race horses in the United States. Anecdotal reports suggest that cobalt in the form of cobaltous chloride and cobalt gluconate is being administered intravenously to horses in an effort to increase the production of red blood cells by stimulating erythropoiesis. A documented race track dose is 200 mg of cobaltous chloride intravenously twice a week. Furthermore, cobalt gluconate (2 mg/mL) is offered on at least one compounding pharmacy website for administration to horses and cobalt gluconate is found in a number of products in combination with B vitamins for use as a source of nutritional factors in horses (*e.g.*, Vita-15

injection from Neogen). The labeled dose of cobalt gluconate in Vita-15 is 1 mL per 100 pounds of body weight or 20 mg of cobalt gluconate per treatment.

Several race horses that have been tested for cobalt have been found to have plasma or serum cobalt concentrations greater than 1000 ng/mL (ppb) but the relationship between these concentrations and dosages of cobaltous chloride or cobalt glucuronide were unknown until the results of a study of the disposition of cobalt after administration of cobaltous chloride were recently completed (Knysch, personal communication, 2014). That study revealed that concentrations of cobalt are detectable in blood for several weeks after single dose administration because cobalt is eliminated from a blood with a relatively long half-life of approximately one week. This finding is in contrast to preliminary reports that indicated very short detection times due to rapid elimination from blood. Therefore, a sample that is found to have a concentration of 1000 ng/mL would require a period of more than six weeks to fall below a threshold of 25 ng/mL. Furthermore, repeated dose administration less than one week apart is likely to result in accumulation leading to higher cobalt concentrations than those achieved by single dose administration thereby increasing the risk of toxicity and extending the period required for depletion of body stores of cobalt.

Please let me know if you have any questions or need any additional information.

Signed

Richard Sams, Ph.D.  
Laboratory Director

attachment

### References

Alexander, CA. Cobalt-Beer Cardiomyopathy. A clinical and pathologic study of twenty-eight cases. *American Journal of Medicine* **53**: 395-417 (1972).

Brügge K, Jelkmann W, Metren E. Hydroxylation of hypoxia-inducible transcription factors and chemical compounds targeting HIF- $\alpha$  hydroxylases. *Current Methods in Medicinal Chemistry* **14**: 1853-1862 (2007).

Goldwasser E, Jacobson LO, Fried W, Plzak L. Mechanism of the erythropoietic effect of cobalt. *Science* **125**: 1085 (1957).

Goldwasser E, Jacobson LO, Fried W, Plzak L. Studies on erythropoiesis. V. The effect of cobalt on the production of erythropoietin. *Blood* **13**: 55-60 (1958).

Yörük İ, Deger Y, Mert H, Mert N, Ataseven V. Serum concentration of copper, zinc, iron, and cobalt and the copper/zinc ratio in horses with equine herpesvirus-1. *Biology of Trace Elements in Research* **118**:38–42 (2007).



---

821 CORPORATE DRIVE · LEXINGTON, KY 40503 · PHONE: 859-224-2844 · FAX: 859-296-3033 · WWW.RMTCNET.COM

August 21, 2014

Mr. Joe Gorajec  
Executive Director  
Indiana Racing Commission  
1302 N. Meridian, Suite 175  
Indianapolis, IN 46202

*RE: Proposed Cobalt Threshold*

Dear Mr. Gorajec:

As you know, inappropriate administration of cobalt is a significant area of concern in the industry. As a result, the RMTC is working diligently to develop a threshold. We are well on the way to this goal but have not formally approved a specific threshold for cobalt.

### **Cobalt Research To Date**

Thus far, the RMTC has sponsored an administration study of cobalt at the University of California Davis with Dr. Heather Knych. The Kentucky Equine Drug Research Council paid for analysis of the administration samples. An article based upon that research has been submitted for publication.

Additionally, the Kentucky Equine Drug Research Council along with testing laboratories from Pennsylvania, UC Davis and Truesdail Laboratories submitted values from racing horses tested for cobalt as a part of research and/or screening. The resulting values from the racing horses were provided to Dr. Ashley Hill – an epidemiologist and statistician from the University of California Davis. She performed an analysis on the submitted values.

### **Possible Thresholds**

The RMTC considered a number of thresholds at the Scientific Advisory Committee based upon Dr. Hill's analysis. The information they considered is as follows:

If all horses are included (all breeds, all values) the resulting threshold is 50.6. There are two values in this data (125.1 and 388.2) which can be statistically excluded because they are sufficiently far from the mean (and likely represent treated horses). Based upon a 5 standard deviation analysis of this data, the threshold would be 35.9 ppb (rounded to 36 ppb). Based upon administration data, this threshold would catch the majority of inappropriate administrations within 96 hours. The risk of inadvertent positives for this analysis is 1/3.4 million horses.

## Attachment 4

Because, however, we believe that a number of horses in the population used to develop this threshold have been treated, we also asked Dr. Hill to determine the relative risk of a threshold of 25 ppb – which was based upon data from Quarter Horses in California who we were fairly confident had not been treated. Based upon this – we are at roughly 4 standard deviations – and have a risk of a false positive of 1/33,000 horses when examining all horses, all breeds and excluding the two high values. When compared to the administration data, a 25 ppb threshold will allow us to distinguish an improper administration from normal supplementation for approximately 7-10 days after it occurs.

Additionally, we have a set of research horse data provided by Drs. Robinson and Knych. In those 30 horses, 29/30 were between less than 1 ppb and 6 ppb with one older sedentary horse testing at 19 ppb. These are the only horses tested that we are certain have not been treated with cobalt.

Based upon this information, the RMTC's Scientific Advisory Committee approved – in a split vote – a 25 ppb threshold which was, in turn, adopted by the RMTC board in a paper vote. We are currently waiting for the results of a study by the USTA to determine whether their data is consistent with the RMTC recommendation.

### **International Research**

There is also an effort to adopt an international threshold for this substance. This effort will include only horses known to not have received any supplementation (including minerals). In all likelihood, the new threshold will be lower than or equal to 25 ppb in plasma. The international community intends to use the mean of the values obtained from these horses plus 3.72 standard deviations.

I hope this helps the Indiana Racing Commission as it attempts to set a threshold for cobalt. Please let me know whether you need any additional information.

Best regards,

A handwritten signature in black ink, appearing to read "Dionne Benson", with a long horizontal flourish extending to the right.

Dionne Benson, DVM  
Executive Director

# Cobalt Regulation in Racing

RCI Model Rules Committee – July 2014

Dr. Dionne Benson

Racing Medication and Testing Consortium

# Cobalt Regulation in Racing

- What is cobalt?
- What are the potential performance enhancing effects?
- What are the potential side effects?
- How can we control cobalt in racing?

# Cobalt

- Essential dietary element
- Part of vitamin B12 and many “normal” supplements
- High dose intravenous and oral cobalt given to race horses



# Cobalt – Performance Enhancing Effects

- Cobalt stabilizes hypoxia detecting proteins
  - In the presence of these proteins, the body then thinks it is hypoxic (lacking oxygen)
  - This stimulates erythropoietin which in turn stimulates red blood cell production
  - With increased RBCs comes increased oxygenation of muscles

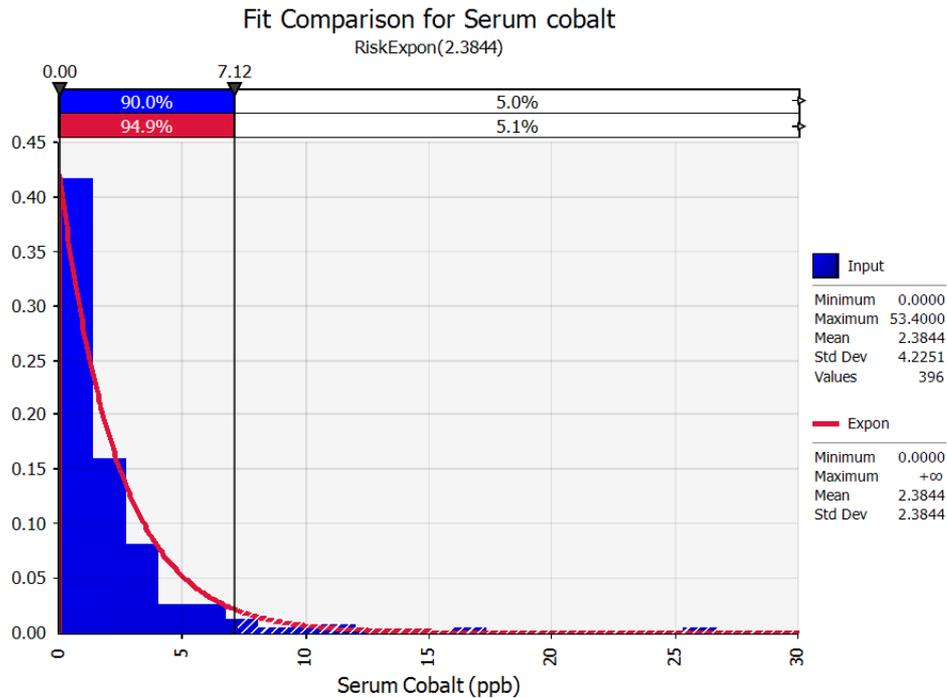
# Cobalt – Potential Side Effects

- Based upon research in humans and species other than horses:
  - Interference with thyroid function (iodine uptake)
  - Hearing and vision impairment
  - Cardiomyopathy
  - GI effects
  - Reproductive effects
  - Dermatological effects

# Controlling Cobalt in Racing

- Endogenous/Dietary substance (all animals have cobalt in their body)
- Administration study
- “Normal” horse/research population
  - University of Kentucky
  - University of California – Davis
  - Truesdail Laboratory
  - Pennsylvania Equine Drug Testing Laboratory

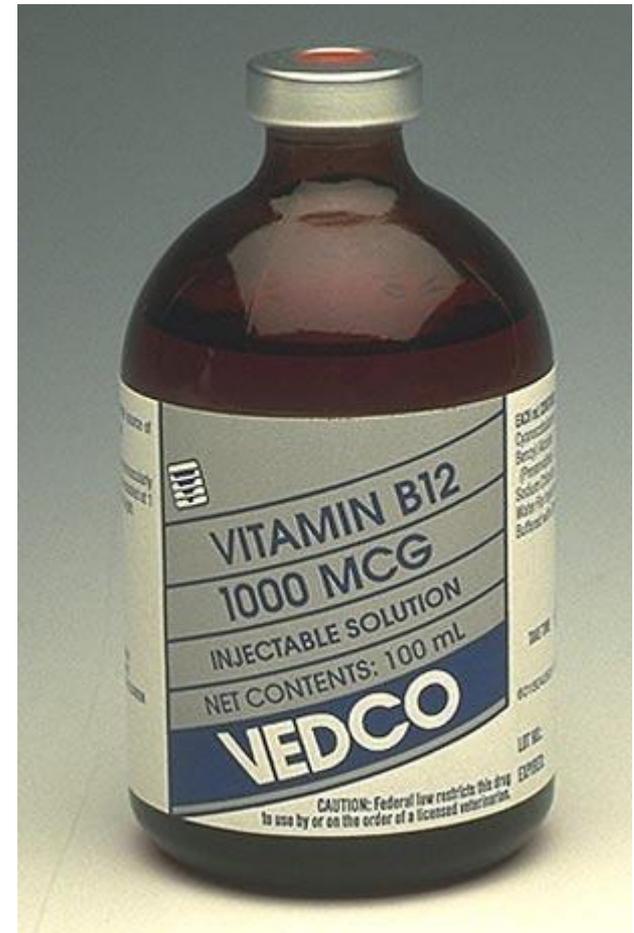
# Controlling Cobalt in Racing



- Statistical Analysis
- RMTC Scientific Advisory Committee
- RMTC Board

# Controlling Cobalt in Racing

- Oral supplementation with products such as Red Cell
- Vitamin B12 injections

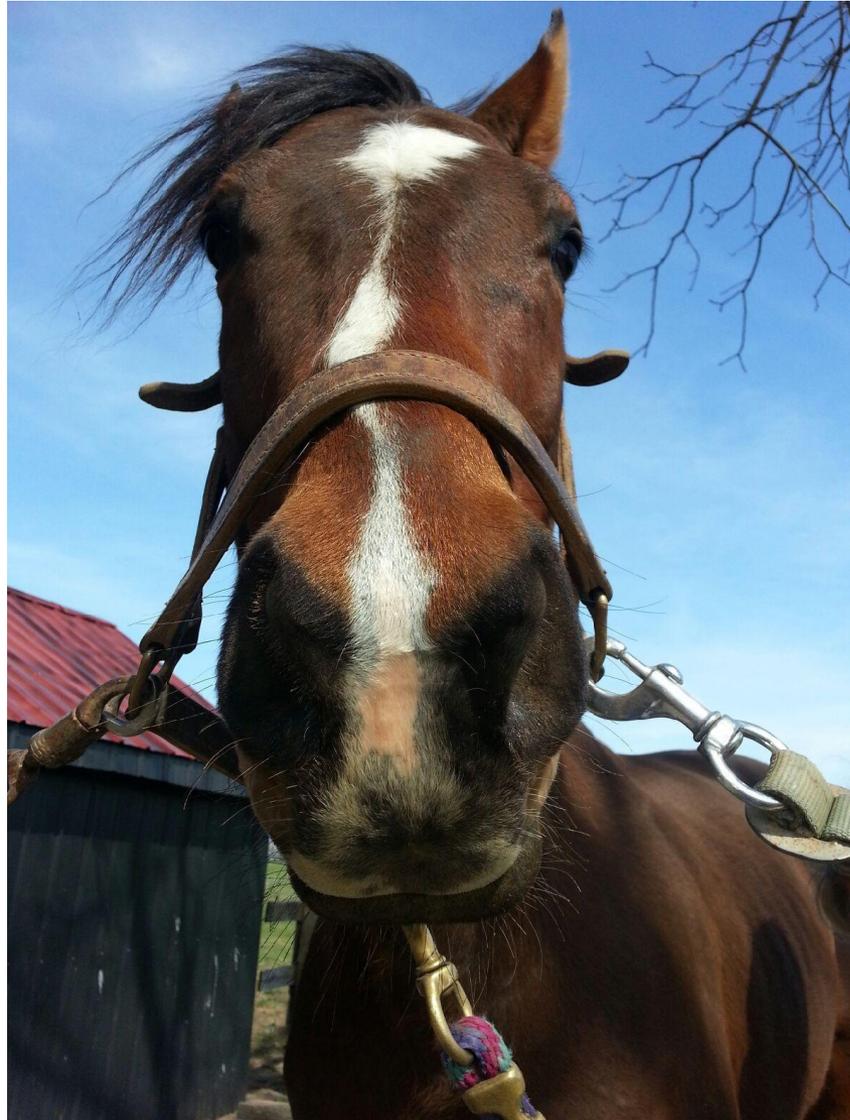


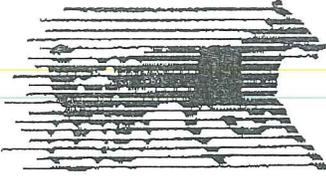
# Controlling Cobalt in Racing

- Recommendation:
  - Threshold of 25ppb in serum
  - Allows for control of improper administration for approximately 7-10 days



# Questions?



**Attachment 6****INDIANA STANDARD BRED ASSOCIATION**

737 West Green Meadows Drive, Suite 300 • Greenfield, IN 46140  
(800) 565-5725 • (317) 462-6616 • Fax: (317) 462-7240

2014 AUG 26 A 6:45

INDIANA HORSE RACING COMMISSION

Indiana Horse Racing Commission  
1302 N. Meridian Street, Ste. 175  
Indianapolis, IN 46202

The directors of the Indiana Standardbred Association wish to thank the Indiana Horse Racing Commission for bringing to our attention the abuse of the element cobalt by some trainers in an obviously dangerous effort to perform blood-doping on their horses.

After meeting with Commission staff, the directors voted unanimously (with all fifteen directors present) to encourage the Indiana Horse Racing Commission to move as quickly as possible to set acceptable limits on cobalt and to take appropriate action when horses are found to possess cobalt levels beyond those acceptable limits.

We trust the Commission in this matter, and believe that for the primary reason that cobalt is a potentially fatal substance, this is an issue that simply can not wait for other agencies to act. We feel a strong urge to protect the horses themselves as well as protecting the fairness of the races they participate in. To wait could take months if not years to end this deplorable practice.

Thanks for taking our recommendations into account as you determine what actions you wish to take.

Sincerely,

Jack Kieninger

ISA President

## Attachment 7

August 26, 2014

Joe Gorajec  
1302 N. Meridian St. Ste. 175  
Indianapolis, IN 46202

Dear Mr. Gorajec:

The Standardbred Advisory Board and Standardbred Breed Development Advisory Committee held a meeting on August 21, 2014. During this meeting, the topic of cobalt misuse in the Standardbred racing program was discussed. The Board and Committee both agree that it is vital that the abuse of this substance in racing is stopped as soon as possible. Not only is it detrimental to the integrity of our racing program, but also the health and well-being of the horses competing. As you are aware, the Indiana Sires Stakes, our premier program, has a series of races in which horses earn their way into a Super Final. The Indiana Sires Stakes night of Super Finals is scheduled for Saturday, October 18, 2014. During this program almost \$2 million in purses will be awarded. We feel that it is vital that an effective rule be enacted before October 18 in order to keep this program from being tainted. Standardbred breeders and owners have worked hard to improve the quality the horses competing in this program and it is important the playing field be as level as possible.

The Advisory Board and Committee voted unanimously to support the IHRC's efforts to implement a rule to combat the misuse of cobalt in racing. We support the proposed threshold of 25 ppb and feel this is vital element in the rule. In addition, we applaud the IHRC's efforts in moving forward to stop something that is so detrimental to our sport.

Sincerely,

Michael Christner

*Chairman, Standardbred Breed Development Advisory Committee*

Dwayne Rhule

*Chairman, Standardbred Advisory Board*