VETERINARY MEDICAL DIAGNOSTIC PROGRAM

JANUARY 1, 2017 TO DECEMBER 31, 2017

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OQHRA Oklahoma Quarter Horse Racing Association

TRAO Thoroughbred Racing Association of Oklahoma

Conducted by the

Oklahoma Animal Disease Diagnostic Laboratory

Center for Veterinary Health Sciences

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CENTER FOR VETERINARY HEALTH SCIENCES

Healthy Animals — Healthy People

Summary of Necropsy Findings for Racehorses Submitted to the Oklahoma Animal Disease Diagnostic Laboratory (OADDL) for the period of January 1, 2017 – December 31, 2017

This report summarizes race horse submissions to the Oklahoma Animal Disease Diagnostic Laboratory (OADDL) in calendar year 2017 as part of a collaborative effort between the OADDL, Oklahoma Horse Racing Commission (OHRC), and the Oklahoma Breeding Development Program.

The catastrophic musculoskeletal injury (CMI) index is used to normalize the number of fatal musculoskeletal injuries to the number of horses that race. The overall CMI index for all Oklahoma racehorses in 2017 was 1.70 per 1,000 starts. The CMI index for Oklahoma thoroughbreds was 1.74 and Oklahoma sprint breeds was 1.66. For comparison, the 2017 national rate of fatal injury in racing thoroughbreds was 1.61 per 1,000 starts.

Forty-five (45) horses were submitted from Oklahoma racetracks to the OADDL during this time period. Twenty-three (23) horses were submitted in the first half of 2017, while twenty-two (22) horses were submitted in the second half of 2017. The highest number of necropsy submissions occurred in May (8), followed by October (7), March (6), June (6), July (5) and September (5). No necropsy submissions occurred in January.

Quarter horses (21/45) and Thoroughbreds (21/45) tied for the most common breeds submitted to OADDL in 2017; only 3 Paints were submitted. One of the Paint horses submitted for necropsy was a lead pony. Of racehorses, the most common age was 2 years (18), followed by 3 years (11), 5 years (6), 4 years (5), 6 years (3), and 10 years (1). Two-year-old racehorses accounted for 32.7% of all starters. Twenty-seven (27) of the 45 necropsy submissions involved geldings, while females accounted for 13, and intact males were the remaining 5 submissions.

The majority of horse fatalities occurred during racing (33/45), while 7 were non-exercise related and 5 occurred during training. Ninety-four percent (94%) of all limb injuries involved the forelimbs. Distal forelimb injuries accounted for 66% of the total fatal musculoskeletal injuries. In all horses submitted to OADDL, the most commonly identified musculoskeletal injuries were fetlock/sesamoid fractures (13), carpal fractures (8) and metacarpal III/cannon bone fractures (6). Other bony fractures identified at necropsy included the scapula (3), humerus (2), vertebrae (2), pelvis (1), first phalanx (1), skull (1) and ulna (1).

Non-exercise related fatalities involved 7 horses. Four of the 7 fatalities occurred in 2-year-old Quarter horses. Necropsy findings in these 7 horses included: vertebral fracture (1), skull fracture (1), dislocation of right metatarsal III (1), laminitis in forelimbs (1), retropharyngeal hemorrhage (1), carpal fracture of right forelimb (1), and pulmonary edema of undetermined origin (1).

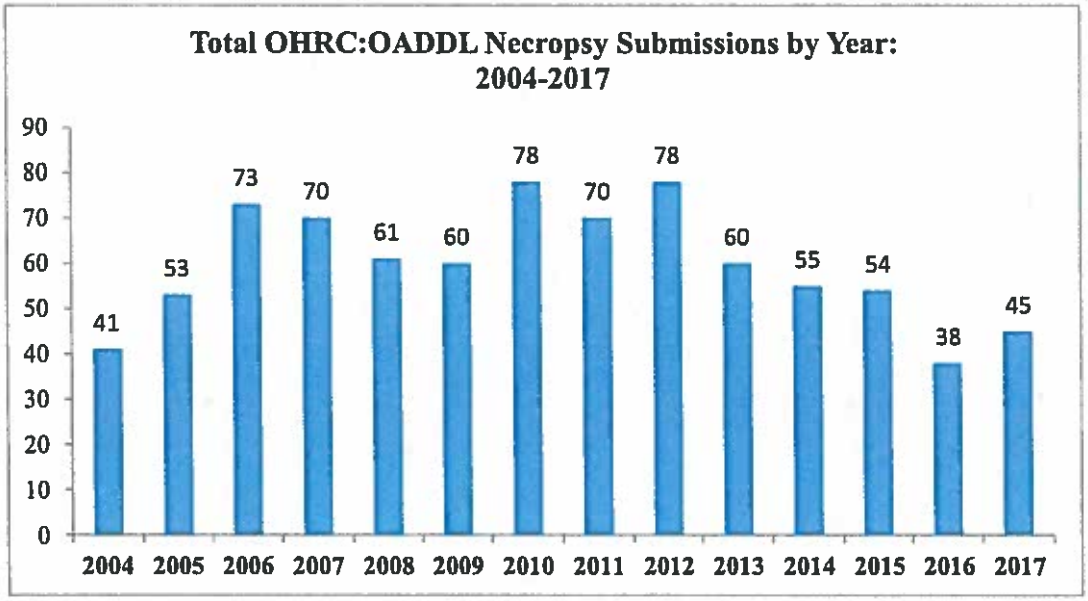

Table 1

Monthly Distribution of Necropsy Submissions to OADDL from January 1 – December 31, 2017												
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
FMT	0	0	0	0	0	3	4	0	0	0	0	0
REM	0	0	5	2	6	2	0	2	3	6	1	2
WRD	0	1	1	0	2	1	1	0	2	1	0	0
TOTALS	**0**	**1**	**6**	**2**	**8**	**6**	**5**	**2**	**5**	**7**	**1**	**2**

Table 2

Gender and Breed of Necropsy Submissions to OADDL by Track from January 1 – December 31, 2017						
		FMT	**REM**	**WRD**	**TOTALS**	
Male	**Paint**	0	0	0	**0**	**5**
	QH	1	0	0	**1**	
	TB	0	4	0	**4**	
Female	**Paint**	0	1	0	**1**	**13**
	QH	1	4	0	**5**	
	TB	1	5	1	**7**	
Gelding	**Paint**	0	1	1	**2**	**27**
	QH	3	9	3	**15**	
	TB	1	5	4	**10**	
TOTALS		**7**	**29**	**9**	**45**	

Table 3

Age and Breed of Necropsy Submissions to OADDL by Track from January 1 – December 31, 2017					
		FMT	REM	WRD	TOTALS
2 years	Paint	0	2	0	2
	QH	3	7	3	13
	TB	0	2	1	3
3 years	Paint	0	0	0	0
	QH	2	4	0	6
	TB	0	5	0	5
4 years	Paint	0	0	0	0
	QH	0	1	0	1
	TB	1	1	2	4
5 years	Paint	0	0	0	0
	QH	0	1	0	1
	TB	1	3	1	5
6 years	Paint	0	0	0	0
	QH	0	0	0	0
	TB	0	2	1	3
10 years	Paint	0	0	0	0
	QH	0	0	0	0
	TB	0	1	0	1
15 years	Paint	0	0	1	1
	QH	0	0	0	0
	TB	0	0	0	0
TOTALS		7	29	9	45

Table 4

Fatal Event by Age for Necropsy Submissions to OADDL from January 1 – December 31, 2017				
Age (Years)	Racing	Training	Non-Exercise	TOTALS
2	12	2	4	18
3	9	1	1	11
4	4	1	0	5
5	5	0	1	6
6	3	0	0	3
10	0	1	0	1
15	0	0	1	1
TOTALS	33	5	7	45

Table 5

Fatal Event by Breed for Necropsy Submissions to OADDL from January 1 – December 31, 2017				
Breed	**Racing**	**Training**	**Non-Exercise**	**TOTALS**
Paint	1	1	1	**3**
QH	15	1	5	**21**
TB	17	3	1	**21**
TOTALS	**33**	**5**	**7**	**45**

Table 6

Fatal Event by Track for Necropsy Submissions to OADDL from January 1 – December 31, 2017				
Track	**Racing**	**Training**	**Non-Exercise**	**TOTALS**
FMT	6	0	1	**7**
REM	23	3	3	**29**
WRD	4	2	3	**9**
TOTALS	**33**	**5**	**7**	**45**

Table 7

Limb Injuries by Breed for Necropsy Submissions to OADDL from January 1 – December 31, 2017										
Location of Injury	**FMT**			**REM**			**WRD**			**TOTALS**
	Paint	**QH**	**TB**	**Paint**	**QH**	**TB**	**Paint**	**QH**	**TB**	
Right Front	0	1	1	0	7	3	0	1	3	**16**
Left Front	0	1	1	2	2	7	0	0	2	**15**
Both Front	0	0	0	0	2	0	1	0	0	**3**
Right Hind	0	2	0	0	0	0	0	0	0	**2**
Left Hind	0	0	0	0	0	0	0	0	0	**0**
TOTALS	**0**	**4**	**2**	**2**	**11**	**10**	**1**	**1**	**5**	**36**

Table 8

Types of Injuries Observed for Necropsy Submissions to OADDL from January 1 – December 31, 2017										
Injury	**FMT**			**RP**			**WRD**			**TOTALS**
	Paint	**QH**	**TB**	**Paint**	**QH**	**TB**	**Paint**	**QH**	**TB**	
Carpal Fracture	0	0	0	0	5	2	0	1	0	**8**
Cannon (MCIII) Fracture	0	0	0	0	3	2	0	0	1	**6**
Fetlock/Sesamoid Fracture	0	2	2	1	1	4	0	0	3	**13**
Hemorrhage	0	0	0	0	0	3	0	0	0	**3**
Humerus Fracture	0	0	0	0	0	1	0	0	1	**2**
Laminitis	0	0	0	0	0	0	1	0	0	**1**
MTIII Dislocation	0	1	0	0	0	0	0	0	0	**1**
Myocardial Fibrosis	0	0	0	0	0	1	0	0	0	**1**
Pelvic Fracture	0	0	0	0	0	0	0	1	0	**1**
Phalanx 1 (PI) Fracture	0	0	0	0	1	0	0	0	0	**1**
Pulmonary Edema	0	0	0	0	0	0	0	1	0	**1**
Ruptured Flexor Tendon	0	1	0	0	0	1	0	0	0	**2**
Scapula Fracture	0	0	0	1	1	0	0	0	1	**3**
Skull Fracture	0	0	0	0	1	0	0	0	0	**1**
Ulna Fracture	0	0	0	0	1	0	0	0	0	**1**
Vertebral Fracture	0	1	0	0	1	0	0	0	0	**2**
TOTALS	**0**	**5**	**2**	**2**	**14**	**14**	**1**	**3**	**6**	**47***
*Two horses had more than one injury/lesion identified during necropsy examination.										

Table 9

Number of Race Starters by Breed and Track from January 1 – December 31, 2017				
Breed	**FMT**	**REM**	**WRD**	**TOTALS**
TB	1,132	5,410	2,076	**8,618**
Sprint Horses	1,871	5,091	2,703	**9,665**
TOTALS	**3,003**	**10,501**	**4,779**	**18,283**

Table 10

Catastrophic Musculoskeletal Injury (CMI) Index by Breed and Track for 2017				
	FMT	**REM**	**WRD**	**TOTALS**
Number of Musculoskeletal Fatalities During Race				
TB	2	10	3	**15**
Sprint Breeds	4	11	1	**16**
TOTALS	**6**	**21**	**4**	**31**
Total Number of Starters				
TB	1,132	5,410	2,076	**8,618**
Sprint Breeds	1,871	5,091	2,703	**9,665**
TOTALS	**3,003**	**10,501**	**4,779**	**18,283**
CMI Index – Number per 1000 Starters				
TB	1.77	1.85	1.45	**1.74**
Sprint Breeds	2.14	2.16	0.37	**1.66**
TOTALS	**2.00**	**2.00**	**0.84**	**1.70**

Reference:

Equine Fatality Summary: Equine Injury Database, Initiative of the Jockey Club; http://www.jockeyclub.com