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SOUTHEASTERN COOPERATIVE WILDLIFE DISEASE STUDY
PARASITOLOGY
COLLEGE OF VETERINARY MEDICINE
THE UNIVERSITY OF GEORGIA
ATHENS, GEORGIA 30602

UNITED STATES
FISH AND WILDLIFE
SERVICE
REGION FOUR

TELEPHONE
(404) 548-1032

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Yazoo National Wildlife Refuge

November 11, 1986

Mr. Tim Wilkins, Manager
Yazoo National Wildlife Refuge Complex
Fish and Wildlife Service, USDI
Route 1, Box 286
Hollandale, Mississippi 38748

Dear Tim:

Enclosed are our reports on the deer herd health checks we conducted on Refuges in the Yazoo Complex on September 9-12, 1986. The Refuges were Hillside NWR, Holmes County; Panther Swamp NWR, Yazoo County; and Yazoo NWR, Washington County. The health checks each involved examination of five deer (six from Panther Swamp). The data for each Refuge are arranged into a series of tables (parasitologic, serologic, and pathologic) and are accompanied by interpretive comments.

None of the Refuges appeared to have overtly diseased deer or substantial deterioration of herd health. The Yazoo NWR herd did have some lungworm infections at levels that are of concern, and the Hillside NWR had a relatively high APC value. Deer populations on all three areas probably can be maintained near their present level without undue risk of deterioration of herd health, although a slight reduction in the Hillside herd would be compatible with protecting herd health. The high prevalence of lungworms on all areas likely could lead to problems if any of the herds increased significantly.

We trust that this information will be of value in management of these deer herds. Detailed information on the parasites and diseases covered in these reports can be obtained from the text Diseases and Parasites of White-tailed Deer. In particular, we would refer you to pages 411-423 for an explanation of the relationships between deer density, nutrition, and disease. The attached flier also has an elementary explanation of the basics of deer herd health. If you have any questions about these reports or if we can be of assistance on other matters, please do not hesitate to contact us.

Best regards,

Sincerely,

Randy Davidson

William R. Davidson, Ph.D.
Assistant Professor

WRD:dw
Enclosures
CC: Mr. James W. Pulliam, Jr.
Mr. Harold W. Benson
Dr. E. Frank Bowers
Mr. S. Ray Aycock
Mr. William Y. Quiesenberry
Mr. Jack A. Herring
Mr. Seth Mott
Mr. Steven A. Lewis
Mr. Joe L. Herring
Mr. John I. Christian
Mr. Stephen W. Parry

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Table 1. Arthropod, helminth, and protozoan parasites of five white-tailed deer (*Odocoileus virginianus*) collected from Hillside National Wildlife Refuge, Holmes County, Mississippi on September 9, 1986.

Animal Number	1	2	3	4	5
Age (years)	4½	5½	1½	1½	4½
Sex	F	F	M	F	F
Weight (pounds)	155	120	125	95	130
Physical Condition	Fair	Fair	Good-	Fair	Fair
Kidney Fat Index	0.0	23.7	22.2	18.7	4.9
Packed Cell Volume	31.0	43.0	47.0	47.0	38.0
Hemoglobin	15.2	15.6	16.3	15.4	12.6

ARTHROPODS

Animal Number	1	2	3	4	5
Lice	Light	-	-	-	-
Louse Flies	-	-	-	-	-
Ticks	-	Light	Light	-	-
Chiggers	-	-	-	-	-
Ear Mites	-	-	-	-	-
Nasal Bots	2	2	10	12	4

Location in Host	HELMINTHS	Number Of Parasites Per Deer 1	2	3	4	5	Range	Prevalence	Average
Brain									
Circulatory									
Lungs	Dictyocaulus viviparus	6	3	2	9	2	2-9	100%	4.4
Abdominal Cavity	Setaria yehi	-	3	-	-	-	0-3	20%	0.6
Liver									
Esophagus	Gongylonema pulchrum	-	-	-	-	1	0-1	20%	0.2
Rumen									
Abomasum (APC = 1852)	Apteragia odocoilei	539	365	219	-	237	0-539	80%	272.0
	Apteragia pursglovei	1120	678	1093	498	2249	498-2249	100%	1127.6
	Ostertagia dikmansi	-	52	219	-	59	0-219	60%	66.0
	Ostertagia mossi	41	105	929	362	355	41-929	100%	358.4
	Trichostrongylus axei	-	-	80	60	-	0-80	40%	28.0
	PROTOZOANS								
Blood									

Table 2. Results of serologic tests for selected diseases in five white-tailed deer from Hillside National Wildlife Refuge, Holmes County, Mississippi on September 9, 1986.

Disease	Deer Number 1	2	3	4	5
Leptospirosis					
(serotype *pomona*)	Neg	Susp	Neg	Neg	Neg
(serotype *hardjo*)	Neg	Neg	Neg	Neg	Neg
(serotype *grippotyphosa*)	Neg	Neg	Neg	Neg	Neg
(serotype *icterohemorrhagiae*)	Neg	Neg	Neg	Neg	Neg
(serotype *canicola*)	Neg	Neg	Neg	Neg	Neg
Brucellosis	Neg	Neg	Neg	Neg	Neg
Infectious bovine rhinotracheitis (IBR)	Neg	Neg	Neg	Neg	Neg
Bovine virus diarrhea (BVD)	Neg	Neg	Neg	Neg	Neg
Parainfluenza$_3$ (PI$_3$)	Neg	Neg	Neg	Neg	Susp
Epizootic hemorrhagic disease (EHD)	Pos	Pos	Neg	Neg	Neg
Bluetongue (BT)	Neg	Neg	Neg	Pos	Pos

Table 3. Lesions and pathologic conditions in five white-tailed deer from Hillside National Wildlife Refuge, Holmes County, Mississippi on September 9, 1986.

Lesion/Condition	Deer Number 1	2	3	4	5
Mild peribronchitis	-	+	+	+	-
Chronic/active pleuritis	-	+	+	+	+
Focal myocardial fibrosis	+	-	-	-	-
Esophageal erosion	-	-	-	-	+

Table 1. Arthropod, helminth, and protozoan parasites of six white-tailed deer (Odocoileus virginianus) collected from Panther Swamp National Wildlife Refuge, Yazoo County, Mississippi on September 10, 1986.

Animal Number	1	2	3	4	5	6
Age (years)	3½	4½	3½	1½	3½	1½
Sex	F	F	F	F	F	F
Weight (pounds)	135	135	115	110	115	95
Physical Condition	Fair	Fair	Fair	Fair+	Fair+	Fair
Kidney Fat Index	9.9	7.9	23.7	32.4	11.4	4.0
Pack Cell Volume	35.0	40.0	39.0	41.0	30.0	41.0
Hemoglobin	11.2	13.2	13.7	13.6	10.1	13.7

ARTHROPODS

Animal Number	1	2	3	4	5	6
Lice	-	-	-	-	-	-
Louse Flies	Light	Light	Light	Light	Light	Light
Ticks	-	-	-	-	-	-
Chiggers	-	-	-	-	-	-
Ear Mites	-	-	-	-	-	-
Nasal Bots	6	18	7	9	11	-

Location in Host	HELMINTHS	Number of Parasites Per Deer 1	2	3	4	5	6	Range	Prevalence	Average
Subcutaneous										
Brain										
Circulatory										
Lungs	Dictyocaulus viviparus	2	5	6	-	2	1	0-6	83.3%	2.6
	Protostrongylid larvae	+	-	-	-	+	-	-	33.3%	-
Abdominal Cavity	Setaria yehi	-	-	-	-	-	1	0-1	16.6%	0.2
Liver										
Esophagus	Gongylonema pulchrum	6	-	3	-	5	-	0-6	50.0%	2.3
Rumen	Gongylonema verrucosum	Light	-	-	-	-	-	-	16.6%	-
Abomasum	Apteragia odocoilei	288	95	716	114	167	-	0-716	83.3%	230.0
(APC=653)	Apteragia pursglovei	144	425	668	286	400	380	144-668	100.0%	383.8
	Ostertagia mossi	48	-	96	-	33	-	0-96	50.0%	29.5
	Trichostrongylus axei	-	40	20	-	-	-	0-40	33.3%	10.0
	PROTOZOANS									
Blood										

Table 2. Results of serologic tests for selected diseases in six white-tailed deer from Panther Swamp National Wildlife Refuge, Yazoo County, Mississippi, on September 10, 1986.

Disease	Deer Number 1	2	3	4	5	6
Leptospirosis						
(serotype *pomona*)	Neg	Neg	Neg	Neg	Neg	Neg
(serotype *hardjo*)	Neg	Neg	Neg	Neg	Neg	Neg
(serotype *grippotyphosa*)	Neg	Neg	Neg	Neg	Neg	Neg
(serotype *icterohemorrhagiae*)	Neg	Neg	Neg	Neg	Neg	Neg
(serotype *canicola*)	Neg	Neg	Neg	Neg	Neg	Neg
Brucellosis	Neg	Neg	Neg	Neg	Neg	Neg
Infectious bovine rhinotracheitis (IBR)	Neg	Neg	Neg	Neg	Neg	Neg
Bovine virus diarrhea (BVD)	Neg	Neg	Neg	Neg	Neg	Neg
Parainfluenza$_3$ (PI$_3$)	Neg	Neg	Neg	Pos	Neg	Neg
Epizootic hemorrhagic disease (EHD)	Neg	Neg	Neg	Neg	Pos	Neg
Bluetongue (BT)	Neg	Neg	Pos	Neg	Neg	Neg

Table 3. Lesions and pathologic conditions in six white-tailed deer from Panther Swamp National Wildlife Refuge, Yazoo County, Mississippi, on September 10, 1986.

Lesion/Condition	Deer Number 1	2	3	4	5	6
Fibrinous pleuritis	-	-	-	+	+	+
Bronchitis/peribronchitis	+	+	+	+	-	+
Focal verminous pneumonia	-	+	+	+	-	-
Fibrinous peritonitis	-	-	-	+	-	-
Insect bite dermatitis	-	-	+	-	-	-
Infectious cutaneous fibroma	-	-	-	-	-	+
Healed fracture (right cannon bone)	-	-	+	-	-	-

Table 1. Arthropod, helminth, and protozoan parasites of five white-tailed deer (Odocoileus virginianus) collected from Yazoo National Wildlife Refuge, Washington County, Mississippi on September 12, 1986.

Animal Number	1	2	3	4	5
Age (years)	3½	1½	1½	3½	3½
Sex	F	F	M	F	F
Weight (pounds)	137	88	121	125	135
Physical Condition	Fair+	Good-	Fair+	Excellent	Good
Kidney Fat Index	12.5	18.9	20.5	100.0	46.8
Packed Cell Volume	35.0	40.0	39.0	46.0	36.0
Hemoglobin	13.2	14.5	14.6	15.2	12.6

ARTHROPODS

Animal Number	1	2	3	4	5
Lice	-	-	-	-	-
Louse Flies	-	Light	Light	Light	Light
Ticks	-	-	-	-	-
Chiggers	-	-	-	-	-
Ear Mites	-	-	-	-	-
Nasal Bots	18	7	13	4	5

Location in Host	HELMINTHS	Number Of Parasites Per Deer 1	2	3	4	5	Range	Prevalence	Average
Subcutaneous									
Brain									
Circulatory									
Lungs	Dictyocaulus viviparus	42	17	7	4	4	4-42	100%	14.8
	Lungworm larvae	+	-	+	-	-	-	40%	-
Abdominal Cavity	Setaria yehi	-	-	1	-	1	0-1	40%	0.4
Liver	Fascioloides magna	5	-	-	-	-	0-5	20%	1.0
Esophagus									
Rumen									
Abomasum	Apteragia odocoilei	619	-	-	-	202	0-619	40%	164.2
(APC = 644)	Apteragia pursglovei	221	330	371	400	606	221-606	100%	385.6
	Ostertagia mossi	-	110	149	-	152	0-152	60%	82.2
	Trichostrongylus axei	-	-	-	40	20	0-40	40%	12.0
	PROTOZOANS								
Blood	Trypanosoma cervi	-	-	+	-	-	-	20%	-

Table 2. Results of serologic tests for selected diseases in five white-tailed deer from Yazoo National Wildlife Refuge, Washington County, Mississippi on September 12, 1986.

Disease	Deer Number 1	2	3	4	5
Leptospirosis					
(serotype *pomona*)	Neg	Neg	Neg	Neg	Neg
(serotype *hardjo*)	Neg	Neg	Neg	Neg	Neg
(serotype *grippotyphosa*)	Neg	Neg	Neg	Neg	Neg
(serotype *icterohemorrhagiae*)	Neg	Neg	Neg	Neg	Neg
(serotype *canicola*)	Neg	Neg	Neg	Neg	Neg
Brucellosis	Neg	Neg	Neg	Neg	Neg
Infectious bovine rhinotracheitis (IBR)	Neg	Neg	Neg	Neg	Neg
Bovine virus diarrhea (BVD)	Neg	Neg	Neg	Neg	Neg
Parainfluenza$_3$ (PI$_3$)	Susp	Neg	Neg	Susp	Neg
Epizootic hemorrhagic disease (EHD)	Pos	Neg	Neg	Neg	Neg
Bluetongue (BT)	Neg	Neg	Neg	Neg	Neg

Table 3. Lesions and pathologic conditions in five white-tailed deer from Yazoo National Wildlife Refuge, Washington County, Mississippi on September 12, 1986.

Lesion/Condition	Deer Number 1	2	3	4	5
Fibrinous pleuritis	-	+	+	-	-
Peribronchitis/brochitis	+	+	+	+	+
Focal pneumonia	-	-	-	+	-
Chronic focal hepatic fibrosis	+	-	-	-	-
Chronic interstitial nephritis	-	-	-	+	-