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SAFETY EVALUATION OF FENBENDAZOLE IN SWINE: III

by

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B.S., UNIVERSITY OF CALIFORNIA, DAVIS, 1978

A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

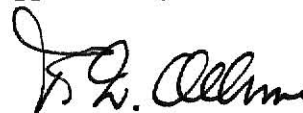
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Introduction

Fenbendazole (FBZ) is used worldwide as an anthelmintic in a great variety of animals. In the United States FBZ is presently licensed for use only in horses.

Recent reports on the efficacy of FBZ in swine have shown that it may be effective enough to successfully compete on the commercial market in the United States with presently licensed swine anthelmintics. However, before FBZ can be licensed for use, scientific studies must be undertaken on numerous aspects of the chemical, including its safety for the target animal.

Since little information is available about the safety of FBZ in swine, this study evaluated the potential physical and pathological effects of acute FBZ use in growing pigs.

SAFETY EVALUATION OF FENBENDAZOLE IN SWINE: III

Thomas F. Booze, BS, MS; Frederick W. Oehme DVM, PhD

SUMMARY

Thirty female pigs, average weight 32 kg, were given fenbendazole (FBZ) for 3 days to test the safety of the drug. Dosages of 0, 3, 9, 15 and 25 mg of active ingredient/kg body weight were mixed with the feed. Clinical chemistry, hematology, urinalysis, gross and microscopic pathology, and bone marrow cytology revealed no significant adverse effects due to this drug.

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Fenbendazole^a (FBZ), methyl 5-(phenylthio)-2-benzimidazole carbamate, was derived from parbendazole, itself an effective anthelmintic.¹ The anthelmintic activity of parbendazole was thought to be enhanced by the addition of a phenoxy group; however, the addition of a phenylthiol group created a more effective anthelmintic than did the phenoxy addition. Fenbendazole is effective against nematodes and trematodes² and in Ascaris suum, FBZ is believed to exert its anthelmintic effect by interfering with the utilization of glucose and glycogen.³ In Hymenolepis diminuta a neurotoxic effect has been observed.⁴

Fenbendazole has been used as an anthelmintic in a broad spectrum of animals, from laboratory animals to zoo animals, such as snakes and tigers.^{5,6} The oral LD₅₀ in rats and mice was estimated to be greater than 10,000 mg/kg.⁷ A dose of 5000 mg/kg was given to sheep without clinical effects.⁷ The wide margin of safety of FBZ is important when it is difficult to estimate an animals weight or when the correct dosage is not possible. Because FBZ is highly effective against Trichuris suis and Ascaris suum in the pig when given in doses of 3 or 5 mg/kg over a 3 day period,⁸ its use in that species is of economic significance.

Recent reports on the safety of FBZ in swine have shown a dose-related leukopenia, involving lymphocytes and segmented neutrophils, when FBZ was given orally at doses of 25, 75 or 125 mg/kg for 5 days, or when it was given orally at 2000 mg/kg for 14 days. A dose-dependent increase in sorbitol dehydrogenase (SDH) was also noted.^{9,10} This paper reports further evaluations of the safety of FBZ when given in 3 daily doses of 0, 3, 9, 15 or 25 mg/kg to growing pigs.

MATERIALS AND METHODS

Animals, Housing, and Feeding - Thirty-one healthy, 25 kg female, Yorkshire pigs were obtained from a local supplier and randomly housed 3 to a pen in a barn with cement floors. The pens were thoroughly washed each morning before feeding. Feed consisted of a commercially made milo-supplement mix (16% protein). Water was freely available from automatic waterers.

The pigs were acclimated for 21 days. The experimental period consisted of a 10-day pre-dosing period (days -10 to -1), a 3-day FBZ dosing period (days 0 to +2), a 10-day post-dosing period (days +3 to +12), and necropsy on day +13. To monitor biochemical, hematological, and urinary parameters, blood and urine samples were collected on alternate days throughout all phases. Starting with a pre-dosing period to establish baseline values, collections took place on the following days: -10, -8, -6, -4, -2, 0 (dosing initiated), +2 (dosing ceased), +4, +6, +8, +10, +12, +13 (necropsy).

Due to limited housing facilities and the need to give each pig a separate pen during the dosing period, the pigs were randomly divided into 2 study groups (A and B) of 15 apiece. Each group was then further randomly divided into 5 sub-groups of 3 pigs each. Each pig in the sub-groups received one of the following daily doses for 3 days in individual pens: 0, 3, 9, 15 or 25 mg FBZ/kg body weight.

The calculated dose of FBZ was mixed with 1/4 of the daily feed ration and placed in a metal feed dish for consumption. Once this mixture of FBZ and feed was consumed the remaining ration of feed was given. The FBZ-feed consumption generally required less than 5 minutes.

The general health of the pigs was observed daily. Their body weight and body temperatures were determined weekly. Weighing of the pigs was accomplished one at a time, on a weighing platform. Body temperatures were taken with a digital thermistor thermometer^b and rectal probe^c while the pig was in the weighing stall.

Blood and Urine evaluation - All sampling was done early in the morning before feeding. Blood samples were obtained via cranial vena cava puncture and collected in ethylenediaminetetraacetic acid (EDTA), heparin, citrate and blank Vacutainer^d tubes for clinical chemistry and hematology evaluations. Blood urea nitrogen (BUN), creatinine, alkaline phosphatase, total serum protein, calcium, sodium, potassium, carbon dioxide, glucose, albumin and inorganic phosphorus were determined by the SMA 12/60.^e Sorbitol dehydrogenase was determined using Sigma^f reagents and Biochromatic analyzer.⁹ Cholinesterase levels were determined by the Michel method.¹¹ Chloride was determined by the chloridometer.^h Total plasma protein and fibrinogen were determined by the Refractometer TS Meter.ⁱ Prothrombin time was measured using Dade^j reagents and fibrometer^k (A separate non-dosed pig was used as a control for the prothrombin time determination). Red and white blood cells were enumerated with a Coulter^l counter. A hemocytometer was used to count platelets.¹² The hematocrit was determined by the microhematocrit technique.¹²

Urine samples were collected in Pediatric Urine Collector bags.^{m,13} Color was observed grossly. Specific gravity was determined with a refractometer.ⁱ Glucose, pH, ketones, protein, occult blood and bilirubin determinations were determined by Bili-labstix.ⁿ The presence,

in urine, of RBC's, WBC's, casts, bacteria and debris was determined microscopically.¹²

Pathology - On day +13 all pigs were euthanatized by an injection of T-61 Euthanasia Solution.^o No carcass waited longer than 1/2 hour to be necropsied. Representative samples of liver, heart, kidney, spleen, lung, brain, stomach, small intestine, and bladder were fixed in 10% buffered neutral formalin immediately after excision from the carcasses. After 144 hours they were embedded in paraffin, sliced into 6u slices, mounted on glass slides, and stained with hematoxylin-eosin for pathological examination. Any other tissues that had gross abnormalities were also examined. Bone marrow contents were smeared directly onto glass slides and allowed to air dry. These slides were stained with Wrights-Leishman stain and microscopically examined.

Statistics - Values for each treatment group were compared and tested for significant differences ($P \leq 0.05$) using analysis of variance.¹⁴

RESULTS

Clinical parameters - The animals generally remained healthy and content throughout the course of the study. The one exception was pig #18, which died of an intestinal torsion on day +11. Body temperature occasionally was slightly elevated for some pigs, but all returned to normal the following day. Weight gains within the different dose groups were not significantly different (Table 1).

Blood chemistry - Cholinesterase, SDH, BUN, creatinine, alkaline phosphatase, total protein, albumin, calcium, sodium, potassium, phosphorus, glucose, chloride, and carbon dioxide remained within normal ranges.

Hematology - Only non-significant differences were noted in the hematology values measured (packed cell volume, fibrinogen, hemoglobin, total white and red blood cell counts, differential, platelet evaluation and prothrombin time).

Urine - The pigs receiving 9 mg/kg had a significantly lower specific gravity on day +6 (Table 2), but it was still within normal limits. All other parameters were within normal ranges.

Pathology - The most prevalent lesion noted was pneumonia, with 11 of the 30 animals being affected. Bone marrow counts were within normal ranges (Table 3). Gross and histological lesions are summarized in Table 4. There were no drug-related pathologic changes.

DISCUSSION

In a previous report a dose-dependent leukopenia was found in swine given oral doses of 25 mg FBZ/kg weight for 5 days. The present report was unable to repeat these findings. This is probably due to the fact that FBZ was administered for 5 days in the previous study while the present study administered FBZ for the 3 days which the manufacturer recommends for use in field applications.

Urinalysis from the 9 mg/kg pigs on day +6 had a significant decrease in specific gravity when compared to the 0 mg/kg pigs for those days, although it was within normal limits.¹² Decreased specific gravity occurs due to liver disease, chronic or acute nephritis, toxic nephrosis or other progressive kidney disease.¹⁵ Kidney lesions were found in only 1 pig from this group and consisted of a few cysts which, in pigs, is not an uncommon occurrence.¹⁵ Specific gravity decrease is also a normal response to physical factors such as increased water intake. Neither

clinical chemistry or pathology supported any drug related cause and this decrease did not occur in any other group.

The most prevalent pathological lesion was pneumonia. It was generally distributed with only the 9 mg/kg pigs not being affected. This disease has been reported in as high as 50% of some swine herds.¹⁶ During the course of this study, outside temperatures decreased to -5 C. These temperatures, along with the wet cement floors, from the early morning washings, could have contributed to the pneumonia incidence. Since the incidence was randomly distributed it is not drug-related.

Extramedullary hematopoiesis (EMH) was seen in 4 of the pigs. It appeared in 3 dose groups and was evenly distributed in the limited number of pigs affected. Anemia may cause EMH but clinical chemistry or hematology did not confirm this. Extramedullary hematopoiesis occurs in most animals around birth and in some species is present throughout life.¹⁵

- a. Panacur^R, Hoechst A G, Frankfurt, Federal Republic of Germany
- b. Digital Thermistor Thermometer, Digitec, Yellow Springs, Ohio.
- c. Yellow Springs Instrument Co, Yellow Springs, Ohio.
- d. Becton-Dickinson, Rutherford, NJ.
- e. SMA 12/60 Technicon Multichannel Biochemical Analyzer, Technicon Instrument Corp, Tarrytown, NY.
- f. Sigma Tech. Bulletin #50, Sigma Chemical Co, St Louis, Mo.
- g. Abbott V P Biochromatic Analyzer, Abbott Laboratories, North Chicago, Ill.
- h. Chloridometer, Buehler-Cotlove, Fort Lee, NJ.
- i. Refractometer TS Meter, American Optical Co, Buffalo, NY.
- j. Dade reagents, Division of American Hospital Supply Corp, Miami, Fl.
- k. BBL Fibrometer, Becton-Dickinson, Cockeysville, Md.
- l. Coulter Diagnostics, Division of Coulter Electronics, Hialeah, Fl.
- m. Coloplast, CR Bard Inc, Bard Hospital Division, Murray Hill, NJ
- n. Bili-labstix, Ames, Elkhart, Indiana.
- o. T-61^R Euthanasia Solution, American Hoechst Corporation, Animal Health Division, Somerville, NJ

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TABLE 1
WEEKLY WEIGHTS (kg) and TEMPERATURES (°C)
FROM PIGS RECEIVING VARIOUS DOSES OF FENBENDAZOLE

Dose	Pig#	Oct.13	Oct.19	Oct.28	Nov.4	Nov.11	Nov.17	Nov.21
0 mg/kg	6	32(39.6)	39(39.3)	*	49(40.9)	46	53(38.9)	54
	12	29(38.8)	35(38.3)	40(39.6)	43(40.6)	45	45(38.8)	48
	16	29(39.1)	36(39.4)	42(39.8)	42(38.2)	49(39.7)	49	+
	23	32(39.1)	27(39.8)	30(39.7)	32(39.4)	35(39.6)	37	+
	26	24(38.3)	28(39.1)	36(39.6)	37(40.3)	37	40(39.3)	43
	30	23(40.0)	28(38.7)	35(40.4)	36(39.9)	42(39.9)	44	+
3 mg/kg	10	27(39.9)	34(38.8)	40(39.7)	41(40.5)	43	40(39.0)	48
	11	28(39.4)	34(38.7)	40(40.1)	45(39.8)	44	48(38.5)	50
	15	23(39.5)	27(39.2)	33(39.7)	32(39.4)	35(41.3)	38	+
	21	27(39.8)	33(39.4)	39(40.1)	40(39.6)	39	44(38.3)	48
	24	27(39.6)	38(39.4)	44(39.7)	43(38.8)	49(39.1)	51	+
	29	20(38.7)	26(39.4)	*	31(39.3)	38(39.8)	38	+
9 mg/kg	5	32(39.3)	38(39.1)	*	45(39.0)	51(40.2)	52	+
	8	29(39.9)	38(39.7)	44(40.0)	44(39.1)	45(39.3)	52	+
	14	27(38.8)	30(39.7)	41(39.5)	41(38.4)	48(39.1)	49	+
	20	32(38.9)	40(38.4)	48(39.8)	47(39.9)	44	50(38.3)	52
	25	23(38.8)	29(38.4)	34(39.3)	38(40.5)	38	42(38.9)	45
	27	20(39.1)	24(39.7)	30(39.8)	33(40.4)	32	36(38.6)	40
15mg/kg	1	27(39.9)	32(39.9)	40(40.1)	40(40.1)	40	42(38.6)	45
	2	24(39.1)	31(39.7)	36(40.1)	39(40.0)	35	44(39.4)	46
	3	26(38.9)	32(38.7)	*	37(38.6)	44(31.2)	45	+
	17	29(38.1)	34(38.9)	40(38.6)	39(38.6)	43(39.2)	44	+
	19	30(39.3)	29(39.3)	35(39.6)	33(39.0)	40(40.0)	42	+
	28	27(38.7)	32(39.6)	*	40(40.7)	43	45(38.7)	47
25mg/kg	4	24(39.7)	31(39.6)	*	36(40.0)	36	45(39.1)	40
	7	27(38.7)	34(38.9)	*	40(38.7)	45(38.7)	48	+
	9	25(40.1)	31(39.1)	36(40.0)	39(39.4)	40	42(39.0)	44
	13	26(39.7)	32(38.9)	38(39.8)	39(38.8)	42(39.2)	45	+
	18	25(39.5)	29(39.3)	34(38.5)	36(38.5)	42(40.8)	Died	+
	22	25(39.9)	29(39.0)	*	36(40.4)	38(40.4)	40(38.8)	44

* Data Lost
+ Necropsied

TABLE 2
MEAN $\pm$ SD URINE SPECIFIC GRAVITY and pH OF PIGS RECEIVING VARIOUS DOSES OF FENBENDAZOLE

		DAY OF EXPERIMENT													
		-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13	
0 mg/kg	Sp. Gr.	1.013 ±.010	1.020 ±.010	1.020 ±.004	1.020 ±.010	1.022 ±.006	1.020 ±.005	1.020 ±.008	1.027 ±.006	1.025 ±.003	1.022 ±.006	1.021 ±.006	1.026 ±.002	1.023 ±.004	
	pH	6.42 ±.49	6.17 ±.41	6.42 ±.80	6.50 ±.55	6.50 ±.55	5.67 ±.82	6.17 ±.41	6.20 ±.45	6.75 ±.42	6.10 ±.22	6.40 ±.89	6.33 ±.52	6.30 ±.45	
3 mg/kg	Sp. Gr.	1.013 ±.004	1.019 ±.004	1.017 ±.003	1.019 ±.006	1.020 ±.005	1.016 ±.005	1.012 ±.005	1.021 ±.009	1.021 ±.003	1.020 ±.004	1.017 ±.008	1.019 ±.006	1.017 ±.002	
	pH	6.17 ±.41	6.42 ±.66	6.33 ±.82	6.08 ±.20	6.17 ±.75	5.58 ±.49	5.83 ±.98	5.50 ±.55	6.67 ±.88	6.08 ±.20	6.25 ±.42	6.42 ±.49	6.67 ±.82	
9 mg/kg	Sp. Gr.	1.015 ±.004	1.017 ±.002	1.018 ±.003	1.015 ±.006	1.020 ±.004	1.014 ±.002	1.017 ±.008	1.022 ±.008	1.016 ±.003	1.016 ±.007	1.015 ±.003	1.019 ±.004	1.014 ±.005	
	pH	5.75 ±.76	6.00 ±.00	5.83 ±.75	6.25 ±.42	6.33 ±.52	5.50 ±.55	5.83 ±.75	5.83 ±.41	6.25 ±.76	6.33 ±.52	6.25 ±.42	6.33 ±.41	6.33 ±.41	
15 mg/kg	Sp. Gr.	1.018 ±.003	1.019 ±.004	1.021 ±.005	1.020 ±.006	1.025 ±.006	1.018 ±.006	1.016 ±.004	1.022 ±.006	1.022 ±.004	1.019 ±.007	1.017 ±.007	1.021 ±.005	1.019 ±.007	
	pH	6.33 ±.41	6.00 ±.00	6.17 ±.41	6.25 ±.42	6.00 ±.63	5.83 ±.41	5.83 ±.75	6.00 ±.00	6.42 ±.49	6.33 ±.52	6.50 ±.55	6.17 ±.41	6.50 ±.55	
25 mg/kg	Sp. Gr.	1.012 ±.006	1.018 ±.010	1.021 ±.007	1.022 ±.009	1.023 ±.008	1.016 ±.009	1.014 ±.006	1.024 ±.007	1.025 ±.007	1.020 ±.009	1.022 ±.011	1.021 ±.006	1.020 ±.006	
	pH	6.08 ±.66	6.00 ±.00	6.00 ±.00	5.92 ±.20	5.83 ±.75	5.83 ±.41	6.00 ±.63	5.83 ±.41	6.33 ±.52	6.25 ±.42	6.00 ±.33	6.00 ±.00	6.30 ±.45	

TABLE 3
MEAN $\pm$ SD OF BONE MARROW PARAMETERS (%) OF SWINE WITH
VARIOUS DOSES OF FENBENDAZOLE

	Dose (mg/kg)				
	0	3	9	15	25
Pro rubricyte	0.39 $\pm$ 0.22	0.48 $\pm$ 0.28	0.47 $\pm$ 0.30	0.48 $\pm$ 0.20	0.33 $\pm$ 0.15
Rubricyte	14.75 $\pm$ 2.81	12.62 $\pm$ 3.57	19.25 $\pm$ 5.63	12.87 $\pm$ 4.44	13.90 $\pm$ 4.37
Meta rubricyte	9.90 $\pm$ 2.18	9.99 $\pm$ 2.51	11.72 $\pm$ 3.88	11.84 $\pm$ 2.36	12.02 $\pm$ 4.68
Total rubricyte	25.06 $\pm$ 3.33	23.12 $\pm$ 2.66	31.49 $\pm$ 8.80	25.22 $\pm$ 6.35	26.24 $\pm$ 8.71
Pro myelocyte	3.71 $\pm$ 1.29	4.79 $\pm$ 1.43	4.35 $\pm$ 2.43	3.30 $\pm$ 0.90	3.90 $\pm$ 0.83
Myelocyte	23.67 $\pm$ 5.14	23.26 $\pm$ 7.28	20.11 $\pm$ 6.71	21.68 $\pm$ 2.35	21.33 $\pm$ 3.19
Meta myelocyte	6.70 $\pm$ 1.96	9.64 $\pm$ 5.15	7.96 $\pm$ 3.06	4.33 $\pm$ 2.96	6.42 $\pm$ 3.54
Band	10.21 $\pm$ 3.46	11.63 $\pm$ 3.34	9.16 $\pm$ 3.21	12.64 $\pm$ 5.37	13.49 $\pm$ 4.23
Segmented	10.82 $\pm$ 5.71	10.34 $\pm$ 2.84	10.13 $\pm$ 4.10	10.73 $\pm$ 5.56	12.25 $\pm$ 1.53
Eosinophil	11.30 $\pm$ 1.54	10.52 $\pm$ 2.77	9.97 $\pm$ 3.86	11.03 $\pm$ 4.09	10.91 $\pm$ 3.74
Basophil	0.84 $\pm$ 0.62	0.84 $\pm$ 0.33	0.96 $\pm$ 0.81	0.60 $\pm$ 0.33	0.46 $\pm$ 0.17
Total myeloid	67.41 $\pm$ 5.52	71.07 $\pm$ 3.73	62.45 $\pm$ 10.61	67.32 $\pm$ 8.96	68.76 $\pm$ 8.49
Lymphocyte	8.01 $\pm$ 4.68	5.52 $\pm$ 2.46	5.79 $\pm$ 6.89	7.14 $\pm$ 3.90	4.84 $\pm$ 1.58
M:E Ratio	2.72 $\pm$ 0.48	3.12 $\pm$ 0.52	2.16 $\pm$ 0.84	2.92 $\pm$ 1.27	2.95 $\pm$ 1.26

TABLE 4

PATHOLOGY OBSERVATIONS FROM PIGS
RECEIVING VARIOUS DOSES OF FENBENDAZOLE

Dose (mg/kg)	Pig	
0	6	foci of round cells in the kidney
	12	NVL
	16	bronchopneumonia
	23	NVL
	26	bronchopneumonia
	30	small areas of ventral lung broncho- pneumonia
3	10	liver extramedullary hematopoiesis
	11	NVL
	15	pericarditis, bronchopneumonia
	21	NVL
	24	purulent pneumonia
	29	bronchopneumonia
9	5	few cysts in kidneys
	8	hemorrhages in diaphragmatic lobes
	14	NVL
	20	liver extramedullary hematopoiesis
	25	pleuritis
	27	liver extramedullary hematopoiesis
15	1	liver extramedullary hematopoiesis
	2	hemorrhages in the lung
	3	NVL
	17	NVL
	19b	bronchopneumonia
	28	focal areas of round cells in kidney. Rhinitis, bronchopneumonia
25	4	petechiae lung
	7	NVL
	9	bronchopneumonia
	13	NVL
	18	intestinal accident, bronchopneumonia
	22	bronchopneumonia

NVL= no visible lesions

APPENDIX I
Animal data on the Safety Evaluation
of
Fenbendazole in Swine: III

TABLE 1

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9	5	few cysts in kidneys
	8	hemorrhages in diaphragmatic lobes
	14	NVL
	20	liver extramedullary hematopoiesis
	25	pleuritis
	27	liver extramedullary hematopoiesis
15	1	liver extramedullary hematopoiesis
	2	hemorrhages in the lung
	3	NVL
	17	NVL
	19b	bronchopneumonia
	28	focal areas of round cells in kidney. Rhinitis, bronchopneumonia
25	4	petechiae lung
	7	NVL
	9	bronchopneumonia
	13	NVL
	18	intestinal accident, bronchopneumonia
	22	bronchopneumonia

NVL= no visible lesions

TABLE 2 MEAN BLOOD CHEMISTRY PARAMETERS FOR PIGS RECEIVING 0 mg FENBENDAZOLE /kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	8.33 (±2.34)	10.00 (±1.79)	11.83 (±2.79)	10.40 (±2.79)	12.50 (±3.73)	10.67 (±2.42)	8.83 (±2.23)	12.00 (±5.37)	11.50 (±1.97)	10.50 (±.84)	11.00 (±5.02)	12.50 (±1.38)	11.67 (±1.86)
Creatinine mg/dl	.77 (±.29)	1.02 (±.13)	1.35 (±.55)	1.08 (±.11)	1.00 (±.06)	.92 (±.12)	1.00 (±.09)	1.05 (±.08)	1.10 (±.13)	1.07 (±.08)	1.13 (±.21)	1.17 (±.20)	1.10 (±.28)
Alkaline phosphatase mU/ml	235.50 (±82.33)	202.33 (±55.70)	197.00 (±35.63)	178.60 (±44.15)	157.17 (±47.50)	153.67 (±35.47)	147.50 (±30.21)	134.33 (±22.72)	145.83 (±33.88)	151.00 (±28.01)	150.17 (±15.70)	141.83 (±21.18)	145.67 (±21.42)
Total protein mg/kg	6.38 (±.39)	6.35 (±.50)	6.33 (±.47)	6.06 (±.45)	6.08 (±.48)	6.60 (±.43)	6.80 (±.41)	7.17 (±.45)	6.98 (±.42)	6.68 (±.47)	6.83 (±.34)	6.80 (±.35)	7.03 (±.34)
Albumin gm/dl	3.48 (±.33)	3.37 (±.42)	3.47 (±.47)	3.52 (±.41)	3.57 (±.56)	3.72 (±.42)	3.75 (±.23)	3.85 (±.34)	3.92 (±.22)	3.70 (±.25)	3.93 (±.26)	3.82 (±.15)	3.78 (±.19)
Calcium mg/dl	10.32 (±1.05)	9.72 (±.19)	9.90 (±.40)	9.28 (±.38)	9.25 (±.58)	9.75 (±.59)	10.03 (±.63)	10.32 (±.56)	10.17 (±1.48)	10.52 (±.67)	10.08 (±.54)	10.60 (±.30)	10.75 (±.52)
Sodium meq/l	137.33 (±3.14)	142.00 (±3.58)	142.50 (±3.02)	144.10 (±4.42)	144.17 (±1.17)	143.50 (±4.04)	141.33 (±6.12)	147.75 (±6.45)	147.33 (±2.80)	145.67 (±1.37)	144.00 (±6.22)	141.33 (±3.44)	142.33 (±4.58)
Potassium meq/l	4.53 (±.80)	4.68 (±.73)	5.22 (±.91)	4.46 (±.91)	4.92 (±.69)	4.77 (±.77)	4.48 (±.74)	5.00 (±.77)	4.32 (±.68)	4.48 (±.69)	4.27 (±.49)	4.85 (±.77)	4.72 (±.71)
Inorg. Phosphorus mg/dl	8.07 (±.34)	7.60 (±.40)	8.02 (±.94)	7.48 (±.92)	7.72 (±.84)	7.50 (±.32)	7.88 (±.69)	7.92 (±.55)	7.88 (±.26)	7.60 (±.58)	7.88 (±.86)	8.90 (±1.40)	8.17 (±.89)
Carbon dioxide meq/l	29.00 (±3.69)	30.83 (±2.99)	29.33 (±5.78)	34.60 (±3.65)	33.67 (±3.08)	30.33 (±3.98)	28.00 (±4.56)	32.33 (±6.31)	28.17 (±1.72)	28.83 (±2.04)	28.17 (±2.86)	28.67 (±2.73)	28.33 (±1.97)
Glucose meq/dl	103.33 (±19.97)	98.33 (±14.56)	99.83 (±19.95)	99.80 (±12.63)	108.50 (±11.35)	115.33 (±11.84)	108.17 (±7.45)	102.67 (±10.48)	112.83 (±8.35)	108.67 (±14.56)	93.00 (±6.93)	93.83 (±11.18)	102.67 (±10.31)
Chloride meq/l	102.67 (±3.67)	100.67 (±1.63)	105.17 (±4.96)	100.83 (±1.65)	100.83 (±.75)	100.50 (±2.26)	99.67 (±2.06)	104.83 (±3.25)	102.50 (±1.76)	100.17 (±1.83)	100.17 (±2.04)	99.67 (±1.97)	100.17 (±1.71)
Total protein (refractionated) mg/dl	6.98 (±.47)	6.93 (±.39)	6.82 (±.23)	6.81 (±.37)	6.90 (±.44)	7.28 (±.37)	7.26 (±.38)	7.48 (±.50)	7.37 (±.31)	6.97 (±.42)	7.10 (±.39)	7.30 (±.19)	7.55 (±.77)
Fibrinogen mg/dl	333.33 (±81.65)	366.67 (±81.65)	350.00 (±54.77)	400.00 (±154.92)	316.67 (±132.92)	316.67 (±116.90)	366.67 (±103.28)	300.00 (±89.44)	250.00 (±54.77)	266.67 (±51.64)	233.33 (±81.65)	300.00 (±63.25)	283.33 (±75.28)
Plasma cholinesterase ΔpH units	1.09 (±.07)	1.26 (±.21)	1.23 (±.12)	1.34 (±.39)	1.29 (±.28)	1.26 (±.20)	1.18 (±.18)	1.18 (±.15)	1.22 (±.18)	1.15 (±.15)	1.14 (±.14)	1.15 (±.25)	1.15 (±.22)
RBC cholinesterase ΔpH units	.91 (±.05)	.92 (±.07)	.97 (±.15)	.90 (±.10)	.80 (±.08)	.93 (±.06)	1.04 (±.08)	.98 (±.12)	.99 (±.09)	.89 (±.24)	1.03 (±.12)	.93 (±.12)	1.02 (±.07)
Sorb. dehydrogenase mU/ml	.80 (±.42)	.48 (±.27)	.83 (±.32)	.48 (±.41)	.67 (±.27)	.73 (±.37)	.74 (±.27)	.60 (±.28)	1.03 (±.38)	1.18 (±.24)	.87 (±.47)	.78 (±.27)	.80 (±.25)

TABLE 3
MEAN BLOOD CHEMISTRY PARAMETERS FOR PIGS RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.50 (±2.88)	10.83 (±1.94)	8.50 (±2.26)	9.00 (±2.28)	11.67 (±1.51)	10.50 (±2.66)	7.00 (±1.67)	11.00 (±4.56)	10.17 (±1.72)	8.83 (±1.17)	9.00 (±3.46)	11.00 (±.89)	10.17 (±1.60)
Creatinine mg/dl	.75 (±.30)	1.07 (±.18)	1.32 (±.55)	1.05 (±.12)	1.00 (±.13)	.93 (±.12)	1.00 (±.17)	1.00 (±.13)	1.08 (±.17)	1.08 (±.17)	1.08 (±.21)	1.12 (±.22)	1.05 (±.22)
Alkaline phosphatase MU/ml	214.33 (±51.37)	189.83 (±45.79)	208.17 (±50.94)	167.00 (±58.23)	175.33 (±54.44)	170.00 (±41.08)	179.00 (±46.11)	170.50 (±37.56)	160.00 (±36.30)	165.00 (±49.93)	163.30 (±58.03)	162.00 (±70.02)	166.67 (±52.40)
Total protein mg/dl	6.58 (±.12)	6.67 (±.24)	6.72 (±.31)	6.40 (±.21)	6.40 (±.40)	6.95 (±.15)	7.03 (±.18)	7.23 (±.42)	7.12 (±.22)	7.13 (±.24)	7.02 (±.49)	6.93 (±.43)	7.05 (±.32)
Albumin gm/dl	3.62 (±.52)	3.80 (±.50)	3.72 (±.50)	3.62 (±.44)	3.82 (±.66)	3.93 (±.55)	3.98 (±.47)	4.10 (±.35)	4.10 (±.41)	3.95 (±.31)	4.03 (±.32)	3.97 (±.28)	3.90 (±.31)
Calcium mg/dl	10.65 (±.96)	10.28 (±.70)	10.18 (±.51)	9.80 (±.36)	9.65 (±.82)	10.63 (±.53)	10.48 (±.38)	10.65 (±.27)	10.37 (±.35)	10.90 (±.60)	10.42 (±.29)	10.67 (±.46)	10.72 (±.33)
Sodium meq/l	135.17 (±2.64)	143.33 (±7.12)	142.33 (±3.78)	147.50 (±2.43)	144.83 (±2.48)	144.67 (±5.09)	142.33 (±5.20)	151.40 (±4.28)	139.50 (±19.87)	143.33 (±1.51)	144.17 (±3.87)	139.00 (±3.46)	141.17 (±2.93)
Potassium meq/l	4.60 (±.27)	4.98 (±1.17)	4.90 (±.78)	4.87 (±.71)	4.83 (±.46)	4.40 (±.35)	4.57 (±.66)	4.77 (±.52)	4.52 (±.91)	4.52 (±.66)	4.72 (±.80)	4.47 (±.38)	5.12 (±.73)
Inorg. Phosphorus mg/dl	7.95 (±.23)	8.15 (±1.00)	8.25 (±.64)	7.27 (±.36)	7.72 (±.38)	7.65 (±.80)	8.12 (±.69)	8.17 (±.37)	7.88 (±.25)	7.72 (±.51)	7.73 (±.61)	8.48 (±.89)	8.15 (±.76)
Carbon dioxide meq/l	27.33 (±5.20)	27.17 (±8.42)	25.67 (±5.78)	34.67 (±4.76)	34.67 (±5.61)	31.33 (±4.03)	29.83 (±2.32)	33.00 (±1.58)	28.33 (±3.83)	28.67 (±2.34)	29.17 (±3.49)	28.17 (±1.17)	26.83 (±4.44)
Glucose mg/dl	116.67 (±14.12)	125.33 (±23.69)	118.50 (±34.95)	101.17 (±12.12)	118.00 (±9.03)	116.33 (±18.06)	110.33 (±15.21)	107.83 (±7.36)	121.00 (±18.68)	115.67 (±5.89)	99.67 (±12.36)	102.83 (±7.88)	111.50 (±17.08)
Chloride meq/l	100.50 (±2.17)	99.17 (±1.47)	101.17 (±3.12)	100.17 (±.75)	98.83 (±3.06)	99.17 (±2.64)	97.67 (±1.75)	105.33 (±3.93)	101.33 (±1.03)	99.33 (±2.42)	97.67 (±.82)	97.33 (±2.73)	99.33 (±2.80)
Total protein (refractionated) mg/dl	7.15 (±.23)	7.28 (±.43)	7.13 (±.41)	7.23 (±.33)	7.27 (±.40)	7.53 (±.25)	7.57 (±.15)	7.65 (±.68)	7.40 (±.18)	7.40 (±.43)	7.35 (±.45)	7.35 (±.63)	7.22 (±.35)
Fibrinogen mg/dl	350.00 (±176.07)	383.33 (±183.48)	283.33 (±147.20)	400.00 (±126.49)	366.67 (±81.65)	283.33 (±147.20)	316.67 (±75.28)	266.67 (±81.65)	266.67 (±103.28)	300.00 (±89.44)	266.67 (±121.11)	200.00 (±154.92)	200.00 (±89.44)
Plasma cholinesterase ΔpH units	1.45 (±.09)	1.25 (±.40)	1.26 (±.34)	1.36 (±.23)	1.24 (±.09)	1.28 (±.13)	1.21 (±.12)	1.22 (±.12)	1.27 (±.13)	1.21 (±.11)	1.15 (±.10)	1.23 (±.15)	1.28 (±.12)
RBC cholinesterase ΔpH units	.88 (±.08)	.87 (±.08)	.93 (±.15)	.94 (±.09)	.82 (±.04)	.96 (±.05)	1.02 (±.05)	.97 (±.11)	1.00 (±.08)	.98 (±.15)	.99 (±.09)	.88 (±.19)	1.06 (±.08)
Sorb. dehydrogenase MU/ml	.70 (±.41)	.53 (±.27)	.70 (±.41)	.42 (±.23)	.73 (±.27)	.72 (±.27)	.70 (±.24)	.57 (±.26)	.90 (±.30)	1.08 (±.25)	1.00 (±.40)	.75 (±.32)	.73 (±.21)

TABLE 4
MEAN BLOOD CHEMISTRY PARAMETERS FOR PIGS RECEIVING 9 mg. FENBENDAZOLE/kg. BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.67 (±1.63)	8.83 (±2.48)	7.83 (±1.83)	9.17 (±1.83)	12.67 (±1.63)	10.00 (±3.52)	7.67 (±1.97)	10.67 (±3.33)	10.00 (±1.67)	9.00 (±2.00)	9.00 (±3.58)	13.50 (±3.51)	10.33 (±3.39)
Creatinine mg/dl	.73 (±.33)	1.00 (±.11)	1.68 (±.50)	1.05 (±.20)	1.03 (±.21)	.93 (±.24)	1.02 (±.26)	.97 (±.21)	1.12 (±.26)	1.00 (±.06)	1.08 (±.23)	1.02 (±.23)	1.02 (±.17)
Alkaline phosphatase mU/ml	226.83 (±60.97)	198.83 (±46.01)	219.00 (±44.22)	209.33 (±62.24)	212.00 (±65.38)	186.50 (±50.48)	179.83 (±43.97)	174.50 (±49.30)	167.17 (±34.57)	192.17 (±58.83)	175.67 (±48.88)	188.50 (±65.72)	194.67 (±70.74)
Total protein mg/dl	6.30 (±.53)	6.35 (±.29)	6.25 (±1.02)	6.52 (±.40)	6.38 (±.35)	6.80 (±.56)	6.92 (±.68)	7.33 (±.43)	7.02 (±.64)	7.12 (±.48)	7.17 (±.33)	7.10 (±.38)	7.27 (±.39)
Albumin gm/dl	3.28 (±.23)	3.55 (±.38)	3.33 (±.64)	3.50 (±.42)	3.73 (±.48)	3.75 (±.54)	3.88 (±.39)	4.05 (±.60)	3.98 (±.63)	3.88 (±.44)	4.28 (±.31)	3.97 (±.46)	4.03 (±.47)
Calcium mg/dl	10.80 (±.75)	10.02 (±.33)	10.18 (±1.20)	10.15 (±.60)	9.38 (±1.31)	10.25 (±.78)	10.43 (±.39)	11.00 (±.69)	9.38 (±1.92)	11.08 (±.95)	10.63 (±.71)	10.73 (±.60)	11.25 (±.48)
Sodium meq/l	137.67 (±5.61)	142.83 (±2.04)	141.83 (±4.45)	146.33 (±6.68)	148.17 (±4.17)	142.50 (±4.04)	143.50 (±3.39)	148.75 (±6.08)	149.00 (±3.16)	146.67 (±1.75)	150.50 (±12.69)	140.67 (±3.01)	146.33 (±4.32)
Potassium meq/l	4.95 (±.51)	4.90 (±.67)	5.00 (±.38)	4.85 (±.37)	5.68 (±.92)	4.38 (±.59)	4.68 (±.35)	5.12 (±.71)	4.40 (±.42)	4.80 (±.82)	4.82 (±.88)	4.45 (±.23)	5.08 (±.78)
Inorg. Phosphorus mg/dl	7.83 (±.36)	7.80 (±.49)	7.87 (±.80)	7.57 (±.15)	7.87 (±.52)	7.38 (±.47)	7.75 (±.70)	8.02 (±.41)	7.88 (±.52)	7.67 (±.77)	7.97 (±.60)	8.48 (±.82)	7.65 (±.40)
Carbon dioxide meq/l	27.17 (±4.62)	29.83 (±4.45)	26.50 (±5.47)	29.33 (±5.89)	32.83 (±5.81)	29.83 (±7.78)	28.17 (±3.54)	30.33 (±5.46)	26.00 (±2.61)	27.83 (±2.14)	24.00 (±7.59)	27.50 (±3.78)	28.33 (±2.50)
Glucose mg/dl	115.50 (±24.74)	114.17 (±10.19)	109.17 (±11.51)	110.83 (±25.25)	111.67 (±17.78)	117.67 (±20.05)	112.83 (±21.72)	103.33 (±10.11)	118.67 (±8.91)	105.67 (±12.44)	100.17 (±19.93)	99.33 (±20.80)	98.83 (±13.26)
Chloride meq/l	101.17 (±2.04)	99.50 (±1.05)	102.00 (±1.79)	100.50 (±1.64)	100.20 (±2.49)	99.00 (±1.67)	99.83 (±2.40)	104.00 (±2.53)	103.40 (±2.07)	99.33 (±1.75)	98.67 (±2.25)	99.00 (±2.76)	98.67 (±1.75)
Total protein (refractionated) mg/dl	6.95 (±.41)	7.10 (±.49)	7.18 (±.19)	7.15 (±.37)	7.27 (±.55)	7.43 (±.38)	7.42 (±.34)	7.85 (±.30)	7.47 (±.56)	7.48 (±.47)	7.45 (±.31)	7.43 (±.18)	7.57 (±.34)
Fibrinogen mg/dl	350.00 (±104.88)	383.33 (±116.90)	340.00 (±89.44)	383.33 (±116.90)	340.00 (±54.77)	300.00 (±109.54)	300.00 (±63.25)	250.00 (±137.84)	266.67 (±81.65)	266.67 (±51.64)	216.67 (±98.32)	200.00 (±109.54)	233.33 (±103.28)
Plasma cholinesterase ΔpH units	1.42 (±.10)	1.33 (±.32)	1.15 (±.15)	1.32 (±.28)	1.34 (±.17)	1.32 (±.12)	1.25 (±.20)	1.22 (±.17)	1.24 (±.22)	1.18 (±.21)	1.21 (±.16)	1.19 (±.18)	1.27 (±.22)
RBC cholinesterase ΔpH units	.90 (±.05)	.87 (±.09)	.92 (±.15)	.85 (±.17)	.79 (±.09)	.91 (±.03)	.99 (±.12)	.98 (±.14)	.96 (±.07)	1.02 (±.07)	1.04 (±.07)	.97 (±.14)	1.01 (±.08)
Sorb. dehydrogenase mU/ml	.90 (±.67)	.82 (±.87)	.93 (±.27)	.68 (±.64)	.88 (±.50)	.60 (±.38)	.88 (±.38)	.83 (±.20)	1.00 (±.59)	1.43 (±.61)	.97 (±.39)	1.08 (±.46)	.90 (±.25)

TABLE 5
MEAN BLOOD CHEMISTRY PARAMETERS FOR PIGS RECEIVING 15 mg FENBENDAZOLE /kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.50 (± 1.87)	10.00 (± 2.53)	7.17 (± 2.04)	9.50 (± 2.43)	13.00 (± 3.10)	11.00 (± 3.16)	6.50 (± 1.05)	12.57 (± 5.46)	10.17 (± 1.60)	9.33 (± 1.86)	9.73 (± 4.14)	10.83 (± 2.64)	10.50 (± 2.51)
Creatinine mg/dl	.83 ($\pm .24$)	1.00 ($\pm .13$)	1.33 ($\pm .56$)	1.08 ($\pm .15$)	1.12 ($\pm .17$)	.97 ($\pm .15$)	1.10 ($\pm .15$)	1.08 ($\pm .13$)	1.13 ($\pm .14$)	1.10 ($\pm .14$)	1.13 ($\pm .14$)	1.18 ($\pm .18$)	1.13 ($\pm .18$)
Alkaline phosphatase mU/ml	183.33 (± 42.53)	174.67 (± 68.66)	160.17 (± 32.44)	134.50 (± 38.09)	139.67 (± 44.72)	134.17 (± 24.63)	140.00 (± 34.80)	130.00 (± 34.23)	134.50 (± 41.99)	136.17 (± 33.76)	141.33 (± 19.13)	132.67 (± 16.49)	139.67 (± 14.87)
Total protein mg/dl	6.20 ($\pm .32$)	6.48 ($\pm .19$)	6.43 ($\pm .40$)	6.18 ($\pm .34$)	6.28 ($\pm .37$)	6.65 ($\pm .42$)	6.87 ($\pm .39$)	7.03 ($\pm .69$)	6.78 ($\pm .34$)	6.85 ($\pm .33$)	6.83 ($\pm .34$)	6.65 ($\pm .45$)	6.90 ($\pm .39$)
Albumin gm/dl	3.42 ($\pm .56$)	3.25 ($\pm .62$)	3.40 ($\pm .48$)	3.37 ($\pm .34$)	3.40 ($\pm .51$)	3.47 ($\pm .48$)	3.62 ($\pm .54$)	3.77 ($\pm .53$)	3.72 ($\pm .38$)	3.67 ($\pm .33$)	3.73 ($\pm .37$)	3.68 ($\pm .19$)	3.70 ($\pm .32$)
Calcium mg/dl	10.03 (± 1.00)	9.52 ($\pm .38$)	8.63 (± 2.27)	9.63 ($\pm .58$)	9.10 ($\pm .58$)	9.90 ($\pm .68$)	10.15 ($\pm .58$)	10.42 ($\pm .19$)	10.43 ($\pm .93$)	10.68 ($\pm .92$)	10.50 ($\pm .35$)	10.13 ($\pm .68$)	11.00 ($\pm .44$)
Sodium meq/l	136.00 (± 1.10)	142.67 (± 3.33)	141.50 (± 3.30)	147.00 (± 4.34)	144.00 (± 4.56)	146.83 (± 3.87)	142.83 (± 5.32)	148.00 (± 3.74)	147.50 (± 4.42)	145.83 (± 2.79)	145.20 (± 3.35)	143.67 (± 3.56)	145.17 (± 3.12)
Potassium meq/l	4.13 ($\pm .31$)	4.85 ($\pm .64$)	4.88 ($\pm .49$)	4.68 ($\pm .35$)	4.58 ($\pm .42$)	4.27 ($\pm .31$)	4.38 ($\pm .82$)	5.03 ($\pm .55$)	4.65 ($\pm .41$)	4.70 ($\pm .82$)	4.88 (± 1.07)	4.53 ($\pm .30$)	5.40 ($\pm .73$)
Inorg. Phosphorus mg/dl	7.85 ($\pm .43$)	7.63 ($\pm .63$)	7.95 ($\pm .74$)	7.27 ($\pm .44$)	7.70 ($\pm .64$)	7.48 ($\pm .73$)	7.72 ($\pm .82$)	8.17 ($\pm .59$)	8.08 ($\pm .63$)	7.58 ($\pm .98$)	8.12 (± 1.07)	8.30 ($\pm .43$)	8.25 (± 1.03)
Carbon dioxide meq/l	25.50 (± 2.26)	27.83 (± 6.88)	27.67 (± 2.50)	33.17 (± 4.71)	33.00 (± 6.67)	31.17 (± 4.36)	26.50 (± 6.22)	32.80 (± 2.77)	26.33 (± 6.77)	28.33 (± 5.64)	28.20 (± 4.82)	28.17 (± 2.32)	28.17 (± 2.48)
Glucose mg/dl	129.17 (± 16.59)	113.50 (± 31.57)	100.00 (± 23.23)	98.00 (± 18.47)	115.83 (± 24.56)	110.00 (± 13.02)	107.33 (± 9.22)	101.17 (± 13.14)	128.00 (± 21.62)	107.50 (± 19.52)	103.67 (± 18.50)	97.83 (± 10.23)	106.67 (± 11.25)
Chloride meq/l	102.00 (± 1.41)	100.00 (± 1.67)	101.83 (± 1.72)	100.00 (± 2.45)	99.50 (± 3.62)	98.67 (± 2.34)	100.33 (± 1.63)	102.80 (± 2.28)	101.50 (± 2.88)	100.00 (± 5.06)	99.33 (± 1.21)	99.00 (± 2.68)	99.33 (± 2.66)
Total protein (refractionated) mg/dl	6.80 ($\pm .40$)	6.90 ($\pm .32$)	6.98 ($\pm .44$)	6.92 ($\pm .33$)	7.07 ($\pm .39$)	7.20 ($\pm .46$)	7.32 ($\pm .49$)	7.63 ($\pm .88$)	7.20 ($\pm .26$)	7.08 ($\pm .24$)	7.08 ($\pm .28$)	7.13 ($\pm .37$)	7.17 ($\pm .39$)
Fibrinogen mg/dl	366.67 (± 136.53)	350.00 (± 197.48)	350.00 (± 137.84)	450.00 (± 83.67)	383.33 (± 75.28)	350.00 (± 137.84)	366.67 (± 81.65)	333.33 (± 121.11)	250.00 (± 104.88)	266.67 (± 51.64)	233.33 (± 51.64)	266.67 (± 136.63)	250.00 (± 122.47)
Plasma cholinesterase APh units	1.17 ($\pm .18$)	1.06 ($\pm .28$)	1.24 ($\pm .21$)	1.26 ($\pm .32$)	1.23 ($\pm .22$)	1.12 ($\pm .19$)	1.13 ($\pm .14$)	1.02 ($\pm .16$)	1.24 ($\pm .21$)	1.05 ($\pm .10$)	1.04 ($\pm .13$)	1.04 ($\pm .17$)	1.00 ($\pm .15$)
RBC cholinesterase APh units	.83 ($\pm .04$)	.83 ($\pm .13$)	.92 ($\pm .13$)	.94 ($\pm .08$)	.83 ($\pm .08$)	.86 ($\pm .03$)	.92 ($\pm .05$)	.94 ($\pm .10$)	.95 ($\pm .12$)	1.03 ($\pm .10$)	.95 ($\pm .10$)	.90 ($\pm .05$)	.97 ($\pm .12$)
Sorb. dehydrogenase mU/ml	.80 ($\pm .14$)	.45 ($\pm .22$)	.72 ($\pm .30$)	.64 ($\pm .09$)	.72 ($\pm .27$)	.65 ($\pm .23$)	.74 ($\pm .24$)	.77 ($\pm .25$)	1.22 ($\pm .94$)	1.23 ($\pm .29$)	1.10 ($\pm .57$)	.95 ($\pm .25$)	.82 ($\pm .22$)

TABLE 6
MEAN BLOOD CHEMISTRY PARAMETERS FOR PIGS RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.33 (±3.08)	9.33 (±2.50)	8.17 (±2.14)	10.33 (±1.86)	13.83 (±2.86)	10.83 (±3.60)	9.67 (±3.39)	11.50 (±3.39)	10.67 (±1.63)	10.00 (±2.53)	10.67 (±4.76)	14.80 (±2.68)	10.80 (±2.05)
Creatinine mg/dl	.73 (±.33)	.97 (±.14)	1.37 (±.37)	1.00 (±.17)	1.05 (±.14)	.88 (±.04)	1.13 (±.15)	1.02 (±.08)	1.12 (±.21)	1.02 (±.18)	1.10 (±.19)	1.18 (±.24)	1.00 (±.27)
Alkaline phosphatase mU/ml	198.50 (±45.69)	194.83 (±39.70)	182.00 (±39.57)	164.00 (±55.44)	161.50 (±52.37)	147.33 (±39.36)	143.50 (±31.10)	137.00 (±23.11)	151.17 (±26.73)	145.83 (±28.06)	137.33 (±26.93)	134.80 (±17.20)	135.00 (±21.90)
Total protein mg/dl	6.32 (±.52)	6.37 (±.48)	6.13 (±.52)	6.42 (±.29)	6.22 (±.44)	6.72 (±.58)	6.67 (±.50)	6.98 (±.47)	6.82 (±.17)	6.83 (±.23)	6.97 (±.23)	6.72 (±.34)	6.88 (±.23)
Albumin gm/dl	3.70 (±.41)	3.55 (±.38)	3.62 (±.43)	3.75 (±.49)	3.80 (±.45)	3.93 (±.46)	4.00 (±.47)	4.07 (±.29)	3.95 (±.25)	3.97 (±.46)	4.07 (±.51)	4.06 (±.38)	4.04 (±.34)
Calcium mg/dl	9.32 (±1.45)	9.88 (±.08)	9.64 (±1.33)	9.92 (±.55)	8.87 (±.72)	10.25 (±.54)	10.25 (±.34)	10.77 (±.47)	10.25 (±1.23)	10.77 (±.66)	10.65 (±.24)	10.86 (±.18)	10.06 (±1.74)
Sodium meq/l	138.17 (±2.14)	141.17 (±3.60)	142.17 (±2.93)	145.00 (±4.24)	146.00 (±2.90)	145.50 (±5.68)	143.17 (±5.98)	149.50 (±4.04)	147.67 (±2.66)	145.33 (±3.08)	144.83 (±4.02)	142.20 (±6.50)	145.00 (±3.08)
Potassium meq/l	4.87 (±.60)	4.68 (±.56)	4.95 (±.62)	4.53 (±.61)	5.15 (±.54)	4.68 (±.74)	4.30 (±.40)	4.75 (±.89)	4.72 (±.64)	4.88 (±.94)	5.00 (±.95)	5.00 (±1.12)	4.62 (±.69)
Inorg. Phosphorus mg/dl	8.50 (±.79)	7.63 (±.42)	8.20 (±.69)	7.52 (±.73)	7.83 (±.33)	7.83 (±.66)	7.88 (±.42)	8.25 (±.55)	8.22 (±.48)	8.03 (±.71)	8.36 (±.82)	8.72 (±.44)	8.36 (±.84)
Carbon dioxide meq/l	26.33 (±9.20)	28.67 (±3.50)	29.00 (±3.58)	33.50 (±5.09)	32.83 (±5.19)	31.00 (±3.16)	27.67 (±3.01)	30.67 (±3.20)	23.33 (±7.81)	28.67 (±3.33)	27.50 (±1.05)	27.60 (±3.21)	27.40 (±3.58)
Glucose mg/dl	130.33 (±27.33)	117.33 (±14.79)	110.33 (±7.66)	109.33 (±14.64)	110.00 (±11.71)	110.67 (±7.53)	106.67 (±14.01)	105.17 (±12.02)	137.33 (±46.42)	115.00 (±16.75)	94.17 (±10.68)	110.00 (±8.63)	110.60 (±13.43)
Chloride meq/l	101.00 (±4.94)	100.00 (±1.10)	100.33 (±3.98)	100.33 (±2.16)	100.00 (±3.35)	99.67 (±2.50)	100.67 (±2.25)	103.00 (±4.65)	100.67 (±2.16)	99.83 (±2.79)	99.17 (±1.72)	99.80 (±2.68)	101.00 (±3.32)
Total protein (refractionated) mg/dl	6.88 (±.40)	6.92 (±.35)	6.90 (±.24)	6.85 (±.23)	7.02 (±.43)	7.30 (±.26)	7.20 (±.36)	7.34 (±.60)	7.13 (±.15)	7.17 (±.33)	7.23 (±.31)	7.22 (±.22)	7.24 (±.17)
Fibrinogen mg/dl	233.33 (±81.65)	366.67 (±61.64)	250.00 (±104.88)	333.33 (±81.65)	366.67 (±121.11)	350.00 (±122.47)	366.67 (±81.65)	283.33 (±132.92)	266.67 (±81.65)	283.33 (±75.28)	283.33 (±116.90)	320.00 (±228.04)	266.67 (±103.28)
Plasma cholinesterase APh units	1.35 (±.09)	1.20 (±.29)	1.29 (±.30)	1.38 (±.33)	1.30 (±.17)	1.18 (±.20)	1.26 (±.16)	1.20 (±.19)	1.15 (±.17)	1.15 (±.25)	1.10 (±.15)	1.17 (±.18)	1.20 (±.16)
RBC cholinesterase APh units	.90 (±.11)	.90 (±.02)	.91 (±.14)	.98 (±.16)	.79 (±.08)	.91 (±.04)	.96 (±.09)	.96 (±.10)	.96 (±.12)	1.01 (±.11)	1.00 (±.11)	.87 (±.12)	.97 (±.19)
Sorb. dehydrogenase mU/ml	.72 (±.27)	.48 (±.23)	.87 (±.16)	.68 (±.27)	.53 (±.30)	.70 (±.24)	.85 (±.12)	.68 (±.34)	1.38 (±1.02)	1.48 (±1.61)	.67 (±.37)	1.22 (±.93)	.70 (±.20)

TABLE 7 BLOOD CHEMISTRY PARAMETERS FOR PIG 6 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	5.0	7.0	9.0	9.0	8.0	9.0	9.0	5.0	8.0	9.0	7.0	10.0	10.0
Creatinine mg/dl	0.6	1.1	1.8	1.2	1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.0	0.7
Alkaline phosphatase mU/ml	186	173	175	130	114	113	117	105	102	116	139	148	139
Total protein mg/kg	6.0	6.2	6.0	5.8	5.4	6.5	6.7	6.5	6.6	6.2	6.3	6.8	6.5
Albumin gm/dl	3.5	3.6	3.5	3.8	3.3	3.5	3.6	3.5	3.8	3.4	3.6	3.8	3.5
Calcium mg/dl	9.2	9.8	9.4	8.7	8.8	9.6	9.5	9.9	10.6	10.4	9.7	10.3	9.8
Sodium meq/l	138	140	140	151	145	144	146	146	149	144	142	144	141
Potassium meq/l	3.9	4.3	5.5	3.4	4.4	4.1	4.0	4.3	4.3	4.7	3.8	4.8	3.9
Inorg. Phosphorus mg/dl	8.0	7.9	7.8	6.7	7.8	7.6	8.3	7.9	7.7	8.3	7.8	7.9	7.5
Carbon dioxide meq/l	28	27	31	38	33	27	23	35	26	31	27	27	26
Glucose meq/dl	94	93	94	89	109	114	90	107	101	101	86	82	105
Chloride meq/l	99	101	108	99	101	103	100	102	102	102	100	102	103
Total protein (refractonated) mg/dl	6.5	6.6	6.5	6.5	6.3	7.0	7.1	6.8	7.1	6.4	6.4	7.0	6.7
Fibrinogen mg/dl	300	300	400	500	400	500	400	400	300	200	100	200	300
Plasma cholinesterase ΔpH units	1.15	1.33	1.30	.95	.98	1.03	1.03	.98	1.09	.98	.94	.86	.86
RBC cholinesterase ΔpH units	.95	.89	1.08	.98	.82	.92	1.10	1.10	1.03	1.03	.99	1.05	.99
Sorb. dehydrogenase mU/ml	1.0	0.4	0.8	1.2	1.0	0.8	QMS	0.8	0.8	1.0	1.4	0.4	0.8

TABLE 8 BLOOD CHEMISTRY PARAMETERS FOR PIG 12 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.0	11.0	10.0	--	9.0	11.0	8.0	9.0	11.0	10.0	7.0	13.0	13.0
Creatinine mg/dl	0.7	1.1	1.8	--	0.9	0.9	1.1	1.1	1.2	1.1	0.9	0.9	1.0
Alkaline phosphatase mU/ml	168	150	150	--	109	118	132	114	120	121	129	119	116
Total protein mg/kg	6.6	6.5	6.4	--	6.0	6.9	7.3	7.0	7.3	7.1	6.8	6.9	7.3
Albumin gm/dl	3.5	3.3	3.4	--	3.3	3.4	3.6	3.5	4.0	3.8	3.8	3.7	3.7
Calcium mg/dl	11.8	9.8	10.2	--	9.1	10.0	11.0	10.5	11.5	11.4	10.7	11.1	10.7
Sodium meq/l	139	147	143	--	142	139	149	146	150	145	139	135	146
Potassium meq/l	6.0	4.4	5.4	--	4.6	4.5	5.0	5.6	5.4	5.6	3.9	4.3	4.6
Inorg. Phosphorus mg/dl	8.0	7.4	7.7	6.5	7.4	7.6	8.7	7.5	7.7	7.6	6.9	7.5	7.2
Carbon dioxide meq/l	26	29	31	--	33	25	26	26	29	20	35	30	30
Glucose meq/dl	109	100	105	--	116	128	91	109	116	105	92	80	96
Chloride meq/l	99	98	100	102	101	102	99	104	102	100	98	102	100
Total protein (refractonated) mg/dl	7.3	6.8	6.8	7.3	7.2	7.6	7.7	7.1	7.7	7.3	7.8	7.3	7.5
Fibrinogen mg/dl	300	300	300	600	400	400	500	300	200	300	200	300	300
Plasma cholinesterase ApH units	1.01	1.16	1.22	.88	.99	.98	.94	1.06	.95	.99	.98	.87	.90
RBC cholinesterase ApH units	.92	.95	.96	.92	.88	.93	1.10	1.14	1.02	1.20	.97	.98	1.04
Sorb. dehydrogenase mU/ml	0.8	0.9	1.2	QNS	1.0	1.0	1.1	1.0	1.4	1.6	1.4	1.2	1.2

TABLE 9 BLOOD CHEMISTRY PARAMETERS FOR PIG 16 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	10.0	11.0	11.0	8.0	13.0	7.0	7.0	14.0	12.0	11.0	13.0	12.0	9.0
Creatinine mg/dl	1.1	1.1	0.8	1.2	1.1	1.0	1.0	1.2	1.3	1.2	1.4	1.3	1.4
Alkaline phosphatase mU/ml	240	235	244	221	225	165	137	143	187	176	145	134	148
Total protein mg/kg	6.7	7.0	7.2	6.7	6.7	6.9	6.7	7.7	7.4	7.2	7.2	6.8	7.2
Albumin gm/dl	4.1	4.1	4.2	3.9	4.3	4.5	4.1	4.4	4.1	3.9	3.9	3.8	3.8
Calcium mg/dl	10.1	9.5	9.9	9.6	9.1	9.3	9.6	9.4	8.2	9.6	9.8	10.7	8.8
Sodium meq/l	141	139	141	143	145	139	136	--	144	145	146	144	142
Potassium meq/l	3.8	3.9	4.5	4.3	4.4	3.9	3.7	4.3	3.5	3.6	4.7	4.1	4.6
Inorg. Phosphorus mg/dl	8.5	7.8	8.2	7.4	8.1	7.1	6.9	7.7	7.9	7.2	8.5	10.1	8.8
Carbon dioxide meq/l	30	31	25	36	35	34	36	40	31	31	33	31	29
Glucose meq/dl	133	116	117	110	109	118	121	105	118	106	100	105	110
Chloride meq/l	108	103	111	101	102	99	101	106	102	102	99	98	99
Total protein (refractionated) mg/dl	7.1	7.2	7.2	7.0	7.0	7.5	7.0	8.0	7.5	7.2	7.4	7.3	7.3
Fibrinogen mg/dl	300	300	300	200	100	200	200	200	200	200	300	300	200
Plasma cholinesterase ApH units	--	1.35	1.41	1.74	1.71	1.40	1.35	1.38	1.47	1.35	1.20	1.44	1.39
RBC cholinesterase ApH units	--	.86	1.06	.78	.81	.88	.97	.89	.90	.81	.92	.81	1.06
Sorb. dehydrogenase mU/ml	1.2	0.6	0.4	0.2	0.6	0.8	0.6	0.2	1.4	1.0	0.4	0.8	0.6

TABLE 10 BLOOD CHEMISTRY PARAMETERS FOR PIG 23 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	11.0	10.0	17.0	9.0	18.0	11.0	13.0	20.0	14.0	11.0	18.0	13.0	12.0
Creatinine mg/dl	1.0	1.1	1.1	1.0	1.0	0.7	0.9	1.0	1.0	1.0	1.2	1.4	1.3
Alkaline phosphatase mU/ml	394	297	220	199	199	183	177	168	177	184	171	129	140
Total protein mg/dl	6.5	6.3	5.9	6.2	6.4	6.1	6.4	7.5	6.4	6.4	6.8	6.8	6.8
Albumin gm/dl	3.2	3.0	2.8	2.9	3.3	3.4	3.5	4.0	3.6	3.7	3.9	3.8	3.8
Calcium mg/dl	10.2	9.7	9.6	9.5	10.0	9.6	10.0	10.9	8.4	10.0	10.2	10.5	10.8
Sodium meq/l	139	146	146	142	144	148	138	--	144	146	147	142	145
Potassium meq/l	4.3	5.6	5.4	5.7	6.1	5.1	4.7	5.3	4.0	4.3	4.5	6.2	5.1
Inorg. Phosphorus mg/dl	8.1	7.6	8.6	7.6	8.4	7.2	8.1	8.8	7.8	8.0	9.0	10.2	9.4
Carbon dioxide meq/l	36	35	32	29	32	32	25	39	28	27	29	27	27
Glucose mg/dl	74	75	63	87	89	94	112	85	122	90	88	92	90
Chloride meq/l	106	101	104	102	100	100	102	110	106	100	100	98	100
Total protein (refractionated) mg/dl	7.4	7.4	6.7	7.1	7.2	7.1	7.0	8.1	7.0	7.0	7.4	7.5	7.4
Fibrinogen mg/dl	500	500	400	300	500	300	400	300	300	300	300	400	400
Plasma cholinesterase APl units	--	.97	1.15	1.53	1.34	1.34	1.11	1.12	1.34	1.14	1.26	1.16	1.25
RBC cholinesterase APl units	--	.89	.72	.95	.65	.85	.92	.89	.90	.56	1.11	.76	1.10
Sorb. dehydrogenase mU/ml	1.2	0.2	0.8	0.2	0.4	0.4	0.7	0.6	0.9	1.2	0.6	0.6	1.0

TABLE 11 BLOOD CHEMISTRY PARAMETERS FOR PIG 26 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.0	9.0	10.0	11.0	12.0	12.0	9.0	9.0	12.0	11.0	6.0	14.0	12.0
Creatinine mg/dl	0.3	0.9	1.9	1.0	1.0	1.0	1.0	1.0	1.0	1.1	0.9	1.0	0.9
Alkaline phosphatase mU/ml	194	159	175	132	131	142	129	132	129	149	164	180	182
Total protein mg/dl	6.7	6.6	6.4	6.1	6.3	7.1	7.3	7.5	7.3	7.0	7.2	7.3	7.4
Albumin gm/dl	3.4	3.2	3.7	3.9	3.8	3.8	3.9	3.9	4.2	4.0	4.4	4.1	4.1
Calcium mg/dl	11.3	9.5	9.8	9.1	8.6	10.8	10.6	10.6	10.9	11.1	10.7	10.3	11.3
Sodium meq/l	133	141	139	139	144	143	145	142	147	148	143	143	140
Potassium meq/l	4.4	4.3	4.1	3.9	4.6	5.0	3.9	4.4	3.9	4.7	3.8	5.1	4.2
Inorg. Phosphorus mg/dl	7.5	6.9	6.5	6.7	6.2	8.0	7.2	7.3	7.8	6.7	7.9	7.5	7.5
Carbon dioxide meq/l	27	31	33	33	39	29	29	31	27	29	26	32	31
Glucose mg/dl	97	75	104	105	117	114	101	114	104	118	89	98	97
Chloride meq/l	102	101	99	99	100	102	100	101	101	100	100	100	101
Total protein (refractionated) mg/dl	7.3	7.2	6.9	7.0	7.3	7.7	7.8	7.4	7.7	7.4	7.6	7.6	7.4
Fibrinogen mg/dl	300	400	300	500	400	300	400	200	200	300	200	300	200
Plasma cholinesterase ΔpH units	1.12	1.59	--	1.18	1.32	1.48	1.27	1.32	1.21	1.26	1.27	1.19	1.21
RBC cholinesterase ΔpH units	.86	.90	--	.77	.84	.94	1.12	1.04	.94	1.05	.95	1.02	1.02
Sorb. dehydrogenase mU/ml	0.4	0.2	0.6	0.4	0.6	0.2	0.9	0.4	1.6	1.3	1.0	0.9	0.6

TABLE 12 BLOOD CHEMISRTY PARAMETERS FOR PIG 30 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	10.0	12.0	13.0	14.0	15.0	14.0	7.0	15.0	12.0	11.0	15.0	13.0	14.0
Creatinine mg/dl	0.9	0.8	0.7	1.0	1.0	0.9	0.9	1.0	1.0	1.0	1.3	1.3	1.3
Alkaline phosphatase mU/ml	231	200	218	211	225	201	193	144	160	160	153	141	149
Total protein mg/dl	5.8	5.5	6.1	5.5	5.7	6.1	6.4	6.9	6.9	6.2	6.7	6.2	7.0
Albumin gm/dl	3.2	3.0	3.3	3.1	3.4	3.7	3.8	3.8	3.8	3.4	4.0	3.7	3.8
Calcium mg/dl	9.3	10.0	10.5	9.5	9.9	9.2	9.5	10.6	11.4	10.6	9.4	10.7	11.1
Sodium meq/l	134	139	145	145	145	148	134	157	150	145	147	140	140
Potassium meq/l	4.8	5.6	6.4	5.0	5.4	6.6	4.5	6.1	4.8	4.0	4.9	4.5	5.9
Inorg. Phosphorus mg/dl	8.3	8.0	9.3	7.6	8.4	7.5	8.1	8.3	8.4	7.8	8.2	10.2	8.6
Carbon dioxide meq/l	27	33	18	37	30	35	29	33	29	26	29	25	27
Glucose mg/dl	113	111	116	108	111	124	134	96	116	132	103	106	118
Chloride meq/l	102	100	109	102	101	97	96	106	102	97	194	98	98
Total protein (refractionated) mg/dl	6.3	6.4	6.8	6.2	6.4	6.8	7.0	7.5	7.2	6.5	7.9	7.3	9.0
Fibrinogen mg/dl	300	400	400	300	200	200	300	400	300	300	200	300	300
Plasma cholinesterase ΔpH units	--	1.14	1.27	1.74	1.41	1.33	1.36	1.21	1.27	1.17	1.20	1.39	1.30
RBC cholinesterase ΔpH units	--	1.06	1.03	1.02	.81	1.04	1.05	.85	1.14	.71	1.25	.96	.90
Sorb. dehydrogenase mU/ml	0.2	0.6	1.2	0.4	0.4	1.2	0.4	0.6	0.9	1.0	0.4	0.8	0.6

TABLE 13 BLOOD CHEMISTRY PARAMETERS FOR PIG 10 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	8.0	12.0	10.0	13.0	13.0	15.0	7.0	8.0	11.0	9.0	6.0	11.0	12.0
Creatinine mg/dl	0.8	1.0	1.9	1.2	1.0	1.1	1.2	1.1	1.0	1.2	1.2	1.0	1.2
Alkaline phosphatase mU/ml	220	188	195	127	110	128	148	173	179	220	217	248	228
Total protein mg/dl	6.5	6.3	6.6	6.1	6.4	7.1	7.1	6.8	6.9	7.0	6.3	6.3	6.8
Albumin gm/dl	3.8	3.9	4.0	4.0	3.9	3.9	3.9	4.0	4.2	3.9	3.9	3.7	3.8
Calcium mg/dl	11.2	9.9	9.8	9.5	9.2	11.3	10.9	10.6	11.1	11.7	10.8	10.3	10.6
Sodium meq/l	136	141	142	151	148	147	146	147	150	144	142	138	141
Potassium meq/l	4.5	4.8	5.0	4.2	4.7	4.8	4.1	4.4	5.1	5.5	4.3	4.4	5.2
Inorg. Phosphorus mg/dl	8.0	7.5	8.3	7.0	7.3	8.5	8.7	8.3	8.1	8.5	7.8	7.8	8.3
Carbon dioxide meq/l	31	31	27	40	40	25	29	35	25	32	29	28	21
Glucose mg/dl	107	111	129	103	119	151	113	107	121	110	111	103	140
Chloride meq/l	98	99	98	101	97	101	95	102	100	100	98	100	103
Total protein (refractionated) mg/dl	7.0	6.6	6.9	7.4	7.5	7.7	7.4	7.0	7.5	7.1	6.8	6.5	6.9
Fibrinogen mg/dl	300	200	200	400	400	400	400	200	100	200	200	100	300
Plasma cholinesterase ΔpH units	1.35	1.50	1.51	1.03	1.22	1.29	1.28	1.26	1.33	1.31	1.22	1.25	1.41
RBC cholinesterase ΔpH units	.88	.92	1.06	.95	.82	.97	1.03	1.04	.98	1.19	.93	1.21	1.10
Sorb. dehydrogenase mU/ml	0.8	0.2	0.2	0.8	0.6	0.8	0.9	0.4	0.8	0.9	1.6	1.0	0.8

TABLE 14

BLOOD CHEMISTRY PARAMETERS FOR PIG 11 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.0	12.0	9.0	10.0	11.0	11.0	10.0	8.0	10.0	10.0	9.0	12.0	12.0
Creatinine mg/dl	0.5	1.0	1.9	1.1	1.0	1.0	1.2	1.1	1.2	1.3	1.0	1.0	0.8
Alkaline phosphatase mU/ml	243	210	208	118	171	179	204	180	155	143	152	158	168
Total protein mg/dl	6.8	6.8	6.7	6.3	6.6	7.0	7.2	7.8	7.4	7.2	7.0	7.0	7.2
Albumin gm/dl	3.9	3.9	3.9	3.7	4.0	3.9	4.1	4.1	4.5	4.0	4.2	4.0	3.9
Calcium mg/dl	12.0	10.0	10.8	9.7	10.4	10.9	10.8	10.8	11.6	11.6	10.4	11.0	10.5
Sodium meq/l	136	137	145	146	145	147	147	149	155	142	140	134	136
Potassium meq/l	4.7	4.6	6.2	4.6	5.2	4.8	4.2	4.9	6.0	4.9	4.1	4.4	4.4
Inorg. Phosphorus mg/dl	8.1	7.4	8.1	6.8	8.3	7.9	8.6	8.1	7.8	7.7	7.0	7.5	7.5
Carbon dioxide meq/l	28	23	29	39	38	32	28	31	25	30	23	27	28
Glucose mg/dl	99	131	110	89	113	111	91	105	108	114	117	99	95
Chloride meq/l	98	100	100	101	98	103	99	102	102	97	98	98	98
Total protein (refractionated) mg/dl	7.5	7.1	7.1	7.6	7.6	7.6	7.6	7.4	7.6	7.4	7.3	7.4	7.4
Fibrinogen mg/dl	300	300	300	600	300	400	300	300	300	300	300	200	100
Plasma cholinesterase APl units	1.50	1.70	1.57	1.31	1.34	1.37	1.29	1.30	1.32	1.24	1.27	1.36	1.32
RBC cholinesterase APl units	.95	.75	1.13	.92	.83	1.01	1.11	1.01	.98	1.11	1.04	.70	1.01
Sorb. dehydrogenase mU/ml	0.8	0.4	0.6	0.2	0.8	0.8	1.0	0.8	1.0	1.2	1.2	1.2	1.0

TABLE 15 BLOOD CHEMISTRY PARAMETERS FOR PIG 15 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	5.0	9.0	7.0	9.9	13.0	10.0	6.0	14.0	10.0	7.0	12.0	11.0	9.0
Creatinine mg/dl	0.9	1.0	1.0	1.1	1.0	1.0	0.9	1.1	1.2	1.2	1.3	1.4	1.2
Alkaline phosphatase mU/ml	139	150	188	159	151	139	131	136	106	105	86	81	105
Total protein mg/dl	6.6	6.9	7.1	6.7	6.6	6.8	6.7	7.7	7.2	7.4	7.8	7.5	7.6
Albumin gm/dl	3.0	3.2	3.3	3.1	3.3	3.5	3.4	3.9	3.5	3.6	3.7	3.8	3.6
Calcium mg/dl	9.6	10.4	10.2	9.9	9.3	9.9	10.3	10.6	8.7	10.3	10.5	11.1	10.3
Sodium meq/l	137	141	141	148	146	139	137	--	143	143	146	143	142
Potassium meq/l	5.1	6.4	4.2	6.2	5.5	4.5	4.8	5.7	3.6	4.5	5.4	4.9	5.4
Inorg. Phosphorus mg/dl	7.9	9.3	8.2	7.8	7.9	7.2	7.7	8.8	7.5	7.4	7.3	9.0	7.3
Carbon dioxide meq/l	22	32	19	33	33	33	30	34	26	24	28	30	28
Glucose mg/dl	134	109	153	92	104	108	111	117	158	121	101	105	111
Chloride meq/l	102	98	102	100	98	96	100	110	102	98	98	94	97
Total protein (refractionated) mg/dl	7.4	7.9	7.7	7.4	7.4	7.9	7.7	8.7	7.5	8.1	8.1	8.4	7.8
Fibrinogen mg/dl	700	600	500	400	500	400	400	400	400	400	400	500	300
Plasma cholinesterase ΔpH units	--	.88	1.25	1.63	1.32	1.19	1.11	1.13	1.13	.99	.82	1.04	.90
RBC cholinesterase ΔpH units	--	.95	.75	.86	.86	.88	.94	.86	1.05	1.11	.97	.84	.97
Sorb. dehydrogenase mU/ml	1.4	0.4	0.4	ONS	0.6	1.0	0.4	0.4	0.6	1.4	0.8	0.6	0.4

TABLE 16 BLOOD CHEMISTRY PARAMETERS FOR PIG 21 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	4.0	11.0	6.0	7.0	10.0	11.0	7.0	5.0	7.0	8.0	4.0	10.0	8.0
Creatinine mg/dl	0.3	1.4	1.6	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.7	0.9	0.8
Alkaline phosphatase mU/ml	246	194	259	215	202	219	245	218	206	223	236	239	222
Total protein mg/dl	6.5	6.5	6.2	6.3	5.6	6.8	7.0	6.8	6.8	6.8	6.9	7.0	6.8
Albumin gm/dl	3.2	4.2	3.3	3.5	3.4	3.7	4.0	3.9	4.2	4.0	4.2	4.3	4.1
Calcium mg/dl	11.1	11.2	9.8	9.4	8.5	11.0	9.9	10.5	11.0	10.6	10.4	10.6	10.7
Sodium meq/l	135	145	137	149	146	144	148	149	145	142	143	138	141
Potassium meq/l	4.5	5.7	4.0	4.4	4.2	4.2	5.0	4.2	3.7	4.4	3.7	4.6	4.2
Inorg. Phosphorus mg/dl	7.7	8.8	7.3	7.2	7.4	8.6	8.9	8.2	8.2	8.1	7.4	7.9	7.8
Carbon dioxide meq/l	20	12	29	27	39	28	27	33	28	28	31	28	33
Glucose mg/dl	107	171	119	120	119	111	95	108	115	108	86	92	93
Chloride meq/l	103	97	98	100	98	100	97	106	100	97	96	98	96
Total protein (refractionated) mg/dl	7.0	7.4	6.5	6.7	6.5	7.1	7.4	6.9	7.1	7.0	7.0	7.1	6.9
Fibrinogen mg/dl	200	200	200	400	300	100	200	200	200	300	200	100	200
Plasma cholinesterase ΔpH units	1.51	1.62	1.52	1.20	1.22	1.32	1.04	1.04	1.18	1.08	1.15	1.08	1.11
RBC cholinesterase ΔpH units	.80	.87	.98	.84	.79	.92	1.04	1.12	1.13	.96	1.01	.99	1.09
Sorb. dehydrogenase mU/ml	0.6	0.6	1.2	0.4	0.8	0.2	QNS	1.0	1.4	1.0	0.6	0.8	0.6

TABLE 17 BLOOD CHEMISTRY PARAMETERS FOR PIG 24 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	12.0	13.0	12.0	7.0	13.0	7.0	7.0	15.0	12.0	10.0	13.0	12.0	10.0
Creatinine mg/dl	0.9	0.9	0.7	0.9	1.0	0.8	0.8	0.8	0.9	0.9	1.1	1.0	1.0
Alkaline phosphatase mU/ml	272	263	269	260	268	217	207	198	181	177	175	151	166
Total protein mg/dl	6.5	6.9	6.8	6.5	6.6	7.1	7.1	7.7	7.2	7.4	7.2	7.2	7.1
Albumin gm/dl	4.4	4.4	4.5	4.2	4.4	5.0	4.8	4.8	4.5	4.5	4.5	4.3	4.4
Calcium mg/dl	10.4	10.9	10.8	10.4	10.7	10.5	10.7	11.1	8.6	10.7	10.5	11.0	11.1
Sodium meq/l	137	147	148	147	143	152	139	156	145	146	151	143	145
Potassium meq/l	4.4	5.4	5.0	4.8	4.6	4.0	4.4	4.7	4.5	4.3	5.7	4.7	5.3
Inorg. Phosphorus mg/dl	8.3	9.0	9.3	7.5	7.9	6.8	7.5	7.8	7.8	7.5	8.5	9.8	9.3
Carbon dioxide meq/l	33	35	18	36	33	35	32	--	34	28	33	29	26
Glucose mg/dl	125	116	145	110	131	118	131	96	114	119	94	102	117
Chloride meq/l	102	101	106	99	97	98	97	102	102	103	98	94	100
Total protein (refractionated) mg/dl	7.0	7.4	7.3	7.0	7.2	7.8	7.8	8.0	7.4	7.7	7.5	7.6	7.3
Fibrinogen mg/dl	300	500	100	200	300	100	300	200	300	400	100	200	100
Plasma cholinesterase ΔpH units	--	.99	1.07	1.50	1.26	1.22	1.14	1.14	1.12	1.10	1.07	1.13	1.28
RBC cholinesterase ΔpH units	--	--	.88	.96	.77	.89	1.01	.92	.96	.96	1.14	.84	1.17
Sorb. dehydrogenase mU/ml	0.4	1.0	1.2	0.4	1.2	0.8	0.6	0.4	1.0	1.2	0.6	0.3	0.8

TABLE 18 BLOOD CHEMISTRY PARAMETERS FOR PIG 29 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	9.0	8.0	7.0	8.0	10.0	9.0	5.0	16.0	11.0	9.0	10.0	10.0	10.0
Creatinine mg/dl	1.1	1.1	0.8	1.1	1.2	0.9	1.0	1.0	1.3	1.0	1.2	1.4	1.3
Alkaline phosphatase mU/ml	166	134	130	123	150	138	139	118	133	122	114	95	111
Total protein mg/dl	6.6	6.6	6.9	6.5	6.6	6.9	7.1	7.4	7.2	7.0	6.9	6.6	6.8
Albumin gm/dl	3.4	3.2	3.3	3.2	3.3	3.6	3.7	3.9	3.7	3.7	3.7	3.5	3.6
Calcium mg/dl	9.6	9.3	9.7	9.9	9.8	10.2	10.3	10.3	11.2	10.5	9.9	10.0	11.1
Sodium meq/l	130	138	141	144	141	139	137	156	144	143	143	138	142
Potassium meq/l	4.4	5.0	5.0	5.0	4.8	4.1	4.1	4.7	4.2	3.5	5.1	3.8	6.2
Inorg. Phosphorus mg/dl	7.7	6.9	8.3	7.3	7.5	6.9	7.3	7.8	7.9	7.1	8.4	8.9	8.7
Carbon dioxide meq/l	30	30	32	33	25	35	33	32	32	29	31	27	25
Glucose mg/dl	128	114	55	93	122	99	121	114	110	122	89	116	113
Chloride meq/l	100	100	103	100	105	97	98	110	102	101	98	100	102
Total protein (refractionated) mg/dl	7.0	7.3	7.3	7.3	7.4	7.6	7.6	7.9	7.3	7.1	7.4	7.1	7.0
Fibrinogen mg/dl	300	600	400	400	400	300	300	300	300	200	400	300	200
Plasma cholinesterase ΔpH units	--	.79	.67	1.52	1.10	1.05	1.15	1.18	1.20	1.07	1.01	1.10	1.16
RBC cholinesterase ΔpH units	--	.88	.78	1.08	.88	.86	.97	.82	1.02	.94	.92	.75	.94
Sorb. dehydrogenase mU/ml	0.2	0.6	0.6	0.3	0.4	0.7	0.6	0.4	0.6	0.8	1.2	0.6	0.8

TABLE 19 BLOOD CHEMISTRY PARAMETERS FOR PIG 5 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	6.0	5.0	7.0	7.0	11.0	7.0	5.0	10.0	7.0	6.0	8.0	8.0	5.0
Creatinine mg/dl	0.9	1.0	1.1	1.1	1.0	0.9	0.8	0.9	1.1	1.0	1.1	1.0	1.0
Alkaline phosphatase mU/ml	208	200	216	179	175	138	133	112	122	130	128	118	129
Total protein mg/dl	6.1	6.2	6.6	6.5	6.3	6.3	6.4	6.7	6.4	6.7	6.9	6.8	6.2
Albumin gm/dl	3.5	3.6	3.7	3.6	3.9	3.9	3.9	3.9	3.5	3.6	4.0	3.7	3.9
Calcium mg/dl	10.2	9.9	11.7	10.3	7.4	10.0	10.2	10.3	8.1	9.8	10.6	10.2	11.4
Sodium meq/l	145	141	148	150	149	142	142	156	150	146	152	144	151
Potassium meq/l	5.1	4.7	5.6	5.1	4.6	3.8	4.4	4.3	4.2	3.8	4.5	4.5	5.4
Inorg. Phosphorus mg/dl	8.1	8.2	9.0	7.7	7.6	7.0	7.1	7.6	7.3	7.0	8.7	8.1	7.5
Carbon dioxide meq/l	24	23	18	29	30	34	30	24	24	30	23	27	26
Glucose mg/dl	111	116	123	85	100	102	99	98	118	94	96	81	91
Chloride meq/l	102	100	102	100	104	99	101	107	106	100	101	101	101
Total protein (refractionated) mg/dl	6.8	7.1	7.3	7.1	7.0	7.3	7.2	7.7	7.0	7.1	7.7	7.4	7.6
Fibrinogen mg/dl	200	400	300	400	300	200	300	400	400	300	300	300	200
Plasma cholinesterase ΔpH units	--	1.07	1.16	1.37	1.29	1.18	1.05	1.17	1.20	.97	1.14	1.14	1.56
RBC cholinesterase ΔpH units	--	.84	.85	.88	.76	.88	.87	.81	1.03	1.07	1.14	--	1.07
Sorb. dehydrogenase mU/ml	0.4	0.4	1.0	QNS	1.6	1.0	0.4	0.6	0.4	1.2	1.6	0.8	0.9

TABLE 20 BLOOD CHEMISTRY PARAMETERS FOR PIG 8 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	10.0	11.0	10.0	9.0	14.0	8.0	7.0	15.0	11.0	9.0	14.0	13.0	9.0
Creatinine mg/dl	1.0	1.0	2.5	1.1	1.0	0.9	1.0	1.0	1.1	1.0	1.2	1.1	1.1
Alkaline phosphatase mU/ml	228	219	248	234	259	199	185	167	177	189	175	147	169
Total protein mg/dl	6.0	6.0	6.3	6.2	6.1	6.3	6.2	7.1	6.6	6.7	6.8	6.8	6.9
Albumin gm/dl	3.3	3.3	3.4	3.4	4.2	4.1	4.3	4.6	4.1	4.1	4.0	4.0	4.2
Calcium mg/dl	10.6	10.6	10.7	9.7	10.7	10.0	10.7	11.2	8.7	11.0	9.8	11.3	11.9
Sodium meq/l	139	141	146	147	145	139	142	--	151	147	148	142	152
Potassium meq/l	5.1	6.1	4.6	5.1	7.2	4.2	5.0	4.9	4.3	4.1	5.9	4.9	6.1
Inorg. Phosphorus mg/dl	8.2	8.5	8.5	7.3	8.7	6.9	7.9	7.6	7.6	7.0	8.3	9.3	7.3
Carbon dioxide meq/l	34	34	28	32	28	37	31	38	30	29	26	31	29
Glucose mg/dl	104	108	104	104	135	107	116	90	120	107	102	99	102
Chloride meq/l	101	100	104	99	100	96	100	103	102	97	99	96	98
Total protein (refractionated) mg/dl	6.6	6.6	7.0	6.8	6.7	7.0	6.2	7.1	6.6	6.7	6.8	6.8	6.9
Fibrinogen mg/dl	300	400	300	300	--	200	400	400	200	300	300	300	300
Plasma cholinesterase ΔpH units	--	.98	1.28	1.73	1.55	1.39	1.28	1.19	1.25	1.20	1.23	1.29	1.30
RBC cholinesterase ΔpH units	--	.85	.67	.52	.69	.86	.98	.85	.93	.89	1.04	.85	1.06
Sorb. dehydrogenase mU/ml	0.6	0.8	0.8	0.4	0.6	1.0	0.8	1.0	0.8	1.0	0.8	1.2	0.8

TABLE 21 BLOOD CHEMISTRY PARAMETERS FOR PIG 14 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	8.0	8.0	6.0	10.0	13.0	6.0	7.0	14.0	10.0	8.0	13.0	14.0	10.0
Creatinine mg/dl	0.9	0.9	1.4	1.0	0.9	0.8	1.0	0.8	1.4	1.0	1.1	1.0	1.1
Alkaline phosphatase mU/ml	306	271	286	279	291	233	209	210	186	254	230	220	226
Total protein mg/dl	5.7	6.3	6.8	6.3	6.0	6.3	6.3	7.2	6.5	6.7	6.9	6.7	6.0
Albumin gm/dl	3.2	3.3	3.6	3.4	3.8	3.9	3.8	4.4	4.0	3.9	4.1	4.2	4.1
Calcium mg/dl	9.9	10.1	10.8	10.6	10.8	9.3	10.1	11.3	11.1	10.6	11.1	11.0	11.5
Sodium meq/l	141	141	141	147	150	139	139	--	149	148	148	143	145
Potassium meq/l	5.8	5.2	5.3	5.0	5.7	5.5	4.6	6.1	4.5	4.3	5.9	4.3	5.4
Inorg. Phosphorus mg/dl	7.8	7.8	8.1	7.6	8.2	7.2	7.4	8.4	7.8	7.6	8.3	9.6	8.2
Carbon dioxide meq/l	25	35	26	35	32	26	26	35	28	35	29	29	29
Glucose mg/dl	154	132	114	105	93	136	139	105	117	128	122	121	119
Chloride meq/l	104	99	103	103	--	101	104	107	105	102	101	100	99
Total protein (refractionated) mg/dl	5.7	6.3	6.8	6.3	6.0	6.3	6.3	7.2	6.5	6.7	6.9	6.7	6.0
Fibrinogen mg/dl	400	500	300	300	300	200	300	300	200	200	100	300	200
Plasma cholinesterase ΔpH units	--	1.11	1.17	1.66	1.48	1.36	1.43	1.24	1.47	1.21	1.18	1.41	1.29
RBC cholinesterase ΔpH units	--	.94	.91	.99	.69	.94	1.06	.95	.88	1.10	1.00	.92	.90
Sorb. dehydrogenase mU/ml	0.6	0.8	0.6	0.2	QNS	0.2	0.6	0.8	0.4	2.2	0.6	QNS	0.7

TABLE 22 BLOOD CHEMISTRY PARAMETERS FOR PIG 20 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.0	9.0	8.0	11.0	15.0	14.0	10.0	9.0	12.0	12.0	7.0	19.0	14.0
Creatinine mg/dl	0.8	1.2	2.0	1.3	1.4	1.3	1.4	1.3	1.4	1.1	1.4	1.3	1.2
Alkaline phosphatase mU/ml	180	194	175	142	137	142	149	153	153	160	183	182	172
Total protein mg/dl	6.1	6.2	6.9	7.1	6.7	7.4	7.5	7.9	7.9	7.8	7.5	7.2	7.8
Albumin gm/dl	3.6	3.4	3.9	4.2	5.1	4.3	4.2	4.5	4.9	4.5	4.7	4.5	4.6
Calcium mg/dl	11.9	9.6	10.1	11.0	9.8	11.5	11.1	12.1	12.7	12.6	11.5	11.2	11.2
Sodium meq/l	139	145	141	156	154	148	149	151	153	149	145	137	146
Potassium meq/l	4.8	4.4	4.7	4.2	5.3	4.1	4.8	5.6	5.1	5.4	4.1	4.3	4.2
Inorg. Phosphorus mg/dl	8.1	7.4	7.5	7.7	7.8	8.1	9.1	8.6	8.7	9.0	7.8	8.1	7.3
Carbon dioxide meq/l	23	38	23	19	27	16	22	25	23	26	16	26	25
Glucose mg/dl	134	117	120	159	132	148	138	120	113	95	123	97	96
Chloride meq/l	100	101	101	100	100	99	98	100	101	98	96	101	100
Total protein (refractionated) mg/dl	7.2	7.9	7.3	7.7	8.1	8.1	7.8	8.4	8.4	8.1	7.8	7.5	7.8
Fibrinogen mg/dl	300	300	300	300	400	400	200	100	300	300	300	100	400
Plasma cholinesterase ΔpH units	1.49	1.64	.89	1.17	1.24	1.27	1.15	1.02	.96	1.05	1.12	.97	1.06
RBC cholinesterase ΔpH units	.85	.72	1.08	.81	.87	.93	1.16	1.14	.91	1.03	1.10	1.21	1.07
Sorb. dehydrogenase mU/ml	2.2	2.5	1.4	1.8	1.2	0.8	1.5	0.6	1.0	1.6	1.2	1.0	1.4

TABLE 23 BLOOD CHEMISTRY PARAMETERS FOR PIG 25 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	6.0	8.0	6.0	7.0	11.0	11.0	7.0	6.0	10.0	9.0	6.0	13.0	--
Creatinine mg/dl	0.1	0.9	1.4	0.7	0.8	0.6	0.8	0.7	0.7	0.9	0.8	0.6	0.7
Alkaline phosphatase mU/ml	150	132	169	146	151	151	153	153	145	147	153	161	149
Total protein mg/dl	6.8	5.8	6.7	6.9	6.9	7.4	7.7	7.8	7.7	7.5	7.5	7.4	7.6
Albumin gm/dl	3.3	4.3	3.3	3.5	3.5	3.5	3.9	3.9	4.3	4.0	4.3	4.2	4.2
Calcium mg/dl	11.4	9.9	9.6	9.9	8.9	9.9	10.3	10.8	10.7	11.6	11.0	10.9	11.0
Sodium meq/l	131	144	136	141	149	140	145	146	147	144	143	137	142
Potassium meq/l	4.5	4.7	4.8	4.6	6.2	4.2	4.2	5.2	4.0	5.7	3.0	4.3	4.1
Inorg. Phosphorus mg/dl	7.4	7.7	7.1	7.5	7.7	7.3	7.5	7.9	7.5	8.1	7.7	7.4	7.5
Carbon dioxide meq/l	32	31	31	34	40	35	31	30	25	30	31	31	32
Glucose mg/dl	84	109	95	100	110	98	90	100	109	102	73	73	80
Chloride meq/l	98	98	99	99	97	99	98	104	--	99	96	96	98
Total protein (refractionated) mg/dl	7.3	7.4	7.4	7.5	7.8	7.6	7.8	7.7	7.9	7.8	7.6	7.5	7.9
Fibrinogen mg/dl	400	500	500	600	400	400	300	200	300	200	100	100	200
Plasma cholinesterase ApH units	1.30	1.50	1.32	1.04	1.08	1.19	1.05	1.14	1.08	1.11	1.07	1.02	.98
RBC cholinesterase ApH units	.93	.98	1.00	.95	.90	.94	1.04	1.12	1.07	1.00	1.01	.94	1.07
Sorb. dehydrogenase mU/ml	0.6	0.2	0.8	0.6	0.6	0.2	1.0	1.0	1.8	0.6	0.6	0.6	0.8

TABLE 24 BLOOD CHEMISTRY PARAMETERS FOR PIG 27 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	9.0	12.0	10.0	11.0	12.0	14.0	10.0	10.0	10.0	6.0	6.0	14.0	14.0
Creatinine mg/dl	0.7	1.0	1.7	1.1	1.1	1.1	1.1	1.0	1.0	1.0	0.9	1.1	1.0
Alkaline phosphatase mU/ml	289	177	220	276	259	256	250	252	220	273	267	303	323
Total protein mg/dl	7.1	6.6	4.2	6.1	6.3	7.1	7.4	7.5	7.0	7.3	7.4	7.6	7.3
Albumin gm/dl	2.9	3.4	2.1	2.9	2.9	2.8	3.2	3.0	3.1	3.2	3.1	3.2	3.2
Calcium mg/dl	10.8	10.0	8.2	9.4	8.7	10.8	10.2	10.3	10.3	10.9	9.8	9.8	10.5
Sodium meq/l	131	145	139	137	142	147	144	143	144	146	140	141	142
Potassium meq/l	4.4	4.3	5.0	4.3	5.1	4.5	5.1	4.4	4.2	5.5	4.6	4.4	5.3
Inorg. Phosphorus mg/dl	7.4	7.2	7.0	7.6	7.2	7.8	7.7	8.0	8.3	7.3	7.0	8.4	8.1
Carbon dioxide meq/l	25	28	33	27	40	31	29	30	26	27	31	21	29
Glucose mg/dl	106	103	99	112	100	115	95	107	135	109	85	125	105
Chloride meq/l	102	99	103	102	100	100	98	102	103	100	99	101	96
Total protein (refractionated) mg/dl	7.4	6.7	6.9	7.0	7.0	7.4	7.5	7.4	7.3	7.8	7.4	7.7	7.8
Fibrinogen mg/dl	500	200	--	400	300	400	300	100	200	300	200	100	100
Plasma cholinesterase APh units	1.46	1.70	1.09	1.52	1.41	1.50	1.53	1.53	1.51	1.56	1.51	1.33	1.43
RBC cholinesterase APh units	.93	.89	1.02	.93	.82	.89	.96	1.14	1.08	1.17	1.00	.96	1.00
Sorb. dehydrogenase mU/ml	1.0	0.2	1.0	0.4	0.4	0.4	1.0	1.0	1.6	2.0	1.0	1.8	0.8

TABLE 25 BLOOD CHEMISTRY PARAMETERS FOR PIG 1 RECEIVING 15 mg FEMBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	6.0	8.0	6.0	9.0	9.0	7.0	6.0	5.0	7.0	7.0	4.0	7.0	9.0
Creatinine mg/dl	0.6	1.0	1.8	1.0	1.0	0.8	1.1	0.9	1.0	1.1	1.1	1.0	1.0
Alkaline phosphatase mU/ml	121	110	121	81	70	68	78	70	66	76	115	125	135
Total protein mg/dl	6.4	6.8	6.6	6.4	6.8	7.0	7.4	7.3	7.3	7.0	7.2	7.0	7.4
Albumin gm/dl	3.3	3.3	3.3	3.5	3.1	3.1	3.3	3.3	3.4	3.2	3.3	3.4	3.4
Calcium mg/dl	9.2	9.2	8.8	9.2	9.2	9.6	9.6	10.6	10.7	11.0	10.7	10.2	10.5
Sodium meq/l	138	145	140	149	140	143	142	144	148	142	141	143	143
Potassium meq/l	4.4	4.4	4.9	4.5	4.3	4.4	4.3	5.1	5.0	5.2	3.7	4.4	4.6
Inorg. Phosphorus mg/dl	8.0	7.4	7.1	6.7	7.7	7.6	7.2	7.5	7.3	8.1	7.2	7.9	7.6
Carbon dioxide meq/l	22	28	27	31	31	29	24	29	28	30	23	32	27
Glucose mg/dl	118	99	109	108	115	127	118	111	126	109	119	86	119
Chloride meq/l	104	100	99	96	95	99	98	102	99	96	99	99	97
Total protein (refractionated) mg/dl	7.0	7.0	7.0	7.3	7.6	7.7	7.9	7.7	7.6	7.1	7.4	7.2	--
Fibrinogen mg/dl	300	200	100	400	400	500	500	400	300	200	200	100	200
Plasma cholinesterase ΔpH units	.99	.71	1.22	.84	.95	.79	.87	.72	.88	.88	.85	.82	.75
RBC cholinesterase ΔpH units	.86	.82	.98	.86	.76	.85	.85	.97	.76	1.03	.85	.93	.83
Sorb. dehydrogenase mU/ml	1.0	0.3	0.6	0.8	1.0	0.6	0.9	1.0	1.3	1.4	ONS	0.7	1.0

TABLE 26 BLOOD CHEMISTRY PARAMETERS FOR FIG 2 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	8.0	13.0	10.0	13.0	15.0	16.0	7.0	11.0	11.0	11.0	--	13.0	13.0
Creatinine mg/dl	0.7	1.1	1.8	1.0	1.1	1.0	1.2	1.1	1.2	1.1	0.9	1.1	1.0
Alkaline phosphatase mU/ml	181	172	153	122	134	149	144	121	124	128	131	126	132
Total protein mg/dl	5.7	6.3	6.1	5.9	5.8	6.5	6.4	6.4	6.9	6.9	7.2	6.5	6.7
Albumin gm/dl	3.0	3.1	3.1	3.2	3.2	3.3	3.5	3.5	4.0	3.8	3.9	3.7	3.5
Calcium mg/dl	9.1	9.8	9.3	8.9	9.4	10.3	10.3	10.3	10.9	11.5	10.7	10.7	10.5
Sodium meq/l	136	146	138	153	143	146	149	147	149	148	--	149	143
Potassium meq/l	3.9	4.5	5.3	4.6	4.3	3.9	4.7	4.7	5.1	6.0	--	4.4	6.2
Inorg. Phosphorus mg/dl	7.7	8.6	7.7	7.1	8.4	8.6	8.4	8.4	8.0	9.1	7.9	7.8	8.4
Carbon dioxide meq/l	27	22	29	39	33	30	22	32	25	31	--	27	25
Glucose mg/dl	116	134	108	110	119	107	98	106	110	111	127	101	112
Chloride meq/l	102	101	101	100	98	100	102	100	100	98	100	99	104
Total protein (refractionated) mg/dl	6.2	6.5	6.5	6.5	6.5	6.8	7.1	6.9	7.4	7.2	7.3	6.8	6.8
Fibrinogen mg/dl	200	200	300	400	300	300	300	300	100	300	300	300	200
Plasma cholinesterase ApH units	1.34	1.20	1.58	1.19	1.40	1.32	1.24	1.17	1.23	1.09	1.06	1.20	1.13
RBC cholinesterase ApH units	.84	.68	.95	.86	.80	.86	.96	.92	.97	.95	.83	.84	.92
Sorb. dehydrogenase mU/ml	0.8	0.4	0.3	0.6	1.0	0.2	0.8	0.8	1.2	1.4	2.0	1.0	1.0

TABLE 27 BLOOD CHEMISTRY PARAMETERS FOR FIG 3 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	6.0	7.0	7.0	10.0	15.0	10.0	5.0	13.0	11.0	10.0	12.0	12.0	7.0
Creatinine mg/dl	1.0	1.1	1.0	1.3	1.4	1.0	1.2	1.3	1.3	1.3	1.3	1.4	1.3
Alkaline phosphatase mU/ml	238	208	209	177	186	159	181	166	188	165	161	136	156
Total protein mg/dl	6.0	6.3	6.5	6.3	6.3	6.3	6.5	6.6	6.5	6.5	6.5	6.0	6.6
Albumin gm/dl	4.3	4.4	4.3	4.1	4.4	4.3	4.6	4.6	4.2	4.0	4.3	3.9	4.2
Calcium mg/dl	10.5	9.2	10.5	10.3	9.2	10.3	11.0	10.1	10.1	10.2	11.0	9.4	11.6
Sodium meq/l	136	138	148	148	150	145	148	--	154	150	149	147	149
Potassium meq/l	3.7	5.9	4.2	5.1	4.1	4.3	4.8	4.9	4.5	4.7	6.1	4.8	5.1
Inorg. Phosphorus mg/dl	8.6	8.2	9.3	8.0	8.4	7.2	9.0	9.2	8.8	7.6	9.9	8.3	7.3
Carbon dioxide meq/l	24	18	23	30	21	32	19	36	14	17	23	27	26
Glucose mg/dl	159	168	112	100	158	115	119	86	170	140	107	112	113
Chloride meq/l	102	100	104	99	106	99	102	102	105	110	100	102	98
Total protein (refractionated) mg/dl	6.8	7.0	6.9	6.8	7.0	7.2	7.4	7.5	7.2	6.9	7.2	7.0	7.1
Fibrinogen mg/dl	400	200	400	400	300	500	400	200	300	300	200	300	200
Plasma cholinesterase ΔpH units	--	.99	1.25	1.46	1.36	1.03	1.26	1.08	1.32	1.13	.94	1.18	1.03
RBC cholinesterase ΔpH units	--	1.00	.87	.96	.92	.89	.86	.84	1.07	1.13	.94	.93	1.15
Sorb. dehydrogenase mU/ml	ONS	0.2	0.6	0.6	0.8	0.8	ONS	ONS	3.0	1.0	1.0	0.8	0.6

TABLE 28

BLOOD CHEMISTRY PARAMETERS FOR PIG 17 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	11.6	10.0	8.0	8.0	15.0	9.0	8.0	16.0	11.0	10.0	13.0	8.0	13.0
Creatinine mg/dl	1.2	1.1	0.9	1.2	1.2	1.2	1.1	1.1	1.1	1.2	1.2	1.4	1.4
Alkaline phosphatase mU/ml	204	146	174	181	191	159	155	146	167	164	158	138	148
Total protein mg/dl	6.3	6.4	6.3	5.9	6.1	6.1	6.1	6.8	6.4	6.6	6.5	6.5	6.6
Albumin gm/dl	3.2	2.9	2.9	2.8	3.0	3.0	3.0	3.3	3.2	3.3	3.4	3.5	3.4
Calcium mg/dl	9.8	9.6	10.3	9.7	9.1	9.0	9.4	10.4	8.7	9.2	10.1	10.5	11.3
Sodium meq/l	135	144	141	141	139	150	136	153	142	145	143	141	142
Potassium meq/l	4.3	5.4	5.4	5.1	5.2	4.5	4.3	5.3	4.9	3.8	5.3	5.0	6.4
Inorg. Phosphorus mg/dl	7.7	7.5	8.1	7.5	7.7	6.7	7.2	8.1	8.4	6.3	8.3	8.8	10.2
Carbon dioxide meq/l	27	29	28	34	36	33	31	35	27	32	33	27	30
Glucose mg/dl	138	94	72	77	88	94	99	65	121	82	79	87	88
Chloride meq/l	101	100	103	102	99	96	99	104	103	98	97	96	98
Total protein (refractionated) mg/dl	6.6	6.9	6.8	6.7	6.9	6.7	6.6	7.5	7.0	6.9	6.8	7.2	7.0
Fibrinogen mg/dl	300	600	400	400	400	400	300	400	400	300	200	400	400
Plasma cholinesterase ΔpH units	--	.93	.95	1.56	1.37	1.24	1.15	1.09	1.29	1.15	1.22	.96	1.10
RBC cholinesterase ΔpH units	--	.98	.81	.99	.93	.87	.95	.90	.97	.93	1.01	--	1.05
Sorb. dehydrogenase mU/ml	0.6	0.8	0.8	0.6	0.7	0.8	0.4	0.5	0.6	1.2	0.8	0.8	0.8

TABLE 29 BLOOD CHEMISTRY PARAMETERS FOR PIG 19b RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.0	9.0	8.0	11.0	15.0	13.0	6.0	21.0	19.0	7.0	14.0	12.0	9.0
Creatinine mg/dl	0.9	0.8	0.6	0.9	0.9	0.8	0.8	1.0	0.9	0.9	1.1	1.2	1.1
Alkaline phosphatase mU/ml	149	118	130	124	135	126	129	123	125	129	128	111	116
Total protein mg/dl	6.6	6.6	7.1	6.7	6.6	7.2	7.1	8.3	7.0	7.4	7.0	7.3	7.4
Albumin gm/dl	3.4	3.2	3.4	3.1	3.4	3.7	3.6	4.2	3.6	3.8	3.6	3.8	3.8
Calcium mg/dl	9.8	10.1	9.6	10.3	9.7	9.4	10.2	10.5	11.1	10.5	10.2	10.8	11.0
Sodium meq/l	136	139	141	148	143	153	138	--	143	145	148	142	145
Potassium meq/l	4.0	4.4	4.4	4.6	4.9	4.4	4.0	5.9	4.1	3.9	5.4	4.4	5.2
Inorg. Phosphorus mg/dl	7.3	7.0	7.7	7.2	7.2	6.8	6.9	7.9	7.4	6.8	8.5	9.1	8.1
Carbon dioxide meq/l	28	36	30	38	37	38	36	--	34	29	31	26	30
Glucose mg/dl	120	102	71	74	95	97	103	102	127	94	104	96	99
Chloride meq/l	100	97	102	100	99	96	100	106	104	98	100	96	98
Total protein (refractionated) mg/dl	7.4	7.4	7.8	7.3	7.4	7.8	7.8	9.3	7.1	7.5	7.1	7.8	7.7
Fibrinogen mg/dl	600	600	500	500	500	200	400	500	200	300	300	400	400
Plasma cholinesterase ΔpH units	--	1.01	1.14	1.57	1.37	1.19	1.20	1.09	1.19	1.02	1.13	1.19	1.11
RBC cholinesterase ΔpH units	--	.94	.77	1.05	.74	.81	.94	.90	.86	.97	1.09	.86	.88
Sorb. dehydrogenase mU/ml	0.8	0.6	0.8	ONS	0.4	0.7	0.6	ONS	0.4	1.6	0.5	1.0	0.5

TABLE 30 BLOOD CHEMISTRY PARAMETERS FOR PIG 28 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.0	13.0	4.0	6.0	9.0	11.0	7.0	10.0	11.0	11.0	10.0	13.0	12.0
Creatinine mg/dl	0.6	0.9	1.9	1.1	1.1	1.0	1.2	1.1	1.2	1.1	1.2	1.0	1.0
Alkaline phosphatase mU/ml	207	294	174	122	122	144	153	154	137	155	155	160	151
Total protein mg/dl	6.2	6.5	6.0	5.9	6.1	6.8	6.7	6.8	6.6	6.7	6.6	6.6	6.7
Albumin gm/dl	3.3	2.6	3.4	3.5	3.3	3.4	3.6	3.7	3.9	3.9	3.9	3.8	3.9
Calcium mg/dl	11.8	9.2	9.7	9.4	8.0	10.8	10.4	10.6	11.1	11.7	10.3	9.2	11.1
Sodium meq/l	135	144	141	143	149	144	144	148	149	145	145	140	149
Potassium meq/l	4.5	4.5	5.1	4.2	4.7	4.1	4.2	4.3	4.7	4.6	3.9	4.2	4.9
Inorg. Phosphorus mg/dl	7.8	7.1	7.8	7.1	6.8	8.0	7.6	7.9	8.6	7.6	6.9	7.9	7.9
Carbon dioxide meq/l	25	34	29	27	40	25	27	32	30	31	31	30	31
Glucose mg/dl	124	84	128	119	120	120	107	117	114	109	86	105	109
Chloride meq/l	103	102	102	103	100	102	101	--	98	100	100	102	101
Total protein (refractionated) mg/dl	6.8	6.6	6.9	6.9	7.0	7.0	7.1	6.9	6.9	6.9	6.7	6.8	6.8
Fibrinogen mg/dl	400	300	400	600	400	200	300	200	200	200	200	100	100
Plasma cholinesterase ΔpH units	1.18	1.55	1.30	.94	.94	1.15	1.07	.97	.90	1.02	1.02	.89	.89
RBC cholinesterase ΔpH units	.79	.68	1.13	.92	.81	.89	.96	1.14	1.08	1.17	1.00	.96	1.00
Sorb. dehydrogenase mU/ml	0.8	0.4	1.2	0.6	0.4	0.8	1.0	ONS	0.8	0.8	1.2	1.4	1.0

TABLE 31 BLOOD CHEMISTRY PARAMETERS FOR PIG 4 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	4.0	7.0	7.0	8.0	9.0	9.0	9.0	9.0	11.0	10.0	7.0	12.0	11.0
Creatinine mg/dl	0.4	0.8	1.8	0.7	0.8	0.8	1.1	0.9	0.8	0.7	0.9	0.8	0.6
Alkaline phosphatase mU/ml	145	128	130	97	98	101	108	117	113	130	121	120	111
Total protein mg/dl	6.8	6.9	6.4	6.4	6.8	7.4	7.3	7.0	7.1	7.4	7.1	6.4	6.6
Albumin gm/dl	3.8	3.8	4.1	3.7	3.7	3.7	3.9	3.8	3.8	4.2	3.9	3.7	3.7
Calcium mg/dl	9.6	9.9	9.3	9.1	9.3	9.2	10.4	10.5	10.9	11.1	10.8	11.0	10.5
Sodium meq/l	139	146	142	149	144	144	149	147	148	142	141	150	143
Potassium meq/l	4.5	4.6	4.1	4.0	4.8	4.2	4.1	4.1	4.4	5.7	3.9	4.4	4.2
Inorg. Phosphorus mg/dl	7.7	7.3	7.5	6.6	7.6	7.5	8.5	7.6	7.6	8.7	7.2	8.2	7.6
Carbon dioxide meq/l	35	31	31	39	30	29	29	29	28	28	28	25	31
Glucose mg/dl	110	107	100	92	112	114	100	109	107	122	93	117	103
Chloride meq/l	98	101	100	102	98	101	102	100	103	100	100	104	104
Total protein (refractionated) mg/dl	7.2	7.1	6.8	7.1	7.5	7.7	7.7	7.3	7.3	7.7	7.1	7.1	7.3
Fibrinogen mg/dl	300	300	100	400	500	500	500	500	300	300	300	700	300
Plasma cholinesterase ΔpH units	1.42	1.39	1.56	1.05	1.26	1.24	1.27	1.24	1.20	1.34	1.20	1.21	1.12
RBC cholinesterase ΔpH units	.84	.87	.68	.93	.85	.83	.80	.96	.75	.83	.88	.81	.92
Sorb. dehydrogenase mU/ml	1.0	QNS	0.8	0.8	0.4	0.4	1.0	0.4	0.8	0.4	1.0	1.2	0.6

TABLE 32

BLOOD CHEMISTRY PARAMETERS FOR FIG 7 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	8.0	8.0	9.0	9.0	15.0	9.0	7.0	16.0	11.0	11.0	17.0	15.0	9.0
Creatinine mg/dl	1.0	1.1	1.0	1.1	1.1	0.9	1.0	1.0	1.4	1.0	1.2	1.3	1.2
Alkaline phosphatase mU/ml	212	189	198	172	176	149	149	142	158	153	137	114	134
Total protein mg/dl	6.0	6.4	6.5	6.3	6.3	6.3	6.4	7.3	6.8	6.8	6.8	6.9	7.1
Albumin gm/dl	3.8	3.9	3.9	3.8	4.1	4.3	4.4	4.5	4.2	4.0	4.3	4.1	4.3
Calcium mg/dl	10.5	9.8	10.5	10.4	8.7	10.3	10.4	10.6	9.0	10.1	10.6	10.8	7.1
Sodium meq/l	138	138	146	147	150	139	142	--	151	148	147	144	148
Potassium meq/l	5.3	5.1	4.5	4.4	5.1	4.2	3.9	3.9	3.9	4.0	5.1	4.5	4.4
Inorg. Phosphorus mg/dl	8.2	8.0	9.0	7.6	7.7	7.2	7.5	8.2	8.5	7.2	9.0	9.2	9.7
Carbon dioxide meq/l	20	23	29	32	33	36	30	34	16	32	27	24	22
Glucose mg/dl	153	141	122	92	98	101	115	97	173	107	105	112	131
Chloride meq/l	104	100	103	101	101	97	99	103	101	96	101	98	97
Total protein (refractionated) mg/dl	6.0	6.4	6.5	6.3	6.3	6.3	6.4	7.3	6.8	6.8	6.8	6.9	7.1
Fibrinogen mg/dl	200	400	200	300	300	300	300	200	200	200	300	300	300
Plasma cholinesterase aph units	--	.98	1.07	1.42	1.29	1.06	1.21	1.21	1.21	1.14	.95	1.24	1.17
RBC cholinesterase aph units	--	.91	.86	.91	.68	.91	.97	.93	.97	.98	1.10	.79	1.06
Sorb. dehydrogenase mU/ml	0.6	0.2	0.8	ONS	0.8	1.0	0.8	1.0	3.2	1.2	0.3	0.6	0.8

TABLE 33 BLOOD CHEMISTRY PARAMETERS FOR PIG 9 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	7.0	12.0	10.0	12.0	15.0	17.0	10.0	10.0	13.0	12.0	8.0	19.0	14.0
Creatinine mg/dl	0.4	1.1	1.7	0.9	1.1	0.9	1.2	1.0	1.1	1.0	0.9	1.1	0.9
Alkaline phosphatase mU/ml	204	197	205	177	201	197	187	174	163	176	174	155	139
Total protein mg/dl	6.7	6.9	6.2	6.3	6.1	7.2	7.0	6.9	6.8	7.1	7.2	7.2	6.9
Albumin gm/dl	3.9	3.7	3.7	4.0	3.8	4.1	4.1	4.1	4.2	4.2	4.3	4.2	3.8
Calcium mg/dl	9.7	9.8	10.1	10.0	9.1	10.7	10.3	10.6	11.3	11.3	10.3	11.1	10.2
Sodium meq/l	137	138	139	150	144	150	146	146	147	145	140	134	141
Potassium meq/l	4.3	4.3	5.1	3.7	4.3	5.0	3.9	4.3	4.5	4.4	4.0	4.6	4.1
Inorg. Phosphorus mg/dl	7.9	7.3	7.5	7.2	7.5	9.0	8.3	8.1	8.1	8.6	7.4	8.3	7.7
Carbon dioxide meq/l	34	29	32	40	38	33	28	34	29	32	27	32	26
Glucose mg/dl	102	107	107	121	113	116	93	109	109	108	100	102	112
Chloride meq/l	95	98	97	97	95	99	98	98	98	97	96	98	104
Total protein (refractionated) mg/dl	7.0	7.2	6.9	6.9	6.9	7.3	7.3	7.1	7.2	7.3	7.4	7.4	7.1
Fibrinogen mg/dl	100	400	300	300	200	300	300	300	200	200	200	100	200
Plasma cholinesterase ΔpH units	1.25	1.40	1.46	1.09	1.18	1.14	.97	1.08	1.06	1.08	1.04	.85	1.01
RBC cholinesterase ΔpH units	1.02	.90	1.06	1.14	.83	.92	1.07	1.16	.92	1.13	1.00	1.07	1.08
Sorb. dehydrogenase mU/ml	0.8	0.4	0.6	0.8	0.2	0.4	0.7	0.6	1.0	0.6	1.0	1.0	0.8

TABLE 34 BLOOD CHEMISTRY PARAMETERS FOR PIG 13 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	6.0	8.0	6.0	9.0	17.0	7.0	6.0	14.0	10.0	7.0	12.0	13.0	9.0
Creatinine mg/dl	1.0	1.0	1.1	1.1	1.2	0.9	1.1	1.1	1.1	1.2	1.3	1.4	1.3
Alkaline phosphatase mU/ml	268	230	216	240	221	185	169	151	243	180	165	144	169
Total protein mg/dl	6.0	6.0	5.2	6.4	5.9	6.3	6.1	6.2	6.9	6.3	6.6	6.4	6.7
Albumin gm/dl	3.7	3.7	3.2	3.7	3.9	4.1	4.2	4.1	4.0	3.9	4.0	3.7	3.9
Calcium mg/dl	10.5	9.9	9.9	10.2	9.9	10.5	10.2	10.3	10.7	10.5	10.5	10.7	10.9
Sodium meq/l	136	138	142	143	146	139	139	155	149	144	145	142	145
Potassium meq/l	4.2	4.4	4.9	4.8	5.8	3.9	4.5	4.5	4.8	3.9	4.0	3.7	3.9
Inorg. Phosphorus mg/dl	8.5	7.8	8.3	7.3	8.3	7.4	7.8	7.9	8.9	7.3	7.6	9.0	8.5
Carbon dioxide meq/l	29	32	30	33	27	31	22	29	11	28	28	29	28
Glucose mg/dl	131	128	116	110	128	121	130	126	216	114	104	100	112
Chloride meq/l	101	101	98	99	105	99	103	107	102	101	100	98	98
Total protein (refractionated) mg/dl	6.7	6.6	7.0	6.7	6.6	7.0	6.9	7.0	6.9	6.8	6.7	6.9	7.1
Fibrinogen mg/dl	300	400	200	200	300	200	300	300	200	300	100	300	300
Plasma cholinesterase ApH units	--	1.10	--	1.91	1.63	1.40	1.39	1.42	1.33	1.25	1.23	1.32	1.43
RBC cholinesterase ApH units	--	.91	.92	.92	.75	.92	.98	.84	1.01	1.00	.98	.81	1.14
Sorb. dehydrogenase mU/ml	QNS	0.6	1.0	0.8	0.2	0.8	0.8	0.9	0.7	0.8	0.4	0.5	0.4

TABLE 35 BLOOD CHEMISTRY PARAMETERS FOR PIG 18 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	13.0	13.0	11.0	12.0	15.0	10.0	9.0	13.0	11.0	7.0	15.0	Pig Died	
Creatinine mg/dl	1.1	1.0	1.0	1.1	1.0	0.9	1.0	1.1	1.3	1.0	1.3		
Alkaline phosphatase mU/ml	212	185	216	196	176	146	135	123	120	120	106		
Total protein mg/dl	5.6	5.7	5.9	5.8	5.6	6.0	6.2	7.6	6.6	6.5	7.1		
Albumin gm/dl	2.9	2.9	3.0	2.9	3.0	3.1	3.1	3.7	3.2	3.1	3.2		
Calcium mg/dl	10.8	10.0	10.4	9.4	9.6	10.3	9.6	11.6	8.4	10.0	10.7		
Sodium meq/l	142	144	145	141	143	152	134	--	143	143	151		
Potassium meq/l	5.6	5.6	5.9	5.1	5.4	5.9	4.9	6.1	4.9	5.1	6.4		
Inorg. Phosphorus mg/dl	9.9	8.2	8.7	7.6	8.2	7.7	7.5	9.2	7.8	7.7	9.1		
Carbon dioxide meq/l	11	26	22	27	29	27	27	26	29	23	26		
Glucose mg/dl	172	118	109	114	96	106	107	88	114	114	82		
Chloride meq/l	109	100	107	100	100	98	99	110	98	102	99		
Total protein (refractionated) mg/dl	6.3	6.4	6.5	6.5	6.7	7.0	6.7	8.5	7.0	6.9	7.6		
Fibrinogen mg/dl	200	400	300	400	500	500	400	500	400	400	400		
Plasma cholinesterase ΔpH units	--	.78	.88	1.57	1.20	.86	.81	.90	.85	.69	.90		
RBC cholinesterase ΔpH units	--	.91	1.06	1.20	.72	.94	.93	.95	1.03	1.10	1.16		
Sorb. dehydrogenase mU/ml	0.4	0.8	1.0	0.2	0.8	0.8	0.8	0.2	0.6	4.7	0.4		

TABLE 36 BLOOD CHEMISTRY PARAMETERS FOR PIG 22 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Blood urea nitrogen mg/dl	6.0	8.0	6.0	12.0	12.0	13.0	8.0	7.0	8.0	13.0	5.0	15.0	11.0
Creatinine mg/dl	0.5	0.8	1.6	1.1	1.1	0.9	1.4	1.0	1.0	1.2	1.0	1.3	1.0
Alkaline phosphatase mU/ml	150	240	133	102	97	106	113	115	100	116	121	141	122
Total protein mg/dl	6.8	6.3	6.6	6.7	6.6	7.1	7.0	7.0	6.7	6.9	7.0	6.7	7.1
Albumin gm/dl	4.1	3.3	3.8	4.4	4.3	4.3	4.3	4.2	4.3	4.4	4.7	4.6	4.5
Calcium mg/dl	11.8	9.9	--	10.4	9.2	10.5	10.6	11.0	11.2	11.6	11.0	10.7	11.6
Sodium meq/l	137	143	139	140	149	149	149	150	148	150	145	138	148
Potassium meq/l	5.3	4.1	5.2	5.2	5.5	4.9	4.5	5.6	5.8	6.2	5.0	7.0	5.8
Inorg. Phosphorus mg/dl	8.8	7.2	--	8.8	7.7	8.2	7.7	8.5	8.4	8.7	7.9	8.9	8.3
Carbon dioxide meq/l	29	31	30	30	40	30	30	32	27	29	29	28	30
Glucose mg/dl	114	103	108	127	113	106	95	102	105	95	81	119	95
Chloride meq/l	99	100	97	103	101	104	103	100	102	103	99	101	102
Total protein (refractionated) mg/dl	7.4	7.3	7.2	7.1	7.6	7.5	7.4	6.9	7.2	7.3	7.2	7.3	7.2
Fibrinogen mg/dl	300	300	400	400	400	300	400	100	300	300	400	200	100
Plasma cholinesterase ΔpH units	1.37	1.54	1.50	1.22	1.23	1.36	1.27	1.37	1.27	1.39	1.25	1.21	1.29
RBC cholinesterase ΔpH units	.83	.87	.86	.78	.90	.93	1.03	.95	.99	1.04	.91	.85	.67
Sorb. dehydrogenase mU/ml	0.6	0.4	1.0	0.8	0.8	0.8	1.0	1.0	2.0	1.2	1.0	2.8	0.9

TABLE 38 MEAN BONE MARROW PARAMETERS FOR PIGS RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

Pig #	6		12		16		23		26		30	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Z												
Pro rubricyte	2	0.32	3	0.56	0	0.0	2	0.38	3	0.55	3	0.53
Rubricyte	73	14.40	71	13.25	51	10.58	84	16.14	103	18.93	79	15.21
Meta rubricyte	42	8.37	43	8.02	61	12.66	40	7.55	61	11.21	60	11.62
Total rubricyte	118	23.15	117	21.83	112	23.24	126	24.06	167	30.70	142	27.36
Pro myelocyte	16	3.27	23	4.29	15	3.11	32	6.09	15	2.76	14	2.75
Myelocyte	111	21.41	130	24.25	147	30.50	150	28.84	101	18.57	96	18.46
Meta myelocyte	24	5.31	51	9.51	37	7.68	38	7.22	21	3.86	34	6.65
Band	68	13.35	45	8.40	32	6.64	38	7.27	83	15.26	54	10.35
Segmented	80	15.68	81	15.11	0	0.0	53	10.05	63	11.58	65	12.53
Eosinophil	60	11.92	53	9.89	46	9.54	68	12.94	57	10.48	68	13.02
Basophil	3	0.61	4	0.75	10	2.07	3	0.58	4	0.74	2	0.29
Total myeloid	363	71.18	387	72.20	287	59.54	380	72.99	344	63.24	332	64.06
Lymphocyte	28	5.55	31	5.78	83	17.22	28	5.22	31	5.70	44	8.59
M:E ratio		3.08		3.31		2.56		3.02		2.06		2.34

TABLE 39 MEAN BONE MARROW PARAMETERS FOR PIGS RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

Pig #	10	11	15	21	24	29
	Total %	Total %	Total %	Total %	Total %	Total %
Pro rubricyte	3 0.57	3 0.58	4 0.85	0 0.0	2 0.37	3 0.50
Rubricyte	78 14.80	47 9.13	48 9.34	72 14.33	55 10.26	90 17.87
Meta rubricyte	48 9.11	47 9.13	71 13.79	37 7.38	66 12.31	41 8.19
Total rubricyte	129 24.48	97 18.83	124 24.18	109 21.70	123 22.95	134 26.57
Pro myelocyte	18 3.42	28 5.44	30 5.94	34 6.73	20 3.73	18 3.50
Myelocyte	164 31.12	137 26.60	116 22.67	114 22.51	53 9.89	134 26.78
Meta myelocyte	14 2.66	31 6.02	59 11.56	58 11.55	94 17.54	42 8.50
Band	43 8.16	55 10.68	48 9.33	62 12.31	95 17.72	58 11.59
Segmented	65 12.33	55 10.68	57 11.18	43 8.55	73 13.62	28 5.68
Eosinophil	61 11.57	73 14.17	63 12.27	53 10.52	37 6.90	38 7.71
Basophil	4 0.76	6 1.16	2 0.46	7 1.30	3 0.56	4 0.80
Total myeloid	370 70.21	385 74.76	376 73.51	370 73.43	375 69.96	323 64.55
Lymphocyte	28 5.31	31 6.02	8 1.44	24 4.68	37 6.90	44 8.79
M:E ratio	2.87	3.97	3.03	3.38	3.05	2.43

TABLE 40 MEAN BONE PARAMETERS FOR PIGS RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

Pig #	5		8		14		20		25		27	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Pro rubricyte	3	0.58	0	0.0	4	0.82	3	0.59	1	0.20	3	0.61
Rubricyte	85	16.07	84	16.57	70	14.29	132	26.06	137	26.86	77	15.68
Meta rubricyte	39	7.37	52	10.26	67	13.67	83	16.37	77	15.10	37	7.54
Total rubricyte	127	24.01	136	26.82	143	29.18	218	43.00	215	42.12	117	23.83
Pro myelocyte	14	2.65	28	5.52	14	2.86	11	2.17	44	8.63	21	4.28
Myelocyte	166	31.38	116	22.88	71	14.49	111	21.89	70	13.72	80	16.29
Meta myelocyte	34	6.43	56	11.04	35	7.14	15	2.96	50	9.80	51	10.39
Band	56	10.59	46	9.07	28	5.71	46	9.07	31	6.08	71	14.46
Segmented	79	14.93	52	10.26	40	8.16	43	8.48	49	9.61	39	7.94
Eosinophil	41	7.75	68	13.41	55	11.22	43	8.48	22	4.31	72	14.66
Basophil	5	0.94	2	0.39	12	2.45	1	0.20	6	1.18	3	0.61
Total myeloid	395	74.67	368	72.58	255	52.04	270	53.25	273	53.53	337	68.64
Lymphocyte	5	0.94	0	0.0	92	18.78	18	3.55	20	3.92	37	7.54
M:E ratio	3.11		2.70		1.78		1.24		1.27		2.88	

TABLE 41 MEAN BONE PARAMETERS FOR PIGS RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

Pig #	1	2	3	17	19	28
	Total %	Total %	Total %	Total %	Total %	Total %
Pro rubricyte	1 0.19	3 0.56	2 0.37	4 0.58	3 0.64	2 0.39
Rubricyte	41 7.96	43 7.99	73 13.47	70 13.59	105 19.75	75 14.48
Meta rubricyte	38 7.38	67 12.45	71 13.10	69 13.09	74 13.84	58 11.20
Total rubricyte	80 15.53	113 21.00	146 26.94	143 27.54	183 34.22	135 26.06
Pro myelocyte	25 4.85	12 2.23	15 2.77	15 3.00	19 3.64	17 3.28
Myelocyte	98 19.03	115 21.38	120 22.14	116 22.63	103 19.46	132 25.48
Meta myelocyte	68 13.20	37 6.88	34 6.27	35 6.74	26 4.92	31 5.98
Band	97 18.83	97 18.03	56 10.33	27 5.17	49 9.41	73 14.09
Segmented	73 14.17	111 20.63	39 7.20	39 7.58	42 7.85	36 6.95
Eosinophil	51 9.90	26 4.83	94 17.34	61 11.85	66 12.41	51 9.85
Basophil	1 0.19	6 1.11	3 0.55	4 0.87	3 0.50	2 0.39
Total myeloid	413 80.19	404 75.09	361 66.60	297 57.84	307 58.21	342 66.02
Lymphocyte	21 4.08	16 2.97	35 6.46	73 14.10	40 7.51	40 7.72
M:E ratio	5.16	3.58	2.47	2.08	1.68	2.53

TABLE 42 MEAN BONE MARROW PARAMETERS FOR PIGS RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

Pig #	4		7		9		13		18		24	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Pro rubricyte	1	0.19	1	0.20	2	0.39	2	0.29	Pig Died		3	0.56
Rubricyte	65	12.69	85	16.97	40	7.83	66	12.86			102	19.14
Meta rubricyte	43	8.40	91	18.16	43	8.41	48	9.16			85	15.95
Total rubricyte	109	21.29	177	35.33	85	16.63	116	22.32			190	35.65
Pro myelocyte	21	4.10	24	4.79	23	4.50	17	3.28			15	2.81
Myelocyte	115	22.46	103	20.56	123	24.07	121	23.41			86	16.14
Meta myelocyte	18	3.52	21	4.19	42	8.22	22	4.37			63	11.82
Band	73	14.26	49	9.78	71	13.89	103	19.94			51	9.57
Segmented	73	14.26	65	12.97	55	10.76	66	12.58			57	10.69
Eosinophil	73	14.26	29	5.79	76	14.87	53	10.23			50	9.38
Basophil	2	0.39	1	0.20	3	0.59	3	0.58			3	0.56
Total myeloid	375	73.24	292	58.28	393	76.91	385	74.39			325	60.98
Lymphocyte	28	5.47	31	6.19	32	6.26	16	3.09			17	3.19
M:E ratio		3.44		1.65		4.62		3.32				1.71

TABLE 43
MEAN HEMATOLOGY PARAMETERS FOR PIGS RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	39.17	38.67	36.33	35.92	34.83	37.50	36.83	37.50	36.58	35.50	36.92	39.00	36.92
Hemoglobin gm/dl	±2.56	±1.10	±1.97	±3.09	±2.64	±2.45	±1.17	±2.95	±3.23	±2.66	±2.51	±2.61	±3.44
Red blood cells x 10 ⁶ /mm ³	12.62	11.78	11.32	11.62	10.78	11.15	11.62	12.04	11.67	11.23	11.68	12.03	12.02
White blood cells/mm ³	±.49	±.66	±.59	±.02	±.95	±.50	±.50	±1.12	±.83	±.80	±.77	±.80	±.68
Total basophils/mm ³	7.22	7.14	6.99	6.88	6.66	6.85	7.05	7.30	7.02	6.80	7.06	7.58	7.63
Basophils %	±.63	±.39	±.38	±.30	±.32	±.52	±.34	±.39	±.57	±.46	±.40	±.93	±1.03
Total eosinophils/mm ³	25,300	25,767	24,400	25,233	24,217	24,967	23,067	22,900	25,367	23,533	23,300	23,250	21,750
Eosinophils %	±5,354	±5,499	±5,697	±6,059	±5,196	±5,780	±5,374	±3,301	±3,444	±3,651	±2,434	±4,421	±3,289
Total band cells/mm ³	0	601	0	0	42.33	23.67	102	0	40.50	83.83	126	72.30	34.80
Band cells %	0	±165	0	0	±104	±57.97	±174	0	±99.20	±132	±138	±112	±85.30
Total seg. neutrophils/mm ³	0	±.33	0	0	±.17	±.17	±.50	0	±.17	±.33	±.50	±.33	±.17
Seg. neutrophils %	0	±.52	0	0	±.41	±.41	±.84	0	±.41	±.52	±.55	±.52	±.41
Total lymphocytes/mm ³	229	308	421	174	491	413	345	474	244	471	276	588	359
Lymphocytes %	±240	±341	±319	±218	±236	±457	±234	±384	±397	±422	±306	±469	±229
Total monocytes/mm ³	.83	1.17	2.00	.67	2.00	1.50	1.67	2.17	1.00	2.00	1.17	2.67	1.67
Monocytes %	±.75	±1.17	±1.15	±.82	±.89	±1.64	±1.21	±1.94	±1.55	±1.79	±1.33	±1.97	±1.03
Total platelets x 10 ⁶ /mm ³	0	36	112	133	491	69.50	162	0	211	176	139	0	76.70
Prothrombin time (sec.)	0	±87	±174	±246	±236	±116	±277	0	±109	±228	±245	0	±188
	0	±.17	±.17	±.50	±.17	±.33	±.67	0	±.83	±.67	±.67	0	±.33
	0	±.41	±.41	±.84	±.41	±.52	±1.21	0	±.41	±.82	±1.21	0	±.82
Total seg. neutrophils/mm ³	12,304	10,958	10,666	12,455	9,768	11,192	10,213	9,622	10,480	9,487	8,829	9,955	9,001
Seg. neutrophils %	±3,701	±4,035	±4,998	±7,842	±2,393	±3,070	±4,980	±2,770	±3,799	±2,239	±4,735	±4,675	±2,498
Total lymphocytes/mm ³	48.17	42.00	43.33	47.33	38.00	44.83	43.33	41.50	40.83	40.00	45.17	41.17	41.17
Lymphocytes %	±6.65	±10.70	±16.48	±22.35	±11.04	±8.35	±13.98	±7.20	±11.58	±4.60	±9.52	±10.80	±8.59
Total monocytes/mm ³	10,082	12,211	12,017	11,215	12,346	12,159	11,140	11,830	11,968	11,398	11,395	11,718	10,900
Monocytes %	±7.71	±2.70	±5.613	±5,805	±4,966	±3,506	±4,179	±1,659	±2,956	±1,453	±1,964	±1,731	±2,645
Total platelets x 10 ⁶ /mm ³	41.17	48.00	49.17	46.67	50.17	48.83	49.17	52.00	47.50	49.17	49.17	51.17	52.00
Monocytes %	±8.11	±9.63	±17.59	±24.07	±10.57	±7.57	±14.66	±6.87	±11.52	±8.56	±8.42	±9.68	±9.84
Platelets x 10 ⁶ /mm ³	2,685	2,137	1,184	1,255	1,465	1,110	1,104	975	2,385	1,918	752	1,016	1,009
Prothrombin time (sec.)	±2,284	±7.75	±5.74	±641	±919	±477	±610	±542	±1,029	±1,217	±436	±778	±466
	9.83	8.33	5.17	5.17	6.50	4.33	4.83	4.33	9.50	7.83	3.33	4.67	4.67
	±6.91	±2.42	±2.65	±2.49	±5.23	±1.75	±2.64	±2.42	±4.09	±4.92	±1.97	±4.18	±2.16
	539,167	503,333	582,500	511,667	445,667	419,167	538,667	535,000	435,000	395,833	362,500	447,500	412,500
	±164,785	±133,704	±209,063	±153,221	±160,052	±145,238	±251,282	±161,988	±70,852	±108,047	±95,747	±127,073	±97,352
	12.08	11.75	11.65	11.00	11.48	11.85	10.73	10.82	10.95	11.05	10.95	11.33	11.47
	±.53	±.50	±1.15	±.87	±.54	±1.07	±.52	±.53	±.43	±.42	±.14	±.29	±.47

TABLE 44
MEAN HEMATOLOGY PARAMETERS FOR PIGS RECEIVING 3 mg FENREDAZOLE /kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	39.25	37.58	37.17	36.75	35.50	38.00	38.75	39.08	37.92	36.83	38.00	38.17	37.00
Hemoglobin gm/dl	12.47	11.60	11.42	11.52	10.87	11.32	12.00	12.27	11.05	11.77	11.77	12.15	11.93
Red blood cells $\times 10^6/\text{mm}^3$	7.28	7.10	6.95	6.78	6.85	7.04	7.27	7.31	7.15	7.11	6.97	7.32	7.32
White blood cells/ mm^3	22,200	23,817	23,317	22,400	23,350	22,067	22,867	25,600	24,250	23,250	23,033	20,850	21,433
Total basophils/ mm^3	96.00	0	67.60	95.00	97.70	28.50	130	0	102	5,792	7,780	4,300	4,870
Basophils %	±156	0	±105	±233	±109	±69.80	±144	0	±122	0	±122	±129	0
Total eosinophils/ mm^3	±84	0	±52	11.22	±55	±41	±55	0	±55	0	±52	±84	0
Eosinophils %	615	597	524	425	822	843	491	726	380	125	396	112	631
Total band cells/ mm^3	2.67	2.33	2.17	2.17	3.50	3.50	2.00	3.33	1.67	5.33	1.50	5.00	±259
Band cells %	±1.63	±1.51	±1.33	±1.17	±3.08	±2.66	±1.67	±2.16	±1.86	±.82	±1.52	±3.52	±1.10
Total seg. neutrophils/ mm^3	193	235	135	72.50	314	126	187	134	479	273	80.20	80.70	188
Seg. neutrophils %	±331	±421	±154	±113	±310	±225	±182	±177	±504	±428	±141	±198	±177
Total lymphocytes/ mm^3	±1.33	±1.67	±.55	±.52	±1.47	±.52	±.82	±.55	±2.10	±1.55	±.52	±.82	±.75
Lymphocytes %	8,290	9,748	12,371	10,238	11,008	11,550	9,603	11,974	13,240	10,680	12,142	8,451	9,142
Total monocytes/ mm^3	±2,460	±3,339	±7,066	±3,504	±4,229	±4,098	±3,969	±4,090	±7,488	±4,740	±5,338	±4,078	±3,120
Monocytes %	37.33	40.33	50.83	45.50	46.17	51.33	41.50	55.17	50.67	44.33	51.17	38.33	41.50
Platelets $\times 10^6/\text{mm}^3$	±8.96	±8.41	±16.23	±11.20	±10.19	±9.54	±14.29	±13.36	±16.78	±9.77	±8.23	±13.95	±7.15
Prothrombin time (sec.)	11.633	11.918	9.206	10.742	8.819	8.705	11,480	8,543	8,472	9,122	9,130	9,871	10,074
	±2,872	±2,997	±2,893	±2,872	±2,280	±1,762	±3,240	±1,270	±2,204	±1,933	±2,077	±1,778	±1,246
	52.50	51.00	42.00	48.17	42.17	39.50	51.17	39.00	38.83	41.33	41.17	51.50	48.50
	±10.77	±11.47	±16.33	±9.67	±9.50	±11.31	±15.60	±12.03	±16.80	±12.08	±8.45	±14.38	±8.83
	1,373	1,319	336	737	1,352	877	960	935	1,578	1,928	1,218	862	1,387
	±378	±856	±450	±450	±490	±619	±611	±634	±763	±822	±753	±477	±724
	6.17	5.33	3.67	3.17	6.00	3.83	4.00	4.00	6.67	8.00	5.33	4.33	6.17
	±1.17	±2.50	±1.03	±1.72	±2.45	±2.40	±2.00	±2.76	±2.94	±2.97	±2.88	±2.34	±2.48
	541,667	495,000	484,167	584,167	532,500	492,500	504,167	524,167	356,667	320,000	380,083	402,400	404,000
	±132,615	±94,763	±145,960	±91,510	±122,096	±127,622	±152,198	±115,300	±127,030	±103,827	±77,873	±105,865	±82,870
	12.13	11.86	11.17	11.72	11.63	11.65	10.98	10.72	11.00	11.02	11.03	11.15	11.40
	±.77	±.55	±.42	±.71	±.74	±.70	±.45	±.56	±.47	±.40	±.30	±.31	±.22

TABLE 45
MEAN HEMATOLOGY PARAMETERS FOR PIGS RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	37.75 ±1.99	37.75 ±3.31	37.20 ±3.27	36.76 ±3.95	36.50 ±2.42	37.17 ±2.71	38.17 ±3.06	39.67 ±1.94	37.42 ±2.67	38.42 ±1.91	38.08 ±2.01	38.83 ±1.47	38.92 ±2.11
Hemoglobin gm/dl	12.00 ±6.55	11.60 ±1.04	11.58 ±1.74	11.67 ±1.24	10.94 ±0.97	11.20 ±0.75	11.95 ±0.57	12.57 ±0.96	15.82 ±9.42	12.27 ±0.55	11.98 ±0.52	11.98 ±0.61	12.20 ±0.65
Red blood cells $\times 10^6/\text{mm}^3$	7.01 ±5.56	6.97 ±0.49	6.83 ±0.60	6.74 ±0.59	6.70 ±0.81	6.92 ±0.43	7.10 ±0.62	7.51 ±0.60	6.90 ±0.42	7.14 ±0.33	6.79 ±0.79	7.41 ±0.58	7.37 ±0.55
White blood cells/ mm^3	23,400 ±4,276	22,833 ±1,183	25,300 ±4,217	22,717 ±1,480	22,300 ±2,359	20,967 ±3,502	18,083 ±2,248	22,233 ±1,504	22,900 ±3,308	23,167 ±3,322	22,083 ±3,506	21,667 ±4,976	21,400 ±3,300
Total basophils/ mm^3	0 ±114	0 ±114	0 ±205	0 ±114	0 ±191	0 ±76.34	0 ±102	0 ±167	0 ±167	0 ±167	0 ±167	0 ±167	0 ±167
Basophils %	0 ±50	0 ±55	0 ±89	0 ±45	0 ±84	0 ±17	0 ±52	0 ±55	0 ±55	0 ±55	0 ±55	0 ±55	0 ±55
Total eosinophils/ mm^3	323 ±283	552 ±674	433 ±229	455 ±436	381 ±190	170 ±205	516 ±343	767 ±555	550 ±339	545 ±375	809 ±559	31 ±561	959 ±631
Eosinophils %	1.33 ±1.03	2.33 ±2.73	1.80 ±1.10	2.00 ±1.90	1.60 ±0.89	1.00 ±1.10	2.83 ±1.72	3.60 ±2.59	2.33 ±1.37	2.50 ±1.76	3.50 ±2.26	4.17 ±2.94	4.33 ±2.34
Total band cells/ mm^3	69.80 ±109	76.24 ±118	265 ±408	0 ±118	0 ±250	172 ±328	52.33 ±128	183 ±347	194 ±161	34.17 ±38.69	161 ±211	0 ±196	111 ±196
Band cells %	33 ±52	33 ±52	1.00 ±1.41	0 ±1.41	2.17 ±1.72	1.17 ±1.17	33 ±82	83 ±160	38 ±75	17 ±41	67 ±82	0 ±84	50 ±84
Total seg. neutrophils/ mm^3	9,982 ±3,504	9,349 ±1,784	13,440 ±5,734	10,922 ±3,417	7,252 ±2,862	8,836 ±2,338	8,133 ±1,819	11,818 ±1,335	11,160 ±3,105	9,049 ±1,615	8,308 ±2,127	9,066 ±2,664	9,220 ±2,028
Seg. neutrophils %	41.83 ±8.08	40.83 ±6.76	51.60 ±13.56	47.67 ±12.31	34.83 ±7.14	41.67 ±5.78	44.67 ±6.68	53.17 ±4.71	48.50 ±10.97	38.67 ±5.61	40.00 ±10.04	42.67 ±11.79	43.17 ±7.68
Total lymphocytes/ mm^3	11,438 ±2,279	10,730 ±2,015	9,472 ±2,821	10,621 ±2,838	10,544 ±3,003	10,882 ±1,370	8,236 ±1,516	8,180 ±984	8,862 ±2,051	12,655 ±2,781	11,818 ±1,575	10,762 ±3,807	10,005 ±2,320
Lymphocytes %	50.60 ±12.08	47.17 ±9.68	38.80 ±13.55	47.17 ±13.42	53.00 ±9.19	52.00 ±9.46	50.67 ±3.50	36.83 ±4.02	39.17 ±9.81	54.33 ±5.99	54.00 ±6.23	49.00 ±13.71	45.00 ±7.10
Total monocytes/ mm^3	1,488 ±1,301	2,010 ±562	1,590 ±744	7,186 ±227	1,476 ±897	934 ±851	1,062 ±610	915 ±689	2,022 ±976	883 ±889	956 ±312	882 ±527	1,105 ±440
Monocytes %	6.00 ±4.47	8.83 ±2.48	6.40 ±2.97	3.17 ±0.98	7.00 ±3.74	4.17 ±3.06	5.67 ±3.33	5.50 ±3.08	8.67 ±3.61	3.83 ±2.14	4.33 ±1.21	4.00 ±2.68	5.33 ±2.58
Platelets $\times 10^3/\text{mm}^3$	446,667 ±147,230	395,000 ±131,529	466,000 ±120,281	454,167 ±140,905	451,000 ±81,271	374,167 ±133,282	366,667 ±142,396	327,500 ±129,875	316,000 ±98,767	303,333 ±131,441	344,167 ±82,245	386,667 ±66,908	315,833 ±72,967
Prothrombin time (sec.)	11.97 ±2.29	12.15 ±1.08	11.80 ±0.64	11.63 ±0.72	11.63 ±0.63	11.82 ±0.74	11.20 ±0.90	11.27 ±0.90	11.48 ±0.68	11.62 ±1.59	11.25 ±0.79	11.45 ±0.75	11.82 ±0.96

TABLE 46
MEAN HEMATOLOGY PARAMETERS FOR PIGS RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	38.67 ±3.52	38.67 ±3.50	38.08 ±4.00	37.42 ±3.80	37.08 ±3.31	38.42 ±3.10	38.92 ±4.18	40.17 ±4.71	38.50 ±2.00	37.25 ±2.09	38.58 ±1.80	37.92 ±1.86	38.33 ±1.63
Hemoglobin gm/dl	12.58 ±1.22	12.00 ±1.47	11.95 ±1.26	11.70 ±1.67	11.32 ±1.35	11.78 ±1.21	12.33 ±1.24	12.58 ±1.85	12.12 ±.88	12.05 ±.78	12.45 ±.56	12.22 ±.64	12.33 ±.76
Red blood cells x 10 ⁶ /mm ³	7.00 ±.61	7.36 ±.56	7.20 ±.43	7.02 ±.49	7.16 ±.47	7.06 ±.62	7.55 ±.33	7.76 ±.71	7.45 ±.20	7.34 ±.17	7.40 ±.22	7.78 ±.79	7.75 ±.50
White blood cells/mm ³	22,967 ±3,248	25,033 ±6,113	26,300 ±5,620	25,067 ±6,810	24,283 ±4,509	22,217 ±3,963	23,567 ±3,107	22,400 ±2,392	23,783 ±4,034	21,017 ±3,270	21,317 ±4,898	20,809 ±3,093	22,117 ±2,373
Total basophils/mm ³	81.00 ±129	82.70 ±134	32.50 ±79.60	37.70 ±92.30	0	72.30 ±114	0	0	35.30 ±86.50	0	60.00 ±93	65.50 ±102	75.70 ±185
Basophils %	.33 ±.52	.33 ±.52	.17 ±.41	.17 ±.41	0	.33 ±.52	0	0	.50 ±.84	0	.33 ±.52	.33 ±.52	.33 ±.82
Total eosinophils/mm ³	347 ±290	333 ±249	435 ±422	485 ±386	388 ±392	567 ±337	339 ±299	158 ±123	270 ±339	445 ±432	462 ±131	500 ±485	618 ±510
Eosinophils %	1.50 ±1.22	1.50 ±1.38	1.50 ±1.38	1.83 ±1.33	1.50 ±1.52	2.67 ±1.51	1.50 ±1.22	.67 ±.52	1.00 ±1.10	2.00 ±1.90	2.17 ±.41	2.17 ±2.48	2.67 ±2.07
Total band cells/mm ³	75.50 ±117	0	300 ±433	124 ±304	544 ±267	45.00 ±110	77.00 ±121	78.70 ±122	441 ±373	118 ±198	0	0	217 ±130
Band cells %	.33 ±.52	0	1.17 ±1.60	.67 ±1.63	2.17 ±.75	.17 ±.41	.33 ±.52	.33 ±.52	1.83 ±1.47	.67 ±1.21	0	0	1.00 ±.63
Total seg. neutrophils/mm ³	9,041 ±2,555	11,335 ±4,905	12,452 ±5,227	12,592 ±7,938	10,664 ±2,605	10,478 ±2,524	12,585 ±4,742	12,248 ±2,928	11,753 ±4,497	9,522 ±2,099	9,965 ±2,959	7,385 ±1,536	8,297 ±1,624
Seg. neutrophils %	39.17 ±9.30	43.67 ±11.76	46.33 ±14.31	48.00 ±19.95	48.33 ±6.12	47.17 ±7.47	52.50 ±14.49	54.67 ±12.06	48.33 ±10.93	45.50 ±8.02	46.67 ±7.34	35.50 ±5.39	32.50 ±6.38
Total lymphocytes/mm ³	11,775 ±2,336	12,121 ±2,289	11,314 ±4,747	10,921 ±4,493	10,283 ±3,126	10,443 ±2,536	9,946 ±3,141	9,084 ±2,667	10,188 ±2,581	9,857 ±2,686	8,467 ±3,913	11,617 ±2,356	11,739 ±1,814
Lymphocytes %	51.50 ±9.44	49.83 ±10.80	44.33 ±17.94	45.83 ±20.02	42.17 ±8.38	46.83 ±6.43	43.00 ±14.56	40.50 ±10.78	44.17 ±14.03	46.67 ±9.77	47.33 ±6.25	55.67 ±5.61	53.17 ±6.68
Total monocytes/mm ³	1,648 ±388	1,200 ±463	1,765 ±1,064	907 ±576	1,157 ±426	611 ±531	620 ±346	809 ±349	993 ±693	1,064 ±548	697 ±449	1,232 ±781	1,169 ±422
Monocytes %	7.17 ±1.47	4.83 ±1.47	6.50 ±3.15	3.50 ±1.64	5.67 ±2.73	2.83 ±2.43	2.67 ±1.51	3.67 ±1.63	4.17 ±2.79	4.17 ±2.79	4.17 ±2.48	6.00 ±3.95	5.33 ±1.97
Platelets x 10 ⁶ /mm ³	445,000 ±71,414	478,333 ±57,764	439,833 ±135,004	470,833 ±84,936	473,333 ±76,333	427,500 ±71,746	493,333 ±113,652	502,500 ±66,839	436,667 ±49,565	354,167 ±46,413	325,000 ±100,561	323,833 ±80,884	388,750 ±91,867
Prothrombin time (sec.)	12.38 ±.67	11.95 ±.88	11.72 ±.82	11.88 ±1.04	11.95 ±1.15	12.03 ±1.12	11.30 ±.41	11.42 ±.71	11.20 ±.59	11.53 ±.42	11.20 ±.52	11.53 ±.52	11.98 ±.78

TABLE 47

MEAN HEMATOLOGY PARAMETERS FOR PIGS RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	39.25	38.50	38.67	37.75	36.75	38.42	38.08	39.42	38.42	38.00	39.00	39.60	39.20
Hemoglobin gm/dl	±3.13	±1.67	±1.83	±2.02	±1.54	±2.15	±2.01	±2.10	±1.50	±2.53	±1.70	±1.52	±1.64
Red blood cells $\times 10^6/\text{mm}^3$	12.87	12.28	12.20	12.03	11.38	11.53	12.02	12.55	12.10	12.18	12.42	12.66	12.74
White blood cells/mm ³	±.93	±2.18	±.90	±1.21	±.57	±.58	±.95	±.68	±.66	±1.00	±.67	±.41	±.38
Total basophils/mm ³	7.33	7.15	7.25	7.15	7.17	7.19	7.23	7.51	7.26	7.22	7.27	7.92	7.89
Basophils %	±.45	±.23	±.60	±.80	±.46	±.32	±.44	±.57	±.37	±.40	±.19	±.73	±.77
White blood cells/mm ³	22,200	20,917	21,267	20,600	22,900	20,483	21,050	22,650	22,667	21,167	22,433	21,960	21,320
Total eosinophils/mm ³	±4,186	±3,082	±2,416	±3,331	±4,488	±3,704	±4,935	±7,949	±4,121	±5,300	±4,405	±4,536	±1,914
Total basophils/mm ³	43.80	131	35.50	0	0	0	32.50	63.30	37.00	0	0	183	46.20
Basophils %	±107	±155	±87.00	0	0	0	±79.60	±100	±90.60	0	0	±98.50	±103
Total eosinophils/mm ³	±.17	±.67	±.17	0	0	0	±.17	±.33	±.17	0	0	±1.00	±.20
Eosinophils %	±.41	±.82	±.41	0	0	0	±.41	±.52	±.41	0	0	±.00	±.45
Total band cells/mm ³	513	654	109	383	836	391	222	536	447	462	540	463	908
Band cells %	±450	±499	±116	±332	±753	±278	±299	±331	±357	±389	±454	±370	±541
Total seg. neutrophils/mm ³	2.17	3.00	.50	1.83	4.00	2.00	1.50	1.83	.83	2.67	2.50	2.80	4.40
Seg. neutrophils %	±1.60	±2.00	±.55	±1.60	±3.63	±1.55	±1.87	±1.83	±2.14	±2.88	±1.87	±1.92	±2.88
Total lymphocytes/mm ³	0	132	66.70	172	534	339	199	115	221	43.00	69.20	0	183
Band cells %	0	±157	±163	±422	±251	±528	±489	±196	±344	±105	±113	0	±251
Total seg. neutrophils/mm ³	0	±.67	±.33	±.83	2.33	1.50	.83	.67	1.00	.33	.33	0	.80
Seg. neutrophils %	9,446	7,621	10,403	9,107	9,569	9,797	10,777	11,971	10,843	10,544	10,123	9,614	7,817
Total lymphocytes/mm ³	±2,280	±2,023	±3,994	±2,309	±4,178	±2,807	±4,712	±5,795	±2,906	±5,202	±3,533	±5,686	±2,252
Lymphocytes %	42.50	36.00	44.50	44.50	40.83	47.33	49.67	51.17	47.50	47.33	44.33	41.60	36.80
Total monocytes/mm ³	±7.48	±5.06	±13.63	±9.91	±10.07	±5.89	±8.82	±9.56	±8.12	±12.78	±10.35	±19.48	±11.03
Monocytes %	10,489	9,560	10,135	9,928	10,898	8,948	8,960	9,045	9,173	8,898	10,179	10,403	10,846
Total platelets/mm ³	±2,234	±2,503	±4,048	±2,891	±1,880	±1,686	±1,220	±2,860	±2,261	±2,389	±2,059	±2,916	±2,407
Platelets $\times 10^6/\text{mm}^3$	47.50	52.00	47.83	46.20	48.17	44.00	44.17	40.67	41.00	43.83	45.67	49.20	50.60
Monocytes %	±7.58	±8.65	±16.94	±10.57	±6.62	±7.04	±9.58	±6.80	±9.14	±12.61	±4.88	±16.57	±8.91
Total monocytes/mm ³	1,707	1,642	2,227	1,009	1,062	1,009	790	9,080	9,146	1,220	1,522	1,490	1,520
Monocytes %	±955	±954	±2,115	±427	±569	±470	±519	±379	±967	±774	±932	±999	±353
Platelets $\times 10^6/\text{mm}^3$	7.67	7.67	6.17	4.83	4.67	5.17	3.67	4.50	8.17	5.83	7.17	5.40	7.20
Prothrombin time (sec.)	±3.56	±4.23	±4.58	±1.60	±2.73	±2.71	±2.25	±2.88	±2.86	±3.19	±4.67	±1.82	±1.92
	535,833	500,833	471,667	464,167	534,167	530,000	535,833	539,833	500,000	439,167	425,833	367,000	400,000
	±133,095	±114,080	±185,194	±158,664	±140,372	±191,102	±124,756	±148,809	±129,151	±160,200	±171,913	±71,467	±91,924
	12.67	11.78	11.23	11.60	11.55	11.78	11.12	11.10	11.27	11.32	11.03	11.24	11.38
	±.94	±.32	±.47	±.55	±.71	±.74	±.42	±.44	±.41	±.16	±.47	±.47	±.58

TABLE 48
HEMATOLOGY PARAMETERS FOR PIG 6 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	42	40	38	35	31	36.5	36	35	39	34	36	40	37
Hemoglobin gm/dl	12.8	12.3	11.9	10.6	9.6	11.0	11.8	11.4	11.8	11.0	11.4	12.3	12.1
Red blood cells $\times 10^6/\text{mm}^3$	7.88	7.80	7.48	7.23	6.25	7.55	7.40	7.38	7.55	7.04	7.40	9.02	8.07
White blood cells/ mm^3	23,600	24,600	23,300	33,500	21,000	26,500	28,900	19,800	22,300	24,100	23,100	23,000	20,100
Total basophils/ mm^3	0	0	0	0	0	0	0	0	0	0	0	230	0
Basophils %	0	0	0	0	0	0	0	0	0	0	0	1	0
Total eosinophils/ mm^3	0	185	699	335	210	0	0	990	223	482	0	230	201
Eosinophils %	0	1	3	1	1	0	0	5	1	2	0	1	1
Total band cells/ mm^3	0	0	0	0	0	0	0	0	223	0	231	0	0
Band cells %	0	0	0	0	0	0	0	0	1	0	1	0	0
Total seg. neutrophils/ mm^3	12,272	13,038	14,446	25,460	9240	15,105	19,363	8118	10,927	10,122	10,857	8970	8442
Seg. neutrophils %	52	53	62	76	44	57	67	41	49	42	47	39	42
Total lymphocytes/ mm^3	9440	8610	6757	5695	9870	10,070	7803	10,038	8251	10,122	10,626	12,650	10,653
Lymphocytes %	40	35	29	17	47	38	27	51	37	42	46	55	53
Total monocytes/ mm^3	1888	2706	1398	2010	1560	1325	1734	594	2453	3374	1386	920	904
Monocytes %	8	11	6	6	8	5	6	3	11	14	6	4	4
Platelets $\times 10^6/\text{mm}^3$	540,000	435,000	440,000	580,000	445,000	495,000	570,000	645,000	470,000	275,000	325,000	495,000	575,000
Prothrombin time (sec.)	12.4	11.8	11.1	11.0	11.6	11.3	11.4	11.3	10.6	11.3	11.0	11.6	11.3

TABLE 49
HEMATOLOGY PARAMETERS FOR PIG 12 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	42	39	35	37	34	36	37	37	39	39	39	39	40
Hemoglobin gm/dl	13.2	11.4	11.4	11.4	10.6	11.2	11.9	12.1	12.1	12.3	12.7	12.5	12.7
Red blood cells $\times 10^6/\text{mm}^3$	7.96	7.26	7.07	7.11	6.55	6.95	7.43	7.48	7.55	7.56	7.43	8.12	8.38
White blood cells/ mm^3	23,000	28,700	28,400	26,000	25,400	23,100	21,200	20,900	27,600	26,500	20,100	19,700	20,900
Total basophils/ mm^3	0	287	0	0	254	0	424	0	0	0	0	0	209
Basophils %	0	1	0	0	1	0	2	0	0	0	0	0	1
Total eosinophils/ mm^3	0	0	284	520	508	231	212	209	0	0	0	788	418
Eosinophils %	0	0	1	2	2	1	1	1	0	0	0	4	2
Total band cells/ mm^3	0	0	0	0	0	0	0	0	276	265	603	0	0
Band cells %	0	0	0	0	0	0	0	0	1	1	3	0	0
Total seg. neutrophils/ mm^3	11,270	15,498	18,176	17,940	13,716	11,781	10,176	9823	15,180	12,190	9447	7880	9614
Seg. neutrophils %	49	54	64	69	54	51	48	47	55	46	47	40	46
Total lymphocytes/ mm^3	11,040	11,767	7952	5460	8636	9471	8480	9405	8556	12,455	9246	8471	8987
Lymphocytes %	48	41	28	21	34	49	40	45	31	47	46	43	43
Total monocytes/ mm^3	690	1148	1988	2080	2286	1617	1908	1463	3588	1590	804	2561	1672
Monocytes %	3	4	7	8	9	7	9	7	13	6	4	13	8
Platelets $\times 10^3/\text{mm}^3$	510,000	390,000	595,000	495,000	550,000	515,000	635,000	580,000	530,000	310,000	200,000	325,000	315,000
Prothrombin time (sec.)	11.8	11.8	10.9	11.5	10.8	10.8	10.8	9.8	11.3	11.3	10.9	11.3	11.4

TABLE 50

HEMATOLOGY PARAMETERS FOR PIG 16 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT IN FEED

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	38	39.5	39	40.5	38	42	38	43	40	36	38	35	37
Hemoglobin gm/dl	13.1	12.8	11.8	13.6	12.5	11.9	12.3	13.9	12.5	11.6	11.6	11.2	11.8
Red blood cells $\times 10^6/\text{mm}^3$	7.12	7.07	7.33	7.11	7.16	6.80	6.91	7.91	7.16	6.79	6.91	6.58	6.87
White blood cells/ mm^3	19,900	19,400	17,800	18,500	20,200	14,200	17,100	21,000	24,300	21,600	24,200	20,400	20,600
Total basophils/ mm^3	0	0	0	0	0	142	0	0	243	216	242	204	0
Basophils %	0	0	0	0	0	1	0	0	1	1	1	1	0
Total eosinophils/ mm^3	199	194	534	0	202	0	513	840	0	216	434	916	618
Eosinophils %	1	1	3	0	1	0	3	4	0	1	2	4	3
Total band cells/ mm^3	0	0	0	185	0	142	0	0	243	0	0	0	0
Band cells %	0	0	0	1	0	1	0	0	1	0	0	0	0
Total seg. neutrophils/ mm^3	9955	6790	5162	4440	8232	5322	5301	6510	6318	6912	7744	5712	4944
Seg. neutrophils %	45	35	29	24	41	41	31	31	26	32	32	28	24
Total lymphocytes/ mm^3	10,149	10,864	10,680	13,135	11,312	7810	10,773	13,020	13,851	12,960	14,762	12,852	14,626
Lymphocytes %	51	56	60	71	56	55	63	62	57	60	61	63	71
Total monocytes/ mm^3	597	1552	1424	740	404	284	513	630	3645	1296	968	816	412
Monocytes %	3	8	8	4	2	2	3	3	15	6	4	4	2
Platelets $\times 10^3/\text{mm}^3$	325,000	500,000	420,000	365,000	365,000	245,000	235,000	270,000	350,000	395,000	415,000	570,000	400,000
Prothrombin time (sec.)	12.3	12.4	13.9	10.4	11.9	13.8	10.8	11.1	11.3	11.3	11.1	11.3	12.3

TABLE 5]

HEMATOLOGY PARAMETERS FOR PIG 23 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	37.0	38.0	34.0	36.5	33	35	35	37	31.5	32	35	37	35
Hemoglobin gm/dl	19.4	11.3	10.3	11.4	10.4	10.4	10.9	11.8	10.1	10.4	10.7	11.0	11.4
Red blood cells $\times 10^6/\text{mm}^3$	6.52	6.71	6.48	6.60	6.57	6.21	6.53	7.24	6.03	6.22	6.48	6.66	6.59
White blood cells/ mm^3	32,300	34,800	31,400	30,700	33,500	30,300	30,200	26,300	30,800	28,700	26,800	31,000	27,600
Total basophils/ mm^3	0	348	0	0	0	0	0	0	0	287	268	0	0
Basophils %	0	1	0	0	0	0	0	0	0	1	1	0	0
Total eosinophils/ mm^3	646	696	0	0	670	303	302	526	0	861	536	0	552
Eosinophils %	2	2	0	0	2	1	1	2	0	3	2	0	2
Total band cells/ mm^3	0	0	314	614	0	0	302	0	308	574	0	0	0
Band cells %	0	0	1	2	0	0	1	0	1	2	0	0	0
Total seg. neutrophils/ mm^3	13,889	14,964	11,618	9517	9715	12,726	9362	12,098	14,784	11,767	15,812	18,910	12,144
Seg. neutrophils %	43	43	37	31	29	42	31	46	48	41	59	61	44
Total lymphocytes/ mm^3	10,982	15,660	18,526	19,341	22,110	16,059	19,328	13,418	14,168	12,341	9916	11,470	13,524
Lymphocytes %	34	45	59	63	66	53	64	51	46	43	37	37	49
Total monocytes/ mm^3	6783	3132	942	1228	1005	1212	906	263	1540	2870	268	620	1380
Monocytes %	21	9	3	4	3	4	3	1	5	10	1	2	5
Platelets $\times 10^3/\text{mm}^3$	735,000	750,000	985,000	785,000	695,000	570,000	965,000	740,000	370,000	465,000	465,000	610,000	455,000
Prothrombin time (sec.)	12.8	12.1	11.8	11.4	11.9	11.6	10.8	10.8	10.3	10.8	11.1	11.6	10.9

TABLE 52
HEMATOLOGY PARAMETERS FOR PIG 26 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	40	38	35	35.5	36	37.5	37	35	38	38	39.5	42	41
Hemoglobin gm/dl	12.2	11.8	11.0	11.2	10.7	11.4	11.6	11.0	11.9	11.8	12.5	13.1	12.9
Red blood cells x 10 ⁶ /mm ³	7.32	7.18	6.78	6.67	6.54	7.27	7.10	6.81	7.24	7.00	7.38	7.79	9.10
White blood cells/mm ³	21,300	21,400	17,900	19,200	19,800	28,200	18,600	21,600	21,600	18,700	21,100	20,000	18,300
Total basophils/mm ³	0	0	0	0	0	0	186	0	0	0	0	0	0
Basophils %	0	0	0	0	0	0	1	0	0	0	0	0	0
Total eosinophils/mm ³	213	0	179	192	594	846	372	0	216	187	633	402	366
Eosinophils %	1	0	1	1	3	3	2	0	1	1	3	2	2
Total band cells/mm ³	0	214	358	0	0	0	0	0	216	0	0	0	0
Band cells %	0	1	2	0	0	0	0	0	1	0	0	0	0
Total seg. neutrophils/mm ³	8733	8774	7697	10,560	6732	10,716	6324	7560	7992	7293	7807	7638	8052
Seg. neutrophils %	41	41	43	55	34	38	34	35	37	39	37	38	44
Total lymphocytes/mm ³	9372	10,700	8592	7680	9702	15,792	10,602	12,528	11,880	11,220	11,816	11,658	8784
Lymphocytes %	44	50	48	40	49	56	57	58	55	60	56	58	48
Total monocytes/mm ³	2982	1712	1074	768	2772	846	1116	1512	1296	0	844	402	1098
Monocytes %	14	8	6	4	14	3	6	7	6	0	4	2	6
Platelets x 10 ³ /mm ³	720,000	405,000	485,000	410,000	370,000	230,000	405,000	500,000	405,000	570,000	355,000	340,000	315,000
Prothrombin time (sec.)	11.9	11.4	10.9	9.8	10.8	11.3	10.8	10.8	11.3	11.3	10.8	11.4	11.6

TABLE 53
HEMATOLOGY PARAMETERS FOR PIG 30 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	36	37.5	37	35	37	38	38	38	37	34	34	41	31.5
Hemoglobin gm/dl	12.0	11.1	11.5	11.5	10.9	11.0	11.2	11.4	11.6	10.3	11.2	12.1	11.2
Red blood cells $\times 10^6/\text{mm}^3$	6.53	6.81	6.79	6.57	6.88	6.34	6.91	6.96	7.03	6.34	6.77	7.32	6.77
White blood cells/ mm^3	31,700	25,700	27,600	23,500	25,400	27,500	22,400	27,800	25,600	21,600	24,500	25,900	23,000
Total basophils/ mm^3	0	0	0	0	0	0	0	0	0	0	245	0	0
Basophils %	0	0	0	0	0	0	0	0	0	0	1	0	0
Total eosinophils/ mm^3	317	771	828	0	762	1100	672	278	1024	1080	0	1295	0
Eosinophils %	1	3	3	0	3	4	3	1	4	5	0	5	0
Total band cells/ mm^3	0	0	0	0	508	275	672	0	0	216	0	0	460
Band cells %	0	0	0	0	2	1	3	0	0	1	0	0	2
Total seg. neutrophils/ mm^3	18,703	6682	6900	6815	10,922	11,000	10,752	13,622	7680	8640	12,005	10,619	10,810
Seg. neutrophils %	59	26	25	29	43	40	40	49	30	40	49	41	47
Total lymphocytes/ mm^3	9510	15,677	19,596	15,980	12,446	13,750	9856	12,510	15,104	9288	12,005	13,209	11,040
Lymphocytes %	30	61	71	68	49	50	44	45	59	43	49	51	48
Total monocytes/ mm^3	3170	2570	276	705	762	1375	448	1390	1792	2376	245	777	690
Monocytes %	10	10	1	3	3	5	2	5	7	11	1	3	3
Platelets $\times 10^3/\text{mm}^3$	405,000	540,000	570,000	435,000	239,000	460,000	422,000	475,000	485,000	360,000	400,000	345,000	415,000
Prothrombin time (sec.)	11.3	11.0	11.3	11.9	11.9	12.3	9.8	11.1	10.9	10.3	10.8	10.8	11.3

TABLE 54
HEMATOLOGY PARAMETERS FOR PIG 10 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	40	36	36	35.5	35	36	36	36.5	40	38	33	39	39
Hemoglobin gm/dl	11.8	11.4	11.2	10.9	10.6	10.6	11.8	11.4	12.3	12.1	10.7	12.1	12.1
Red blood cells $\times 10^6/\text{mm}^3$	7.38	6.85	6.73	6.30	6.44	6.92	7.02	6.79	7.26	6.96	6.38	6.95	7.52
White blood cells/ mm^3	21,400	18,200	21,600	18,300	18,600	23,500	18,600	20,500	20,400	20,500	16,700	19,000	24,400
Total basophils/ mm^3	214	0	0	0	186	0	0	0	204	0	167	0	0
Basophils %	1	0	0	0	1	0	0	0	1	0	1	0	0
Total eosinophils/ mm^3	428	0	432	183	186	1175	0	410	204	1230	0	760	244
Eosinophils %	2	0	2	1	1	5	0	2	1	6	0	4	1
Total band cells/ mm^3	0	0	216	0	558	0	0	0	0	0	0	0	244
Band cells %	0	0	1	0	3	0	0	0	0	0	0	0	1
Total seg. neutrophils/ mm^3	7062	6734	12,528	10,248	9114	11,985	7812	9635	7956	7380	9018	7410	10,004
Seg. neutrophils %	33	37	58	56	49	51	42	47	39	36	54	39	41
Total lymphocytes/ mm^3	12,840	10,556	7344	7320	6510	10,105	10,602	9020	10,404	9635	6012	9690	11,468
Lymphocytes %	60	58	34	40	35	43	57	44	51	47	35	51	47
Total monocytes/ mm^3	856	910	1080	549	1860	235	186	1435	1632	2255	1503	1140	2440
Monocytes %	4	5	5	3	10	1	1	7	8	11	9	6	10
Platelets $\times 10^3/\text{mm}^3$	440,000	410,000	515,000	735,000	410,000	445,000	435,000	505,000	175,000	365,000	285,000	360,000	410,000
Prothrombin time (sec.)	11.9	11.9	10.9	10.8	11.1	10.8	10.6	10.1	10.8	10.8	11.0	11.3	11.3

TABLE 55
HEMATOLOGY PARAMETERS FOR PIG 11 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	39	34	32	32.5	34	33.5	34	34	35	34	35	33	33
Hemoglobin gm/dl	12.6	10.7	10.1	9.8	10.1	10.6	10.7	10.9	10.7	10.9	10.7	10.6	10.9
Red blood cells $\times 10^6/\text{mm}^3$	7.27	6.84	6.53	6.23	6.44	6.76	6.76	6.85	6.74	6.83	6.83	6.77	6.79
White blood cells/ mm^3	17,800	26,000	34,300	25,600	26,000	23,200	21,600	21,800	26,600	30,900	28,300	24,200	23,600
Total basophils/ mm^3	0	0	0	0	0	0	0	0	0	0	0	242	0
Rosophils %	0	0	0	0	0	0	0	0	0	0	0	1	0
Total eosinophils/ mm^3	712	780	686	768	1040	1624	648	1308	1330	1854	1132	2662	708
Eosinophils %	4	3	2	3	4	7	3	6	5	6	4	11	3
Total band cells/ mm^3	356	1040	343	0	780	0	216	218	532	927	0	0	472
Band cells %	2	4	1	0	3	0	1	1	2	3	0	0	2
Total seg. neutrophils/ mm^3	9078	13,520	26,068	14,592	15,860	12,064	13,824	11,554	14,896	18,540	13,867	12,826	10,620
Seg. neutrophils %	51	52	76	57	61	52	64	53	56	60	4	53	45
Total lymphocytes/ mm^3	6586	9100	5488	9472	7540	8120	6048	7848	8512	7416	11,320	8228	10,856
Lymphocytes %	37	35	16	37	29	35	28	36	32	24	40	34	46
Total monocytes/ mm^3	1068	1560	1715	768	780	1392	864	872	1330	2163	1981	242	944
Monocytes %	6	6	5	3	3	6	4	4	5	7	7	1	4
Platelets $\times 10^3/\text{mm}^3$	630,000	500,000	415,000	610,000	685,000	560,000	585,000	620,000	255,000	150,000	320,000	285,000	125,000
Prothrombin time (sec.)	12.1	11.3	10.9	11.5	11.1	11.3	10.8	10.8	11.1	11.3	11.1	11.3	11.3

TABLE 56
HEMATOLOGY PARAMETERS FOR PIG 15 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	37	38.5	39	39	35.5	39	38.5	41.5	34.5	36.5	41	38	37
Hemoglobin gm/dl	11.8	11.5	11.7	12.0	10.7	11.0	11.4	12.3	11.0	11.2	11.8	11.6	11.8
Red blood cells $\times 10^6/\text{mm}^3$	7.12	7.20	7.15	7.11	7.14	7.20	7.10	7.85	6.80	6.94	6.94	7.18	7.31
White blood cells/ mm^3	26,800	28,900	20,800	29,400	30,900	27,700	29,300	44,400	32,900	26,200	34,700	21,200	18,600
Total basophils/ mm^3	0	0	208	0	0	0	293	0	0	0	0	0	0
Basophils %	0	0	1	0	0	0	1	0	0	0	0	0	0
Total eosinophils/ mm^3	1340	867	624	294	0	0	586	0	0	1310	694	1484	744
Eosinophils %	5	3	3	1	0	0	2	0	0	5	2	7	4
Total band cells/ mm^3	0	0	0	0	309	554	293	444	1316	0	347	0	186
Band cells %	0	0	0	0	1	2	1	1	4	0	1	0	1
Total seg. neutrophils/ mm^3	9112	9537	7904	14,112	16,377	19,113	14,943	34,632	25,333	12,314	20,820	5936	7998
Seg. neutrophils %	34	33	38	48	53	69	51	78	77	47	60	28	43
Total lymphocytes/ mm^3	14,740	17,629	11,440	13,818	12,360	6371	11,134	7548	4606	9694	10,757	12,296	8556
Lymphocytes %	55	61	55	47	40	23	38	17	14	37	31	58	46
Total monocytes/ mm^3	1608	867	624	1176	1854	1662	2051	1776	1645	2882	2082	1484	1116
Monocytes %	6	3	3	4	6	6	7	4	5	11	6	7	6
Platelets $\times 10^3/\text{mm}^3$	755,000	565,000	635,000	520,000	670,000	530,000	735,000	620,000	490,000	305,000	395,000	540,000	330,000
Prothrombin time (sec.)	12.6	11.9	11.1	11.9	12.3	11.8	10.6	10.6	10.6	11.2	11.4	11.1	--

TABLE 57
HEMATOLOGY PARAMETERS FOR PIG 21 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	40	37	36	35	33	37.5	40	37.5	40	38	40	43	39
Hemoglobin gm/dl	12.8	11.4	11.2	10.9	10.3	11.0	12.5	11.8	12.1	12.3	12.7	13.9	12.5
Red blood cells $\times 10^6/\text{mm}^3$	7.55	6.88	6.64	6.71	6.27	6.83	7.40	7.04	7.36	7.30	7.51	8.30	7.81
White blood cells/ mm^3	18,100	18,600	18,200	17,600	16,400	17,100	18,500	14,300	12,500	13,700	13,400	12,900	12,900
Total basophils/ mm^3	362	0	0	0	164	171	0	0	125	0	0	258	0
Basophils %	2	0	0	0	1	1	0	0	1	0	0	2	0
Total eosinophils/ mm^3	181	186	0	352	320	855	0	572	250	685	134	129	387
Eosinophils %	1	1	0	2	2	5	0	4	2	5	1	1	3
Total band cells/ mm^3	0	372	0	0	0	0	0	143	0	0	134	0	0
Band cells %	0	2	0	0	0	0	0	1	0	0	1	0	0
Total seg. neutrophils/ mm^3	5249	5580	10,556	8448	6560	8550	4625	5577	3500	4932	4824	2064	3612
Seg. neutrophils %	29	30	58	48	40	50	25	39	28	36	36	16	28
Total lymphocytes/ mm^3	11,041	11,718	7098	8096	8364	7182	12,950	7007	7875	7672	7504	9804	8514
Lymphocytes %	61	63	39	46	51	42	70	49	63	56	56	76	66
Total monocytes/ mm^3	1267	744	546	704	984	342	925	1001	750	411	804	645	387
Monocytes %	7	4	3	4	6	2	5	7	6	3	6	5	3
Platelets $\times 10^3/\text{mm}^3$	510,000	510,000	565,000	595,000	465,000	565,000	380,000	465,000	430,000	305,000	475,000	325,000	410,000
Prothrombin time (sec.)	11.9	11.3	10.8	11.3	10.8	11.1	11.5	10.3	10.8	11.3	10.8	10.8	11.8

TABLE 58
HEMATOLOGY PARAMETERS FOR PIG 24 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	41.5	41.5	44	41	40	43	44	44	40	40	40	41	39
Hemoglobin gm/dl	13.6	13.1	13.2	13.7	12.5	13.3	13.7	14.3	12.9	12.7	13.1	13.5	12.7
Red blood cells $\times 10^6/\text{mm}^3$	7.26	7.43	7.33	7.39	7.53	7.49	7.67	8.19	7.40	7.52	7.18	7.72	7.42
White blood cells/ mm^3	22,300	21,600	19,800	19,000	23,600	20,500	25,600	24,400	28,300	24,500	24,200	24,200	23,000
Total basophils/ mm^3	0	0	198	570	236	0	256	0	283	0	242	0	0
Basophils %	0	0	1	3	1	0	1	0	1	0	1	0	0
Total eosinophils/ mm^3	223	864	396	760	1416	205	768	1220	0	980	0	726	920
Eosinophils %	1	4	2	4	6	1	3	5	0	4	0	3	4
Total band cells/ mm^3	0	0	0	190	236	0	0	0	283	0	0	484	230
Band cells %	0	0	0	1	1	0	0	0	1	0	0	2	1
Total seg. neutrophils/ mm^3	6913	9504	6336	5700	7316	9020	7680	12,932	15,848	9065	12,826	11,616	9890
Seg. neutrophils %	31	44	32	30	31	44	30	53	56	37	53	48	43
Total lymphocytes/ mm^3	13,603	10,368	12,276	11,780	12,744	10,865	15,872	10,248	10,754	12,495	10,406	10,890	10,350
Lymphocytes %	61	48	62	62	54	53	62	42	38	51	43	45	45
Total monocytes/ mm^3	1561	864	594	0	1652	410	1024	0	1132	1960	726	484	1610
Monocytes %	7	4	3	0	7	2	4	0	4	8	3	2	7
Platelets $\times 10^3/\text{mm}^3$	390,000	365,000	225,000	465,000	420,000	255,000	325,000	330,000	320,000	325,000	345,000	380,000	335,000
Prothrombin time (sec.)	13.3	12.8	11.9	12.9	12.6	12.4	11.6	11.7	11.9	11.2	11.3	11.6	11.3

TABLE 59
HEMATOLOGY PARAMETERS FOR PIG 29 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	38	38.5	36	37.5	35.5	39	40	41	38	34.5	39	35	35
Hemoglobin gm/dl	12.2	11.8	11.1	11.8	11.0	11.4	11.9	12.9	11.8	11.4	11.6	11.2	11.6
Red blood cells $\times 10^6/\text{mm}^3$	7.07	7.40	7.33	6.96	7.30	7.05	7.62	8.16	7.31	7.10	6.98	7.02	7.08
White blood cells/ mm^3	26,800	29,600	25,200	24,500	24,600	20,400	23,600	28,200	24,800	23,700	20,900	23,600	26,100
Total basophils/ mm^3	0	0	0	0	0	0	236	0	0	0	0	0	0
Basophils %	0	0	0	0	0	0	1	0	0	0	0	0	0
Total eosinophils/ mm^3	804	888	1008	490	1968	612	944	846	496	1422	418	944	783
Eosinophils %	3	3	4	2	8	3	4	3	2	6	2	4	3
Total band cells/ mm^3	804	0	252	245	0	204	472	0	744	711	0	0	0
Band cells %	3	0	1	1	0	1	2	0	5	3	0	0	0
Total seg. neutrophils/ mm^3	12,328	13,616	10,836	8330	10,824	8568	8732	17,202	11,904	11,850	11,495	10,856	12,789
Seg. neutrophils %	46	46	43	34	44	42	37	61	48	50	55	46	49
Total lymphocytes/ mm^3	10,988	12,136	11,592	13,965	10,924	9588	12,272	9588	8630	7821	8778	10,620	10,701
Lymphocytes %	41	41	46	57	44	47	52	34	35	33	42	45	41
Total monocytes/ mm^3	1876	2960	756	1225	984	1224	708	524	2976	1896	209	1180	1827
Monocytes %	7	10	3	5	4	6	3	2	12	8	1	5	7
Platelets $\times 10^3/\text{mm}^3$	525,000	620,000	550,000	580,000	545,000	600,000	565,000	605,000	470,000	470,000	465,000	525,000	535,000
Prothrombin time (sec.)	11.0	11.9	11.4	11.9	11.9	12.5	10.8	10.8	10.8	10.3	10.6	10.8	11.3

TABLE 60
HEMATOLOGY PARAMETERS FOR PIG 5 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	40	40	40	40	37.5	40	41	40.5	34	35	37	37	38
Hemoglobin gm/dl	13.0	11.4	12.2	13.1	11.8	11.8	12.5	12.9	11.4	11.8	11.6	11.4	12.3
Red blood cells $\times 10^6/\text{mm}^3$	8.07	7.73	7.63	7.79	7.70	7.48	8.08	8.24	6.51	7.02	5.31	6.98	7.76
White blood cells/ mm^3	27,400	21,700	25,100	21,800	23,400	20,500	19,800	24,800	24,100	25,000	24,600	24,200	24,100
Total basophils/ mm^3	0	185	502	0	468	0	0	0	241	0	0	0	0
Basophils %	0	1	2	0	2	0	0	0	1	0	0	0	0
Total eosinophils/ mm^3	872	0	753	0	234	410	594	496	1205	500	1476	968	723
Eosinophils %	3	0	3	0	1	2	3	2	5	2	6	4	3
Total band cells/ mm^3	0	0	0	0	468	0	0	0	241	0	0	0	482
Band cells %	0	0	0	0	2	0	0	0	1	0	0	0	2
Total seg. neutrophils/ mm^3	13,974	8246	11,797	9592	9594	7995	8712	14,136	11,086	10,250	10,824	7744	8917
Seg. neutrophils %	51	38	47	44	41	39	44	57	46	41	44	32	37
Total lymphocytes/ mm^3	8768	11,718	9538	11,336	11,466	11,480	9504	7936	7953	12,750	10,824	14,278	13,014
Lymphocytes %	32	54	38	52	49	56	48	32	33	51	44	59	54
Total monocytes/ mm^3	3836	1519	2510	872	1170	615	990	2232	3374	1500	1476	1210	964
Monocytes %	14	7	10	4	5	3	5	9	14	6	6	5	4
Platelets $\times 10^3/\text{mm}^3$	610,000	350,000	535,000	470,000	560,000	355,000	430,000	220,000	300,000	480,000	435,000	455,000	435,000
Prothrombin time (sec.)	12.5	11.3	11.8	11.9	11.9	11.9	10.8	10.8	11.0	11.8	10.8	11.6	12.4

TABLE 61
HEMATOLOGY PARAMETERS FOR PIG 8 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	34.5	35.5	37	37	19	38	41	41	36	37.5	36	37	37
Hemoglobin gm/dl	11.6	11.2	11.5	12.3	6.1	12.1	12.5	12.9	11.4	11.6	11.6	11.8	11.4
Red blood cells $\times 10^6/\text{mm}^3$	6.61	6.57	6.52	6.68	3.45	7.30	7.28	7.71	6.80	6.92	7.12	6.99	6.96
White blood cells/ mm^3	29,500	24,900	27,600	20,700	9900	18,700	20,900	20,700	26,700	22,200	26,600	24,000	24,500
Total basophils/ mm^3	0	0	0	0	0	187	209	0	0	0	0	240	0
Basophils %	0	0	0	0	0	1	1	0	0	0	0	1	0
Total eosinophils/ mm^3	295	1743	276	828	495	374	1045	1035	534	888	1330	1920	2205
Eosinophils %	1	7	1	4	5	2	5	5	2	4	5	8	9
Total band cells/ mm^3	0	0	0	0	495	0	0	0	267	0	532	0	0
Band cells %	0	0	0	0	5	0	0	0	1	0	2	0	0
Total seg. neutrophils/ mm^3	14,750	11,205	15,180	9936	2772	8041	9405	10,971	13,884	8880	9310	12,960	10,290
Seg. neutrophils %	50	45	55	48	28	43	45	53	52	40	35	54	42
Total lymphocytes/ mm^3	12,390	10,209	11,592	9108	5841	9350	9614	7866	7345	11,322	14,364	8160	10,780
Lymphocytes %	42	41	42	44	59	50	46	38	35	51	54	34	44
Total monocytes/ mm^3	2065	1743	552	828	297	748	627	828	2670	1110	1064	720	1225
Monocytes %	7	7	2	4	3	4	3	4	10	5	4	3	5
Platelets $\times 10^3/\text{mm}^3$	515,000	635,000	520,000	565,000	---	530,000	560,000	505,000	385,000	380,000	380,000	400,000	320,000
Prothrombin time (sec.)	12.0	11.8	11.6	11.1	11.4	12.1	10.6	11.1	11.1	10.3	11.6	11.1	11.8

TABLE 62
HEMATOLOGY PARAMETERS FOR PIG 14 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+14
Hematocrit %	37	38	4	39	38	40	40	43	40.5	40	39	40	38.5
Hemoglobin gm/dl	12.4	12.5	12.4	12.7	11.9	11.4	12.3	13.7	12.9	12.9	12.3	12.7	12.5
Red blood cells $\times 10^6/\text{mm}^3$	6.96	7.10	7.19	7.02	7.35	7.12	7.43	8.05	7.42	7.33	7.24	7.30	7.23
White blood cells mm^3	21,700	21,700	23,000	22,500	22,300	17,000	15,700	22,000	23,400	21,200	19,800	18,200	18,800
Total basophils mm^3	0	217	0	0	223	0	157	0	234	0	0	0	0
Basophils %	0	1	0	0	1	0	1	0	1	0	0	0	0
Total eosinophils mm^3	434	434	230	675	669	0	628	1760	468	424	990	364	564
Eosinophils %	2	2	1	3	3	0	4	8	2	2	5	2	3
Total band cells mm^3	0	0	0	0	0	340	314	0	0	0	0	0	0
Band cells %	0	0	0	0	0	1	1	0	0	0	0	0	0
Total seg. neutrophils mm^3	7812	7595	8510	7200	8474	5440	5338	12,100	7956	6148	6534	8736	6204
Seg. neutrophils %	36	34	37	32	38	32	34	55	34	29	33	48	33
Total lymphocytes mm^3	13,237	11,935	12,420	14,175	11,596	10,710	8321	7920	12,168	13,356	11,286	7644	10,340
Lymphocytes %	61	55	54	63	52	63	53	36	52	63	57	2	55
Total monocytes mm^3	27	1519	1840	450	1338	510	942	220	2574	1272	990	1456	1692
Monocytes %	1	7	8	2	6	3	6	1	11	6	5	8	9
Platelets $\times 10^3/\text{mm}^3$	330,000	390,000	435,000	530,000	395,000	225,000	335,000	395,000	305,000	385,000	360,000	325,000	
Prothrombin time (sec.)	11.9	10.9	11.8	11.9	11.9	12.2	11.1	10.8	11.3	11.3	11.4	11.6	10.8

TABLE 63
HEMATOLOGY PARAMETERS FOR PIG 20 RECEIVING 9 mg FENBENDAZOL/ kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	39	43	34	36.5	35.5	37	38	41	39	39	40.5	40	41
Hemoglobin gm/dl	12.2	12.9	11.2	11.4	11.4	11.0	11.2	11.8	12.9	12.3	12.7	12.5	12.7
Red blood cells $\times 10^6/\text{mm}^3$	6.52	7.15	6.08	6.23	5.87	6.61	6.47	7.08	6.58	6.71	6.71	7.23	7.00
White blood cells/ mm^3	18,600	23,000	19,900	23,600	18,300	21,000	15,200	21,700	17,800	21,000	19,000	15,100	18,000
Total basophils/ mm^3	0	0	0	0	0	0	152	0	125	0	190	0	0
Basophils %	0	0	0	0	0	0	1	0	1	0	1	0	0
Total eosinophils/ mm^3	186	0	597	0	183	0	456	217	356	1050	570	604	540
Eosinophils %	1	0	3	0	1	0	3	1	2	5	3	4	3
Total band cells/ mm^3	186	0	398	0	183	0	0	868	0	0	190	0	0
Band cells %	1	0	2	0	1	0	0	4	0	0	1	0	0
Total seg. neutrophils/ mm^3	6510	7590	9154	13,452	4941	8820	6688	11,718	6942	8820	5510	5285	7920
Seg. neutrophils %	35	33	46	57	27	42	44	54	39	42	29	35	44
Total lymphocytes/ mm^3	10,602	12,650	8557	9440	11,163	12,180	7448	7598	9078	10,500	11,970	8758	9000
Lymphocytes %	57	55	43	40	61	58	49	35	51	50	63	58	50
Total monocytes/ mm^3	1116	2720	1194	708	1830	0	456	1085	1246	630	570	453	540
Monocytes %	6	12	6	3	10	0	3	5	7	3	3	3	3
Platelets $\times 10^3/\text{mm}^3$	210,000	235,000	270,000	175,000	350,000	285,000	125,000	140,000	245,000	335,000	345,000	305,000	335,000
Prothrombin time (sec.)	11.6	13.6	10.9	11.3	11.1	10.8	10.8	11.8	11.6	11.3	10.5	10.8	10.8

TABLE 64
HEMATOLOGY PARAMETERS FOR PIG 25 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+14
Hematocrit %	39	36	34	32	34.5	34.5	35	39	40	40	40	40	42
Hemoglobin gm/dl	11.5	10.9	10.6	10.1	10.4	10.6	11.2	12.1	11.9	12.9	12.3	11.2	12.9
Red blood cells $\times 10^6/\text{mm}^3$	7.02	6.92	6.71	6.30	6.55	6.58	6.84	7.35	7.44	7.63	7.59	8.55	8.0
White blood cells/ mm^3	19,900	22,600	30,900	25,000	23,100	21,300	18,700	21,100	20,200	20,500	18,200	19,400	18,400
Total basophils/ mm^3	0	226	0	0	0	0	187	0	0	0	0	0	0
Basophils %	0	1	0	0	0	0	1	0	0	0	0	0	0
Total eosinophils/ mm^3	199	904	309	1000	462	426	374	633	234	410	0	582	736
Eosinophils %	1	4	1	4	2	2	2	3	1	2	0	3	4
Total band cells/ mm^3	0	226	927	0	693	213	0	0	404	205	0	0	184
Band cells %	0	1	3	0	3	1	0	0	2	1	0	0	1
Total seg. neutrophils/ mm^3	9154	11,526	22,557	16,500	10,164	10,437	10,285	11,816	12,726	9430	7462	11,058	9936
Seg. neutrophils %	46	51	73	66	44	49	55	56	63	46	41	57	54
Total lymphocytes/ mm^3	9552	7006	5253	6500	8547	8946	5610	7596	5858	10,250	9828	6790	6072
Lymphocytes %	48	31	17	26	37	42	30	36	29	50	54	35	33
Total monocytes/ mm^3	995	2712	1854	1000	3003	1278	2244	1055	1010	205	910	970	1472
Monocytes %	5	12	6	4	13	6	12	5	5	1	5	5	8
Platelets $\times 10^3/\text{mm}^3$	510,000	400,000	510,000	485,000	470,000	305,000	360,000	365,000	205,000	220,000	195,000	330,000	255,000
Prothrombin time (sec.)	11.9	13.4	12.9	12.8	12.6	12.8	13.0	12.8	12.8	13.6	12.6	12.8	13.3

TABLE 65
HEMATOLOGY PARAMETERS FOR FIG 27 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+14
Hematocrit %	37	34	30	32	34	34	36	35	35	39	36	39	37
Hemoglobin gm/dl	11.3	10.1	10.4	9.6	10.1	11.4	10.9	10.9	10.9	12.1	11.4	12.3	11.4
Red blood cells $\times 10^6/\text{mm}^3$	6.87	6.32	6.45	6.01	6.45	6.51	6.65	6.66	6.66	7.26	6.77	7.43	6.96
White blood cells/ mm^3	23,300	23,100	22,700	24,400	27,300	18,200	23,100	25,200	29,100	29,100	24,300	28,700	24,600
Total basophils/ mm^3	0	0	0	244	0	0	0	0	0	0	0	0	0
Basophils %	0	0	0	1	0	0	0	0	0	0	0	0	0
Total eosinophils/ mm^3	0	231	227	244	0	0	462	504	0	0	486	1148	984
Eosinophils %	0	1	1	1	0	0	2	2	0	0	2	4	4
Total band cells/ mm^3	233	231	0	488	819	0	231	252	0	0	243	0	0
Band cells %	1	1	0	2	3	0	1	1	0	0	1	0	0
Total seg. neutrophils/ mm^3	7689	9933	8853	7564	12,285	8372	10,164	14,364	10,767	10,767	10,206	8610	12,054
Seg. neutrophils %	33	43	39	31	45	46	44	57	37	37	42	30	49
Total lymphocytes/ mm^3	14,679	10,857	13,166	14,640	11,739	8918	10,164	8820	17,751	17,751	12,636	18,942	10,824
Lymphocytes %	63	47	58	60	43	49	44	35	61	61	52	66	44
Total monocytes/ mm^3	699	1848	454	1220	2457	910	2079	1260	582	582	729	0	738
Monocytes %	3	8	2	5	9	5	9	5	2	2	3	0	3
Platelets $\times 10^6/\text{mm}^3$	505,000	360,000	500,000	480,000	545,000	390,000	340,000	445,000	100,000	100,000	325,000	470,000	225,000
Prothrombin time (sec.)	11.9	11.8	11.8	10.8	10.9	11.1	10.9	10.3	11.1	11.4	10.6	10.8	11.8

TABLE 66

HEMATOLOGY PARAMETERS FOR PIG 1 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	41.0	39.0	40.5	35.0	36.5	35.5	37.0	38.0	35.0	36.0	39.0	38.0	40.0
Hemoglobin gm/dl	13.2	12.1	12.3	10.7	11.0	10.9	11.8	11.4	11.8	11.9	12.5	12.5	12.9
Red blood cells $\times 10^6/\text{mm}^3$	7.90	7.47	7.58	7.10	7.16	7.38	7.58	7.47	7.53	7.44	7.71	8.63	8.67
White blood cells/ mm^3	22,200	27,500	26,500	37,400	24,800	25,300	27,200	23,600	26,300	18,200	17,900	19,100	22,700
Total basophils/ mm^3	0	0	0	0	0	253	0	0	0	0	179	0	454
Basophils %	0	0	0	0	0	1	0	0	0	0	1	0	2
Total eosinophils/ mm^3	222	0	0	748	992	759	0	236	263	364	358	1,337	454
Eosinophils %	1	0	0	2	4	3	0	1	1	2	2	7	2
Total band cells/ mm^3	222	0	530	0	744	0	0	236	1,052	0	0	0	0
Band cells %	1	0	2	0	3	0	0	1	4	0	0	0	0
Total seg. neutrophils/ mm^3	9,768	15,950	16,960	26,554	13,888	13,915	20,944	12,744	15,517	4,280	8,234	5,921	8,626
Seg. neutrophils %	44	58	64	71	56	55	77	54	59	40	46	31	38
Total lymphocytes/ mm^3	10,212	9,900	6,360	8,228	7,688	10,120	5,768	9,204	7,346	10,010	8,055	10,887	11,804
Lymphocytes %	46	36	24	22	31	40	19	39	28	55	45	57	52
Total monocytes/ mm^3	1,776	1,650	2,650	1,870	1,488	253	1,088	944	2,104	546	1,074	955	1,362
Monocytes %	8	6	10	5	6	1	4	4	8	3	6	5	6
Platelets $\times 10^3/\text{mm}^3$	510,000	415,000	174,000	515,000	545,000	525,000	535,000	475,000	370,000	405,000	260,000	365,000	410,000
Prothrombin time (sec.)	12.4	12.1	11.4	12.0	11.4	11.3	11.5	11.6	11.1	11.8	10.4	11.6	11.4

TABLE 67
HEMATOLOGY PARAMETERS FOR PIG 2 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	35	36	34	33	33	35	36	35	40	37	40	38	37
Hemoglobin gm/dl	11.3	11.0	10.7	9.8	9.9	10.6	11.8	11.0	11.9	11.8	12.3	11.8	12.1
Red blood cells $\times 10^6/\text{mm}^3$	7.04	6.92	6.55	6.20	6.46	6.80	7.26	7.02	7.59	7.18	7.51	7.87	7.26
White blood cells/ mm^3	19,700	32,400	31,700	22,600	21,600	24,500	25,600	18,500	22,300	23,600	21,700	20,000	24,400
Total basophils/ mm^3	197	0	0	226	0	0	0	0	0	0	0	0	0
Basophils %	1	0	0	1	0	0	0	0	0	0	0	0	0
Total eosinophils/ mm^3	197	324	951	452	216	980	0	236	223	472	434	400	488
Eosinophils %	1	1	3	2	1	4	0	1	1	2	2	2	2
Total band cells/ mm^3	0	0	0	0	216	0	236	669	0	0	0	0	244
Band cells %	0	0	0	0	1	0	1	3	0	0	0	0	1
Total seg. neutrophils/ mm^3	5122	16,524	19,337	15,142	10,152	12,495	13,824	8695	9366	9676	8463	7200	8784
Seg. neutrophils %	26	51	61	67	47	51	54	47	42	41	39	36	36
Total lymphocytes/ mm^3	13,199	14,580	7925	5876	9720	11,025	11,264	8510	12,042	11,564	2369	9600	14,152
Lymphocytes %	67	45	25	26	45	45	44	46	54	49	57	48	58
Total monocytes/ mm^3	985	972	3487	904	1296	0	512	925	0	1888	434	2800	732
Monocytes %	5	3	11	4	6	0	2	5	0	8	2	14	3
Platelets $\times 10^3/\text{mm}^3$	465,000	455,000	455,000	495,000	510,000	505,000	300,000	485,000	430,000	285,000	195,000	238,000	90,000
Prothrombin time (sec.)	12.3	11.8	11.1	10.3	11.3	11.3	11.3	11.3	11.1	11.6	11.3	11.9	11.4

TABLE 68

HEMATOLOGY PARAMETERS FOR PIG 3 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	43.5	45	44	44	43	43	46	46	41	40	41	35	40
Hemoglobin gm/dl	14.4	14.8	14.0	14.6	13.9	13.7	14.5	15.3	13.7	13.3	13.5	11.4	13.3
Red blood cells $\times 10^6/\text{mm}^3$	7.60	8.42	7.71	7.77	7.91	7.84	8.10	8.53	7.67	7.58	7.47	6.54	7.64
White blood cells/ mm^3	23,400	18,500	20,200	19,900	24,900	20,900	22,000	21,800	22,500	22,200	21,300	21,100	20,200
Total basophils/ mm^3	0	185	0	0	0	0	0	0	0	0	0	211	0
Basophils %	0	1	0	0	0	0	0	0	0	0	0	1	0
Total eosinophils/ mm^3	936	370	0	0	0	418	440	0	0	0	639	211	404
Eosinophils %	4	2	0	0	0	2	2	0	0	0	3	1	2
Total band cells/ mm^3	0	0	0	0	498	0	0	0	0	0	0	0	404
Band cells %	0	0	0	0	2	0	0	0	0	0	0	0	2
Total seg. neutrophils/ mm^3	7020	4255	6262	5970	13,695	7524	7480	13,516	7425	8214	8733	8229	6666
Seg. neutrophils %	30	23	31	30	55	36	34	62	33	37	41	39	33
Total lymphocytes/ mm^3	13,572	12,580	12,928	13,532	8466	11,704	13,640	7630	14,400	13,098	10,650	11,394	11,918
Lymphocytes %	58	68	64	68	34	56	62	35	64	59	50	54	59
Total monocytes/ mm^3	1872	1110	1010	398	8466	1254	440	654	675	888	1278	1055	808
Monocytes %	8	6	5	2	9	6	2	3	3	4	6	5	4
Platelets $\times 10^3/\text{mm}^3$	500,000	490,000	520,000	520,000	425,000	360,000	510,000	625,000	455,000	400,000	385,000	435,000	320,000
Prothrombin time (sec.)	12.3	11.4	11.0	11.9	12.4	12.3	11.0	10.8	10.6	11.8	10.8	11.3	11.9

TABLE 69
HEMATOLOGY PARAMETERS FOR PIG 17 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	35	35	35	37	35.5	38	37	39	35.5	34	36	37	36
Hemoglobin gm/dl	11.2	11.0	10.9	11.7	10.9	11.0	11.2	12.1	11.4	10.9	11.8	11.8	11.4
Red blood cells $\times 10^6/\text{mm}^3$	6.78	6.95	6.94	7.18	7.31	7.23	7.35	7.87	7.43	7.18	7.14	7.55	7.52
White blood cells/ mm^3	28,900	31,100	33,000	27,300	31,900	27,000	26,100	25,700	30,700	23,900	30,700	26,800	24,900
Total basophils/ mm^3	289	311	0	0	0	0	0	0	614	0	0	0	0
Basophils %	1	1	0	0	0	0	0	0	2	0	0	0	0
Total eosinophils/ mm^3	289	311	660	1092	638	0	783	257	921	717	614	268	1494
Eosinophils %	1	1	2	4	2	0	3	1	3	3	2	1	6
Total band cells/ mm^3	0	0	0	0	957	270	261	0	307	239	0	0	249
Band cells %	0	0	0	0	3	1	1	0	1	1	0	0	1
Total seg. neutrophils/ mm^3	11,560	13,995	11,220	6552	13,717	11,340	12,789	13,878	19,034	10,755	15,657	9648	8466
Seg. neutrophils %	40	45	34	24	43	42	49	54	62	45	51	36	34
Total lymphocytes/ mm^3	14,739	14,617	19,800	18,564	15,312	14,310	12,006	11,051	8903	10,944	14,122	15,812	12,948
Lymphocytes %	51	57	60	68	48	53	46	43	29	46	46	59	52
Total monocytes/ mm^3	2023	1866	1320	1092	957	1080	261	514	921	1195	307	1072	1743
Monocytes %	7	6	4	4	3	4	1	2	3	5	1	4	7
Platelets $\times 10^3/\text{mm}^3$	350,000	565,000	490,000	460,000	480,000	360,000	565,000	450,000	470,000	320,000	450,000	380,000	510,000
Prothrombin time (sec.)	11.3	13.5	13.1	13.4	13.4	13.8	12.1	12.6	12.3	11.9	11.8	12.3	13.1

TABLE 70

HEMATOLOGY PARAMETERS FOR PIG 19b RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	40.5	39	40	39	37.5	41	42	46	38.5	38.5	38	40.5	39
Hemoglobin gm/dl	13.0	12.1	12.6	12.4	11.2	12.7	13.1	14.5	12.5	12.3	12.3	12.9	12.7
Red blood cells $\times 10^6/\text{mm}^3$	7.15	7.22	7.36	7.02	7.12	7.12	7.75	8.65	7.39	7.22	7.14	7.44	7.51
White blood cells/ mm^3	23,100	19,100	19,500	18,600	18,300	18,100	20,100	21,800	19,700	15,800	18,100	19,600	18,800
Total basophils/ mm^3	0	0	195	0	0	181	0	0	0	0	181	0	0
Basophils %	0	0	1	0	0	1	0	0	0	0	1	0	0
Total eosinophils/ mm^3	231	764	195	372	0	543	402	218	0	0	362	784	0
Eosinophils %	1	4	1	2	0	3	2	1	0	0	2	4	0
Total band cells/ mm^3	231	0	195	744	366	0	201	0	197	474	0	0	188
Band cells %	1	0	1	4	2	0	1	0	1	3	0	0	1
Total seg. neutrophils/ mm^3	11,550	8213	7215	7068	8784	8145	8844	15,914	9850	8216	7964	5488	6392
Seg. neutrophils %	50	43	37	38	48	45	44	73	50	52	44	28	34
Total lymphocytes/ mm^3	9702	9168	10,920	9486	7636	8326	10,251	5232	8668	5688	8688	12,544	10,716
Lymphocytes %	42	48	56	51	42	46	51	24	44	36	48	64	57
Total monocytes/ mm^3	1386	955	780	930	1464	905	402	436	985	1427	905	784	1504
Monocytes %	6	5	4	5	8	5	2	2	5	9	5	4	8
Platelets $\times 10^3/\text{mm}^3$	360,000	455,000	455,000	305,000	345,000	395,000	620,000	450,000	340,000	365,000	335,000	280,000	315,000
Prothrombin time (sec.)	12.6	12.0	12.3	12.4	12.9	12.7	11.1	11.6	11.3	11.3	11.6	10.8	12.8

TABLE 71

HEMATOLOGY PARAMETERS FOR PIG 28 RECEIVING 15 mg FENRENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	37.0	38.0	35.0	36.5	37.0	38.0	35.5	37.0	37.0	38.0	37.5	39.0	38.0
Hemoglobin gm/dl	12.4	11.0	11.2	11.0	11.0	11.8	11.6	11.2	11.4	12.1	12.3	12.9	11.6
Red blood cells $\times 10^6/\text{mm}^3$	7.33	7.16	7.04	6.91	7.00	6.01	7.28	7.05	7.10	7.42	7.42	8.62	7.88
White blood cells/ mm^3	20,500	21,000	26,900	24,600	24,200	17,500	20,400	23,000	21,200	22,400	18,200	18,200	21,700
Total basophils/ mm^3	0	0	0	0	0	0	0	0	212	0	0	182	0
Basophils %	0	0	0	0	0	0	0	0	1	0	0	1	0
Total eosinophils/ mm^3	205	231	897	246	484	700	408	0	212	1,120	364	0	868
Eosinophils %	1	1	3	1	2	4	2	0	1	5	2	0	4
Total band cells/ mm^3	0	0	1,076	0	484	0	0	0	424	0	0	0	217
Band cells %	0	0	4	0	2	0	0	0	2	0	0	0	1
Total seg. neutrophils/ mm^3	9,225	9,072	13,719	14,268	9,922	9,450	11,628	8,740	9,328	12,992	10,738	7,826	10,850
Seg. neutrophils %	45	42	51	48	41	54	57	38	44	58	59	43	20
Total lymphocytes/ mm^3	9,225	11,880	9,953	9,840	12,826	7,175	4,344	12,880	9,752	7,840	6,916	9,464	8,897
Lymphocytes %	45	55	37	40	53	41	36	56	46	35	38	52	41
Total monocytes/ mm^3	1,845	648	1,345	246	484	175	1,020	1,380	1,272	448	182	728	860
Monocytes %	9	3	5	1	2	1	5	6	6	2	1	4	4
Platelets $\times 10^3/\text{mm}^3$	485,000	395,000	545,000	530,000	536,000	420,000	430,000	530,000	455,000	350,000	195,000	245,000	--
Prothrombin time (sec.)	13.4	10.9	11.4	11.3	10.3	10.8	11.0	10.6	10.8	10.8	11.3	11.3	11.3

TABLE 72
HEMATOLOGY PARAMETERS FOR FIG 4 RECEIVING 25 mg FENREDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	41	39	38.5	36	37	39	38	38	40.5	41	38.5	41	42
Hemoglobin gm/dl	13.4	12.1	12.7	11.0	11.2	11.8	12.0	12.9	12.7	13.3	12.3	12.7	13.3
Red blood cells $\times 10^6/\text{mm}^3$	7.48	6.94	7.00	6.40	7.77	7.10	7.30	7.32	7.48	7.68	7.39	8.81	9.18
White blood cells/ mm^3	18,800	18,000	23,900	18,300	19,500	18,700	19,800	18,500	20,800	18,500	19,000	18,400	19,100
Total basophils/ mm^3	0	180	0	0	0	0	0	0	0	0	0	184	0
Basophils %	0	1	0	0	0	0	0	0	0	0	0	1	0
Total eosinophils/ mm^3	376	720	0	732	1560	561	396	105	0	555	760	736	764
Eosinophils %	2	4	0	4	8	3	2	1	0	3	4	4	4
Total band cells/ mm^3	0	0	0	0	195	0	0	0	208	0	0	0	0
Band cells %	0	0	0	0	1	0	0	0	1	0	0	0	0
Total seg. neutrophils/ mm^3	9964	6300	15,774	10,614	7215	10,098	8712	8325	10,816	7215	8170	7360	9741
Seg. neutrophils %	53	35	66	58	37	54	44	45	52	39	43	40	51
Total lymphocytes/ mm^3	6760	9180	5258	6405	8970	6171	9900	9435	8528	10,175	8930	9568	7258
Lymphocytes %	36	51	22	35	46	33	50	51	41	55	47	52	38
Total monocytes/ mm^3	1692	1620	2868	549	1560	1870	792	555	1248	555	1140	552	1337
Monocytes %	9	9	12	3	8	10	4	3	6	3	6	3	7
Platelets $\times 10^3/\text{mm}^3$	490,000	455,000	250,000	515,000	355,000	315,000	500,000	400,000	455,000	425,000	350,000	360,000	265,000
Prothrombin time (sec.)	12.8	11.8	10.9	11.8	11.6	11.3	11.8	11.9	11.3	11.6	11.3	11.8	11.4

TABLE 73

HEMATOLOGY PARAMETERS FOR PIG 7 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	38	38	39	39.5	37.5	40	40.5	42.5	39	37	39	38	38
Hemoglobin gm/dl	13.1	12.4	12.4	13.4	11.8	11.9	12.7	13.5	12.5	12.3	12.5	12.3	12.5
Red blood cells $\times 10^6/\text{mm}^3$	7.64	7.53	7.46	7.62	7.55	7.67	7.91	8.46	7.84	7.48	7.46	7.32	7.80
White blood cells/ mm^3	26,500	24,300	21,300	24,800	24,100	19,800	21,600	20,800	28,700	25,200	25,100	26,900	23,100
Total basophils/ mm^3	0	243	213	0	0	0	0	0	0	0	0	269	231
Basophils %	0	1	1	0	0	0	0	0	0	0	0	1	1
Total eosinophils/ mm^3	1325	1458	0	496	482	0	216	624	287	756	251	538	462
Eosinophils %	5	6	0	2	2	0	1	3	1	3	1	2	2
Total band cells/ mm^3	0	0	0	0	964	0	0	0	0	0	0	0	462
Band cells %	0	0	0	0	4	0	0	0	0	0	0	0	2
Total seg. neutrophils/ mm^3	11,660	10,449	9585	8928	7712	9306	9720	11,024	12,628	14,616	14,558	11,836	7392
Seg. neutrophils %	44	43	45	36	32	47	45	53	44	58	58	44	32
Total lymphocytes/ mm^3	11,130	10,692	10,863	14,136	13,255	9306	10,800	8320	12,341	7812	9287	12,643	12,705
Lymphocytes %	42	44	51	57	55	47	50	40	43	31	37	47	55
Total monocytes/ mm^3	2385	1458	6039	1240	1687	1188	864	832	3444	2016	1004	1614	1848
Monocytes %	9	6	3	5	7	6	4	4	12	8	4	6	8
Platelets $\times 10^3/\text{mm}^3$	440,000	595,000	495,000	560,000	520,000	585,000	520,000	510,000	370,000	445,000	395,000	460,000	450,000
Prothrombin time (sec.)	11.9	11.5	11.3	12.4	11.9	12.3	10.8	10.8	10.8	11.3	10.8	11.1	12.1

TABLE 74

HEMATOLOGY PARAMETERS FOR PIG 9 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	40	38.5	37	37	36	37	37	37	38	39	39.5	40	39
Hemoglobin gm/dl	12.6	11.9	11.9	11.0	11.2	10.9	11.6	11.6	11.6	12.1	12.1	12.3	12.7
Red blood cells $\times 10^6/\text{mm}^3$	7.23	6.98	6.83	6.23	6.57	6.73	6.79	6.78	6.95	7.00	6.94	8.37	7.27
White blood cells/ mm^3	16,800	18,500	20,500	16,900	17,200	17,500	14,800	15,700	16,300	12,900	15,300	16,200	19,400
Total basophils/ mm^3	0	0	0	0	0	0	0	157	0	0	0	162	0
Basophils %	0	0	0	0	0	0	0	1	0	0	0	1	0
Total eosinophils/ mm^3	168	185	205	338	516	700	740	785	970	1032	459	810	1746
Eosinophils %	1	1	1	2	3	4	5	5	6	8	3	5	9
Total band cells/ mm^3	0	370	0	0	516	0	0	471	0	258	153	0	0
Band cells %	0	2	0	0	3	0	0	3	0	2	1	0	0
Total seg. neutrophils/ mm^3	5376	6845	14,446	7774	7396	7700	6512	5495	6357	4257	4896	3078	5044
Seg. neutrophils %	32	37	44	46	43	44	44	35	39	33	32	19	26
Total lymphocytes/ mm^3	9744	9250	8815	7774	8600	8225	7104	7222	8313	6192	7650	11,016	10,670
Lymphocytes %	58	50	43	46	50	47	48	46	51	48	50	68	55
Total monocytes/ mm^3	1512	1850	2460	1014	172	875	444	1570	652	1161	2142	1134	1940
Monocytes %	9	10	12	6	1	5	3	10	4	9	14	7	10
Platelets $\times 10^3/\text{mm}^3$	535,000	420,000	510,000	300,000	565,000	405,000	440,000	485,000	475,000	320,000	225,000	315,000	60,000
Prothrombin time (sec.)	11.8	11.9	10.9	11.5	11.3	11.3	11.3	11.1	11.8	11.3	10.5	11.6	10.8

TABLE 75
HEMATOLOGY PARAMETERS FOR PIG 13 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	41	40	42	41	38	41	40	40	38	37	40	38	38
Hemoglobin gm/dl	13.6	12.6	13.4	13.7	11.9	12.1	12.3	12.9	12.5	12.1	12.1	12.7	12.3
Red blood cells $\times 10^6/\text{mm}^3$	7.71	7.28	8.38	7.47	7.36	7.38	7.42	7.58	7.35	7.15	7.33	7.04	7.33
White blood cells/ mm^3	20,000	18,100	17,800	18,500	21,800	20,700	19,500	20,400	22,200	19,300	26,200	23,200	22,300
Total basophils/ mm^3	0	362	0	0	0	0	195	0	222	0	0	232	0
Basophils %	0	2	0	0	0	0	1	0	1	0	0	1	0
Total eosinophils/ mm^3	200	362	178	0	1962	621	195	1020	444	193	1310	696	1115
Eosinophils %	1	2	1	0	9	3	1	5	2	1	5	3	5
Total band cells/ mm^3	0	181	0	0	436	0	195	0	888	0	262	0	0
Band cells %	0	1	0	0	2	0	1	0	4	0	1	0	0
Total seg. neutrophils/ mm^3	8800	5068	6586	7770	6976	8487	9750	12,240	10,656	7913	8646	7656	6467
Seg. neutrophils %	44	28	37	42	32	41	50	60	48	41	33	33	29
Total lymphocytes/ mm^3	10,000	12,127	10,324	9805	11,118	10,764	9165	6528	7992	10,036	12,838	12,992	13,380
Lymphocytes %	50	67	58	53	51	52	47	32	36	52	49	56	60
Total monocytes/ mm^3	1000	0	712	925	1308	828	0	612	1998	1158	3144	1624	1338
Monocytes %	5	0	4	5	6	4	0	3	4	6	12	7	6
Platelets $\times 10^3/\text{mm}^3$	390,000	370,000	425,000	445,000	405,000	405,000	420,000	420,000	385,000	215,000	325,000	415,000	420,000
Prothrombin time (sec.)	12.6	12.3	10.9	10.9	11.8	12.4	11.1	11.1	11.6	11.3	11.7	11.1	11.8

TABLE 76

HEMATOLOGY PARAMETERS FOR PIG 18 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	33.5	35.5	37	36.5	34	35	35	41	36	34	36		
Hemoglobin gm/dl	11.1	11.1	10.7	11.7	10.4	10.7	10.4	12.3	11.0	10.4	11.8		
Red blood cells $\times 10^6/\text{mm}^3$	6.47	7.00	6.78	6.88	6.81	7.08	6.69	7.75	6.92	6.58	7.14		
White blood cells/ mm^3	24,800	22,200	24,100	20,700	30,000	18,500	29,900	38,200	24,600	27,400	26,000		
Total basophils/ mm^3	0	0	0	0	0	0	0	0	0	0	0		
Basophils %	0	0	0	0	0	0	0	0	0	0	0		
Total eosinophils/ mm^3	744	222	241	0	0	185	0	382	738	0	0		
Eosinophils %	3	1	1	0	0	1	0	1	3	0	0		
Total band cells/ mm^3	0	0	0	1035	600	925	1196	0	0	0	0		
Band cells %	0	0	0	5	2	5	4	0	0	0	0		
Total seg. neutrophils/ mm^3	11,408	7548	6025	6624	17,700	7955	20,033	22,538	15,006	18,358	12,740		
Seg. neutrophils %	46	34	25	32	59	43	67	59	61	67	49		
Total lymphocytes/ mm^3	12,152	12,432	17,352	12,420	10,800	8695	7475	14,516	6396	6850	12,480		
Lymphocytes %	49	56	72	60	36	47	25	38	26	25	48		
Total monocytes/ mm^3	496	1998	482	621	900	740	1196	764	2460	2192	780		
Monocytes %	2	9	2	3	3	4	4	2	10	8	3		
Platelets $\times 10^3/\text{mm}^3$	595,000	675,000	795,000	690,000	735,000	830,000	765,000	810,000	680,000	645,000	570,000		
Prothrombin time (sec.)	12.5	11.8	12.1	11.4	12.4	12.6	11.1	11.1	11.3	11.3	11.3		

TABLE 77
HEMATOLOGY PARAMETERS FOR PIG 22 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Hematocrit %	42	40	38.5	36.5	38	38.5	38	38	39	40	41	41	39
Hemoglobin gm/dl	13.4	12.5	12.1	11.4	11.8	11.8	13.1	12.1	12.3	12.9	13.7	13.3	12.9
Red blood cells $\times 10^6/\text{mm}^3$	7.43	7.19	7.07	8.32	6.96	7.19	7.28	7.19	7.00	7.43	7.36	8.04	7.87
White blood cells/ mm^3	26,300	24,400	20,000	24,400	24,800	27,700	20,700	22,300	23,400	23,700	23,000	25,200	22,700
Total basophils/ mm^3	263	0	0	0	0	0	0	223	0	0	0	252	0
Basophils %	1	0	0	0	0	0	0	1	0	0	0	1	0
Total eosinophils/ mm^3	263	976	0	732	496	277	0	223	234	237	460	0	454
Eosinophils %	1	4	0	3	2	1	0	1	1	1	2	0	2
Total band cells/ mm^3	0	244	400	0	496	1108	0	223	234	0	0	0	454
Band cells %	0	1	2	0	2	4	0	1	1	0	0	0	2
Total seg. neutrophils/ mm^3	9468	9516	10,000	12,932	10,416	15,235	9936	12,205	9594	10,902	11,730	18,144	10,442
Seg. neutrophils %	36	39	50	53	42	55	48	55	41	46	51	72	46
Total lymphocytes/ mm^3	13,150	10,736	8200	9028	12,648	10,526	9315	8251	11,466	12,324	9890	5796	10,215
Lymphocytes %	50	44	41	37	51	38	45	37	49	52	43	23	45
Total monocytes/ mm^3	3156	2928	800	1708	744	554	1449	1115	1872	237	920	1008	1135
Monocytes %	12	12	4	7	3	2	7	5	8	1	4	4	5
Platelets $\times 10^3/\text{mm}^3$	765,000	490,000	355,000	275,000	625,000	640,000	570,000	560,000	635,000	585,000	690,000	285,000	465,000
Prothrombin time (sec.)	14.4	11.4	11.3		10.3	10.8	10.6	10.6	10.8	11.1	10.6	10.6	10.8

TABLE 79

URINE PARAMETERS FOR FIG 6 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.006	1.009	1.020	1.024	1.018	1.021	1.027	1.023	1.026	1.029		1.024	1.025
pH	6.5	6.0	6.5	6.5	6.0	6.0	6.0	7.0	7.0	6.5		6.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0		0	0
Ketone	0	0	0	0	0	0	0	0	0	0	N O	0	0
Protein	0	0	0	0	0	0	0	0	Trace	0	S	0	0
Occult blood	0	Trace	0	0	0	0	0	0	0	Trace	A M	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	P L	Trace	0
Red blood cells	0	Occ	0	0	0	0	Occ.	0	1-3	0	E	0	8-10
White blood cells	0-2	15-20	2-3	0	Rare	0	Occ.	10-15	6-10	10-20		0	Rare
Squamous epithelial cells	0	0	0	0	0	0	Few	Occ.	0	0		Occ.	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0		0	0
Renal epithelial cells	0-1	Mod.	0	Occ.	Rare	Occ.	0	0	0	0		Occ.	0
Bacteria	0	Many	0	0	0	0	0	0	0	0		0	0
Debris	0	0	0	0	0	0	0	0	0	0		0	0
Amorphous material	Some	0	0	3+	3+	2+	Some	Some	Much	0		Few	Some
Calcium oxalate crystals	0	0	0	Occ.	0	0	0	0	0	0		0	0
Triphosphate crystals	0	0	0	Some	0	0	0	0	Some	Some		0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0		0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Amber	Amber	Yellow	Amber		Yellow	Yellow
Transparency	Clear	Clear	Clear	Cloudy	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy		Clear	Clear
Casts	0	0	0	0	0	0	0	0	0	0		0	0

TABLE 80 URINE PARAMETERS FOR PIG 12 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.006	1.020	1.022	1.022	1.020	1.021	1.025	1.017	1.024	1.022	1.014	1.024	1.025
pH	7.0	7.0	6.0	6.5	6.0	5.0	7.0	6.0	6.0	6.0	8.0	6.0	6.0
Glucose	0	0	0	0	0	0	0	0	Trace	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	0	0	0	0	0
Occult blood	0	0	Trace	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	Occ.	0	0	0	0	0	0	0	0	0	0	Occ.
White blood cells	0-2	15-20	Occ.	Occ.	0	8-10	2-3	1-3	10-20	3-6	4-10	0	0
Squamous epithelial cells	0	Much	0	0	0	0	Few	0	0	0	0	0	0
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	Mod.	0	0
Renal epithelial cells	0	0	Occ.	2-3	Occ.	Occ.	0	Occ.	3-5	0	Mod.	Mod.	0
Bacteria	0	0	0	0	0	0	0	0	0	0	0	0	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Some	0	Much	2+	3+	3+	Much	Some	Some	0	Much	0	Much
Calcium oxalate crystals	0	0	0	0	0	0	0	Occ.	Occ.	Some	0	Some	Some
Triphosphate crystals	0	Many	Some	Occ.	0	0	0	0	0	0	Some	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Amber	Straw	Yellow	Straw	Yellow	Yellow
Transparency	Cloudy	Cloudy	Cloudy	Cloudy	Cloudy	Clear	Clear	Cloudy	Cloudy	Cloudy	Clear	Hazy	Clear
Casts	0	0	0	0	Several	0	0	0	0	0	Rare	0	0

TABLE 83 URINE PARAMETERS FOR PIG 26 RECEIVING 0 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.006	1.027	1.016	1.029	1.026	1.021	1.029	1.029	1.030		1.015	1.028	1.027
pH	6.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0		6.0	7.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	N	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	O	0	0	0
Protein	0	0	0	0	0	0	0	0	Trace	S	0	0	0
Occult blood	0	0	0	0	0	0	0	0	0	A	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	M	0	0	0
Red blood cells	0	0	0	0	0	0	0	0	0	P	0	0	0
White blood cells	0	0	0	Occ.	0	0	0	0	0	L	0	0	0
Squamous epithelial cells	0	0	Occ.	2-3	Rare	Rare	Rare	Occ.	5-10	E	Occ.	0	0
Transitional epithelial cells	0	0	0	0	0	0	Occ.	0	4-8		Few	0	0
Renal epithelial cells	0-2	0	0	Occ.	Occ.	Rare	0	0	0		0	0	0
Bacteria	0	Few	0	0	0	0	0	0	0		0	0	0
Debris	0	0	0	0	0	0	0	0	0		0	0	0
Amorphous material	Small	0	0	2+	3+	3+	0	Some	Some		0	Few	Some
Calcium oxalate crystals	0	0	0	0	Occ.	0	0	0	0		0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0		0	0	Some
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0		Few	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Straw	Yellow		Straw	Yellow	Yellow
Transparency	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy		Clear	Clear	Clear
Casts	0	0	0	0	0	0	0	0	0		0	0	0

TABLE 83

URINE PARAMETERS FOR PIG 10 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.010	1.019	1.019	1.028	1.015	1.023	1.011	1.022	1.021	1.021	1.014	1.018	1.019
pH	6.0	7.0	6.0	6.0	7.0	6.0	7.0	6.0	6.0	6.5	6.0	6.5	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	0	0	0	0	0
Occult blood	0	Trace	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	Occ.	0	0	0	0	0	0	Occ.	0	0-1	Rare	0
White blood cells	0	5-8	0	4-5	0	Occ.	0-2	Occ.	2-6	1-3	0-2	Occ.	Rare
Squamous epithelial cells	0	0	Occ.	0	0	0	0	0	0	0	Few	0	Occ.
Transitional epithelial cells	0	0	0	0	0	0	Few	0	0	0	0	0	0
Renal epithelial cells	0	0	0	Occ.	Occ.	Occ.	0	0	0	0	0	Few	0
Bacteria	0	0	0	0	0	0	0	0	3+	0	0	Mod.	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Some	0	0	2+	3+	3+	Some	0	Some	Some	0	0	Much
Calcium oxalate crystals	0	0	0	1+	0	0	0	0	0	0	0	0	0
Triphosphate crystals	0	Some	0	0	0	0	0	0	0	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Yellow	Yellow	Amber	Straw	Yellow	Yellow
Transparency	Cloudy	Clear	Clear	Clear	Cloudy	Clear	Clear	Cloudy	Cloudy	Cloudy	Clear	Cloudy	Cloudy
Casts	0	0	0	0	0	0	0	0	Occ.	0	0	0	0

TABLE 86 URINE PARAMETERS FOR PIC 11 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.011	1.019	1.020	1.019	1.019	1.017	1.017	1.011	1.019	1.020	1.012	1.011	1.019
pH	6.0	6.0	7.0	6.0	5.0	5.0	5.0	5.0	5.5	6.0	6.0	6.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	0	0	0	0	0
Occult blood	0	0	0	Trace	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0-1	0	0	0	0	0	0-2	0	0	0	0	0	Rare
White blood cells	0-1	Occ.	Occ.	0	0	0	0-2	3-6	5-10	Occ.	4-8	Rare	Occ.
Squamous epithelial cells	0	Occ.	Occ.	0	0	0	0	0	0	0	Few	0	0
Transitional epithelial cells	0	0	0	0	0	0	Few	0	0	0	0	0	0
Renal epithelial cells	0	0	0	Occ.	Occ.	Rare	0	0	0	0	0	0	Few
Bacteria	0	Few	0	0	0	0	0	0	0	0	0	0	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Small	0	0	2+	3+	3+	Some	0	Some	Some	Much	0	Rare
Calcium oxalate crystals	0	0	0	Occ.	0	0	0	0	0	0	Occ.	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	Some	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Yellow	Straw	Amber	Straw	Yellow	Yellow
Transparency	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy	Clear	Clear	Clear
Casts	0	0	0	0	0	0	0	0	Occ.	0	0	0	0

TABLE 88 URINE PARAMETERS FOR PIG 21 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.011	1.012	1.012	1.012	1.014	1.013	1.015	1.011	1.016	1.012	1.005	1.014	1.014
pH	7.0	7.5	7.0	6.5	6.0	6.0	7.0	6.0	6.5	6.0	7.0	6.0	7.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	0	Trace	0	0	0
Occult blood	0	0	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	0	Rare	0	0	0	2-4	0	Occ.	0	0	0	0
White blood cells	0	Occ.	Rare	0	0	0	5-7	Occ.	3-5	Occ.	0	0	3-4
Squamous epithelial cells	0	0	0	0	0	0	0	0	0	0	0	Occ.	Occ.
Transitional epithelial cells	0	0	0	0	0	0	Many	0	0	0	0	0	0
Renal epithelial cells	0	0	0	Occ.	Occ.	0	0	0	0	0	0	0	Occ.
Bacteria	0	Few	0	0	0	0	0	0	0	0	0	0	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Small	Much	0	3+	3+	3+	0	0	Some	Some	Some	Few	0
Calcium oxalate crystals	0	0	0	0	0	0	0	0	0	0	0	Rare	0
Triphosphate crystals	0	0	0	1+	0	0	Many	0	0	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Straw	Yellow	Yellow	Yellow	Yellow	Yellow
Transparency	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy	Hazy	Clear	Cloudy
Casts	0	0	0	0	Several	0	0	0	Occ.	0	0	0	0

TABLE 89 URINE PARAMETERS FOR FIG 24 RECEIVING 3 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.017	1.018	1.017	1.013	1.023	1.015	1.017	1.021	1.020	1.021	1.022	1.018	1.016
pH	6.0	6.0	7.0	6.0	6.0	5.5	5.0	5.0	7.0	6.0	6.0	7.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	Trace	0	0	0	0	0	0
Occult blood	0	0	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	0	0-2	0	0	Occ.	0	Occ.	0	0-1	0	0	0
White blood cells	6-8	8-10	2-6	3-4	Occ.	7-9	Occ.	5-8	Occ.	0-1	0	Occ.	Occ.
Squamous epithelial cells	0	0	0	Occ.	0	0	0	0	0	Few	0	Occ.	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	0	0	0	Occ.	1-2	Some	2+	Occ.	0	0	0	Occ.
Bacteria	Mod.	0	0	0	0	0	0	0	0	0	0	0	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	0	0	Some	0	0	2+	3+	3+	3+	0	Some	Some	Few
Calcium oxalate crystals	0	0	8-12	0	0	0	0	0	0	0	0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	Few	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Yellow	Yellow	Yellow
Transparency	Clear	Clear	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy
Casts	0	0	0	0	0	1	0	0	0	0	0	0	0

TABLE 94 URINE PARAMETERS FOR PIG 20 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.011	1.015	1.017	1.017	1.016	1.012	1.019	1.021	1.018	1.027	1.017	1.025	1.023
pH	5.5	6.0	5.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	Trace	0	0	Trace	0	0	0	1+	Trace	0	0	0
Occult blood	0	0	0	0	0	0	0	0	0	0	Trace	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0-1	0	0	Occ.	0	0	0-1	0	0	0	6-10	0	3-5
White blood cells	0-3	5-10	Occ.	0	0	Occ.	3-4	4-8	0-3	15-20	4-6	Occ.	Occ.
Squamous epithelial cells	0	0	0	0	0	0	Few	0	0	0	Few	0	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	0	0	0	Rare	Occ.	0	0	0	0	0	0	Few
Bacteria	0	0	0	0	0	0	0	0	0	0	0	0	Some
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	0	0	0	1+	3+	3+	Some	0	0	0	Much	0	Some
Calcium oxalate crystals	20-25	0	0	0	0	0	0	0	0	Some	0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	Some	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Straw	Straw	--	Straw	Yellow	Yellow
Transparency	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	--	hazy	Clear	Clear
Casts	0	Some	0	0	0	0	0	Occ.	Occ.	0	0	0	0

TABLE 95 URINE PARAMETERS FOR FIG 25 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.013	1.019	1.019	1.019	1.018	1.014	1.015	1.011	1.015	1.012	1.011	1.017	1.013
pH	7.0	6.0	7.0	6.5	7.0	6.0	7.0	6.0	6.5	6.0	6.0	6.0	7.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	0	0	0	0	0
Occult blood	Trace	0	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	5-6	0	0	0	0	0	0	0	0	0	4-6	0	Rare
White blood cells	8-10	3-5	4-5	3-4	5-6	Occ.	2-4	1-3	3-6	Occ.	10-20	Occ.	Rare
Squamous epithelial cells	0	0	0	0	0	0	Few	0	0	0	Many	Occ.	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	Mod.	0	2+	Occ.	0	0	0	0	0	0	Occ.	Few
Bacteria	0	0	0	0	0	0	0	0	Some	0	0	0	Few
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Small	0	0	2+	3+	3+	0	Some	Some	Some	Much	0	Mod.
Calcium oxalate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Triphosphate crystals	Mod.	0	0	0	0	0	0	0	0	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	1+	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Straw	Yellow	Straw	Yellow	Yellow
Transparency	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy	Clear	Clear	Clear
Casts	0	0	0	0	Rare	0	0	0	0	0	Some	0	0

TABLE 96 URINE PARAMETERS FOR PIG 27 RECEIVING 9 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.014	1.017	1.017	1.019	1.018	1.016	1.020	1.015	1.018	1.012	1.018	1.019	1.015
pH	5.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	7.0	6.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	Trace	0	0	0	0
Occult blood	2+	0	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	1-3	0	0	0	0	0	0	0	0	0	0	0	0
White blood cells	5-10	Occ.	Rare	0	0	Occ.	0-2	4-8	Occ.	Occ.	0	0	0
Squamous epithelial cells	0	0	0	0	0	0	Few	0	0	0	0	Occ.	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	0	0	Occ.	Rare	0	0	0	0	0	0	0	0
Bacteria	0	Few	0	0	0	0	0	3+	0	3+	0	0	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Some	0	0	3+	2+	3+	Some	0	Some	Some	Some	Few	0
Calcium oxalate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0	0	Mod.	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Straw	Yellow	Yellow	Yellow	Yellow	Yellow
Transparency	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy	Hazy	Clear	Clear
Casts	0	0	0	0	0	0	0	Occ.	0	0	0	0	0

TABLE 97 URINE PARAMETERS FOR FIG 1 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.003	1.020	1.012	1.024	1.019	1.017	1.018	1.012	1.023	1.021	1.017	1.015	1.018
pH	6.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	7.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	Trace	0	0	0	0	0
Occult blood	0	0	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	0	0	0	0	0	0	0	Occ.	0	3-4	0	0
White blood cells	0-1	Occ.	0	2-4	Rare	Occ.	0	0-2	2-5	1-3	Occ.	Occ.	Occ.
Squamous epithelial cells	0	0	0	0	0	0	0	0	Occ.	Occ.	Occ.	Occ.	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	1	0	Occ.	Occ.	0	Occ.	0	0	0	0	0	0	0
Bacteria	0	0	0	0	0	0	0	0	0	0	0	Few	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Some	Mod.	0	2+	3+	2+	Some	0	0	Some	0	0	Much
Calcium oxalate crystals	0	0	0	0	0	0	0	0	0	Some	0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0	Some	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Amber	Amber	Amber	Straw	Yellow	Yellow
Transparency	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy	Clear	Clear	Clear
Casts	0	0	0	0	0	0	0	0	Occ.	0	0	0	0

TABLE 98

URINE PARAMETERS FOR FIG 2 RECEIVING 15 mg FENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.017	1.024	1.027	1.030	1.030	1.028	1.023	1.024	1.025	1.032	1.015	1.025	1.028
pH	6.0	6.1	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0	7.0	6.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	Trace	0	0	0	0	0	0	0	Trace	0	0	0
Occult blood	0	Trace	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	Rare	0	Occ.	0	0	0	0	0	0	Occ.	0	0
White blood cells	0-2	0	Rare	Rare	0	Rare	0	0-2	10-15	1-3	4-6	Occ.	0
Squamous epithelial cells	0	0	0	0	0	0	Occ.	Occ.	Occ.	Occ.	0	0	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	Few	0	0
Renal epithelial cells	0	0	0	Occ.	Occ.	Occ.	0	0	Occ.	0	0	0	0
Bacteria	0	Mod.	0	0	0	0	0	0	0	0	0	Few	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Some	Much	Mod.	2+	3+	3+	Much	0	0	Some	Much	0	Mod.
Calcium oxalate crystals	1-3	0	0	2+	0	1+	0	0	Some	0	0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	Occ.
Color	Yellow	Yellow	Yellow	Yellow	yellow	Yellow	Straw	Yellow	Yellow	Amber	Straw	Yellow	Yellow
Transparency	Cloudy	Cloudy	Clear	Cloudy	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy	Clear	Clear	Clear
Casts	0	Many	0	0	0	0	Few	0	Occ.	0	0	0	0

TABLE 99 URINE PARAMETERS FOR FIG 3 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.015	1.016	1.023	1.021	1.029	1.022	1.019	1.025	1.022	1.017	1.026	1.024	1.019
pH	6.5	6.0	6.0	6.0	6.0	6.0	5.0	6.0	7.0	7.0	6.0	6.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	1+	0	0	0	0	0	0
Occult blood	0	0	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	0	1-3	0-2	0	Rare	0	0	0	0	0	0	0
White blood cells	0	1-2	0-3	5-8	Occ.	0	4-5	0	0	0	Occ.	1-3	3-5
Squamous epithelial cells	0	0	0	0	0	0	0	0	0	Few	Occ.	0	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	0	0	0	0	Occ.	Rare	Rare	0	0	0	0	0
Bacteria	0	0	0	0	0	0	0	0	0	0	0	0	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	0	0	Some	0	Few	3+	3+	3+	Some	0	Some	Some	Some
Calcium oxalate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Triphosphate crystals	Few	0	0	0	0	0	0	0	Few	Some	Some	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	Occ.	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Yellow	Straw	Yellow
Transparency	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Clear	Clear	Cloudy	Cloudy	Cloudy
Casts	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 100

URINE PARAMETERS FOR FIG 17 RECEIVING 15 mg FERRENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.020	1.025	1.021	1.011	1.031	1.012	1.014	1.018	1.019	1.015	1.018	1.023	1.023
pH	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.5	7.0	7.0	6.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	Trace	0	Trace	0	0	0	0	Trace	0
Occult blood	0	0	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	0	0-1	0	0	0	0	0	0	0	0	0	0
White blood cells	Occ.	Occ.	0-1	0	Occ.	0	0	0	0	0	0	Occ.	Occ.
Squamous epithelial cells	0	0	0	0	0	0	0	0	0	Occ.	0	1-4	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	0	0-4	0	0	Rare	1+	Occ.	0	0	0	0	Occ.
Bacteria	0	0	0	0	Mod.	0	0	0	0	0	0	0	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Some	Some	0	0	0	3+	3+	3+	3+	Much	Some	Some	Occ.
Calcium oxalate crystals	0	Some	15-25	0	0	1+	Occ.	0	0	0	0	Occ.	Occ.
Triphosphate crystals	0	0	0	0	0	0	0	0	Occ.	0	Some	Some	Some
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Amber	Yellow
Transparency	Clear	Clear	Clear	Clear	Cloudy	Clear	Cloudy	Clear	Cloudy	Clear	Cloudy	Cloudy	Cloudy
Casts	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 102

URINE PARAMETERS FOR FIG 28 RECEIVING 15 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.014	1.014	1.018	1.018	1.016	1.013	1.018	1.024	1.025	1.020	1.022	1.024	1.018
pH	7.0	6.0	7.0	6.5	5.0	5.0	7.0	6.0	6.0	6.0	6.0	6.0	7.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	0	0	0	0	0
Occult blood	Trace	0	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	3-5	0	0	0	0	0	Occ.	0	0	0	Occ.	0	0
White blood cells	5-8	6-8	6-8	3-4	Occ.	Occ.	5-10	3-5	1-3	2-5	Occ.	0	0
Squamous epithelial cells	0	Few	Occ.	0	0	0	Many	0	0	Occ.	Occ.	Few	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	0	0	Occ.	Rare	Occ.	0	0	0	0	0	0	Occ.
Bacteria	0	0	0	0	0	0	0	Few	0	0	0	0	Few
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Some	0	0	2+	3+	3+	Some	Some	Some	Some	0	Mod.	Much
Calcium oxalate crystals	0	0	0	0	0	0	0	0	0	0	Many	Some	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0	Some	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Straw	Amber	Yellow	Straw	Yellow	Yellow
Transparency	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy	Clear	Hazy	Cloudy
Casts	0	0	0	0	Rare	0	0	0	Occ.	0	0	0	0

TABLE 103

URINE PARAMETERS FOR FIG 4 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.009	1.012	1.020	1.026	1.024	1.010	1.022	1.020	1.027	1.029	1.030	1.027	1.024
pH	7.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	Trace	0	0	Trace	0	0	0	0	0
Occult blood	0	Mod.	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0-1	Occ.	0	2-3	0	0	0	0	Occ.	0	0	0	Occ.
White blood cells	0	Occ.	0	Occ.	2-3	8-10	1-2	Occ.	6-10	1-3	0	Rare	Occ.
Squamous epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	0	Occ.	Occ.	1+	Occ.	Occ.	0	0	0	0	0	0
Bacteria	0	Much	0	0	0	0	0	0	0	0	0	Few	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Some	0	0	2+	3+	3+	Some	0	Some	Some	Some	0	Mod.
Calcium oxalate crystals	0	0	0	1+	0	0	0	0	0	Some	0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Transparency	Cloudy	Cloudy	Clear	Cloudy	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Clear	Clear	Clear
Casts	0	Many	0	0	0	0	0	0	0-2	0	0	0	0

TABLE 104

URINE PARAMETERS FOR FIG. 7 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.006	1.011	1.016	1.009	1.017	1.010	1.010	1.029	1.021	1.014	1.023	1.020	1.012
pH	5.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0	7.0	6.0	6.0	6.0	6.6
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	0	0	0	0	0
Occult blood	0	0	0	0	Trace	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	0	3-5	2-4	0	0	0	Occ.	0	0	0	0	0
White blood cells	2-3	10-12	5-8	8-10	Occ.	0	0	0	0	0	0	Occ.	0
Squamous epithelial cells	0	0	0	0	0	0	0	0	0	Occ.	Some	Occ.	0
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	Occ.	0-1	0-2	0	Rare	Occ.	Occ.	Occ.	0	0	Occ.	Occ.
Bacteria	0	0	Few	0	0	0	0	0	0	0	0	0	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	0	Some	Mod.	Some	0	2+	3+	3+	3+	Some	Some	Some	Some
Calcium oxalate crystals	0	0	0	0	0	1+	0	0	0	0	0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	1+	0	Some	0	Some
Calcium carbonate crystals	0	0	0	0	0	0	0	Occ.	Occ.	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Straw	Amber	Yellow
Transparency	Clear	Clear	Cloudy	Clear	Clear	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy
Casts	0	0	0	0	Many	0	0	0	0	0	0	Occ.	0

TABLE 105

URINE PARAMETERS FOR FIG 9 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.015	1.032	1.033	1.032	1.024	1.033	1.020	1.023	1.031	1.034	1.013	1.025	1.028
pH	6.0	6.0	6.0	6.0	6.0	6.0	7.0	6.0	6.0	6.0	7.0	6.0	6.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	0	Trace	0	0	0
Occult blood	0	0	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	0	0	Occ.	0	0	0	0	0	0	0-1	0	Occ.
White blood cells	8-10	10-15	0	7-8	Occ.	Rare	0	1-3	20-30	15-20	0-1	0	Occ.
Squamous epithelial cells	0	0	Occ.	0	0	0	0	0	Occ.	Occ.	Few	0	0
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0-2	0	Occ.	Occ.	1+	Occ.	0	1-3	1-4	0	0	Few	0
Bacteria	0	Mod.	0	0	0	0	0	0	2+	0	0	0	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Mod.	0	0	2+	3+	2+	Some	Some	Much	Some	0	0	Few
Calcium oxalate crystals	20-25	0	Some	2+	0	0	0	0	0	Many	0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Yellow	--	Amber	Straw	Yellow	Yellow
Transparency	Cloudy	Cloudy	Clear	Cloudy	Clear	Clear	Clear	Clear	--	Cloudy	Clear	Clear	Clear
Casts	0	0	0	0	0	0-2	0	0	1-3	0	0	0	0

TABLE 108 URINE PARAMETERS FOR PIG 22 RECEIVING 25 mg FENBENDAZOLE/kg BODY WEIGHT

DAY	-10	-8	-6	-4	-2	0	+2	+4	+6	+8	+10	+12	+13
Specific gravity	1.006	1.009	1.014	1.015	1.012	1.013	1.015	1.013	1.018	1.018	1.005	1.020	1.018
pH	6.5	6.0	6.0	5.5	5.0	5.0	6.0	6.0	6.0	6.5	6.0	6.0	7.0
Glucose	0	0	0	0	0	0	0	0	0	0	0	0	0
Ketone	0	0	0	0	0	0	0	0	0	0	0	0	0
Protein	0	0	0	0	0	0	0	0	0	0	0	0	0
Occult blood	0	Small	0	0	0	0	0	0	0	0	0	0	0
Bilirubin	0	0	0	0	0	0	0	0	0	0	0	0	0
Red blood cells	0	Occ.	Rare	0	0	0	0-3	0	0	0	0	0	0
White blood cells	0	Occ.	0	0	4-5	7-8	0-3	Occ.	Occ.	6-10	Occ.	0	Occ.
Squamous epithelial cells	0	0	0	0	0	0	Few	0	0	0	Few	0	Occ.
Transitional epithelial cells	0	0	0	0	0	0	0	0	0	0	0	0	0
Renal epithelial cells	0	0	0	Rare	Occ.	0	0	0	0	1-3	0	0	0
Bacteria	0	Much	0	0	0	0	0	0	0	0	0	Few	0
Debris	0	0	0	0	0	0	0	0	0	0	0	0	0
Amorphous material	Some	0	3+	1+	3+	3+	Some	Some	Some	Some	0	0	Mod.
Calcium oxalate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Triphosphate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Calcium carbonate crystals	0	0	0	0	0	0	0	0	0	0	0	0	0
Color	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Straw	Straw	Yellow	Amber	Straw	Yellow	Yellow
Transparency	Cloudy	Cloudy	Clear	Clear	Clear	Clear	Clear	Cloudy	Cloudy	Cloudy	Clear	Clear	Clear
Casts	0	0	0	0	0	Occ.	0	0	0	0	0	0	0

TABLE 109
WEEKLY WEIGHTS (kg) and TEMPERATURES (°C)
FROM PIGS RECEIVING VARIOUS DOSES OF FENBENDAZOLE

Dose	Pig#	Oct.13	Oct.19	Oct.28	Nov.4	Nov.11	Nov.17	Nov.21
0 mg/kg	6	32(39.6)	39(39.3)	*	49(40.9)	46	53(38.9)	54
	12	29(38.8)	35(38.3)	40(39.6)	43(40.6)	45	45(38.8)	48
	16	29(39.1)	36(39.4)	42(39.8)	42(39.2)	49(39.7)	49	+
	23	32(39.1)	27(39.8)	30(39.7)	32(39.4)	35(39.6)	37	+
	26	24(38.3)	28(39.1)	36(39.6)	37(40.3)	37	40(39.3)	43
	30	23(40.0)	28(38.7)	35(40.4)	36(39.9)	42(39.9)	44	+
3 mg/kg	10	27(39.9)	34(38.8)	40(39.7)	41(40.5)	43	40(39.0)	48
	11	28(39.4)	34(38.7)	40(40.1)	45(39.8)	44	48(38.5)	50
	15	23(39.5)	27(39.2)	33(39.7)	32(39.4)	35(41.3)	38	+
	21	27(39.8)	33(39.4)	39(40.1)	40(39.6)	39	44(38.3)	48
	24	27(39.6)	38(39.4)	44(39.7)	43(38.8)	49(39.1)	51	+
	29	20(38.7)	26(39.4)	*	31(39.3)	38(39.8)	38	+
9 mg/kg	5	32(39.3)	38(39.1)	*	45(39.0)	51(40.2)	52	+
	8	29(39.9)	38(39.7)	44(40.0)	44(39.1)	45(39.3)	52	+
	14	27(38.8)	30(39.7)	41(39.5)	41(38.4)	48(39.1)	49	+
	20	32(38.9)	40(38.4)	48(39.8)	47(39.9)	44	50(38.3)	52
	25	23(38.8)	29(38.4)	34(39.3)	38(40.5)	38	42(38.9)	45
	27	20(39.1)	24(39.7)	30(39.8)	33(40.4)	32	36(38.6)	40
15mg/kg	1	27(39.9)	32(39.9)	40(40.1)	40(40.1)	40	42(38.6)	45
	2	24(39.1)	31(39.7)	36(40.1)	39(40.0)	35	44(39.4)	46
	3	26(38.9)	32(38.7)	*	37(38.6)	44(31.2)	45	+
	17	29(38.1)	34(38.9)	40(38.6)	39(38.6)	43(39.2)	44	+
	19	30(39.3)	29(39.3)	35(39.6)	33(39.0)	40(40.0)	42	+
	28	27(38.7)	32(39.6)	*	40(40.7)	43	45(38.7)	47
25mg/kg	4	24(39.7)	31(39.6)	*	36(40.0)	36	45(39.1)	40
	7	27(38.7)	34(38.9)	*	40(38.7)	45(38.7)	48	+
	9	25(40.1)	31(39.1)	36(40.0)	39(39.4)	40	42(39.0)	44
	13	26(39.7)	32(38.9)	38(39.8)	39(38.8)	42(39.2)	45	+
	18	25(39.5)	29(39.3)	34(38.5)	36(38.5)	42(40.8)	Died	+
	22	25(39.9)	29(39.0)	*	36(40.4)	38(40.4)	40(38.8)	44

* Data Lost
+ Necropsied

APPENDIX II
A review
of
Fenbendazole in Swine

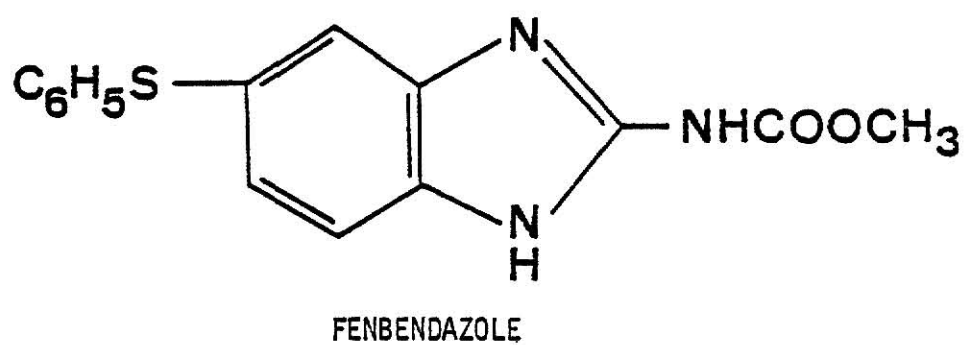


Figure 1. methyl 5-(phenylthio)-2-benzimidazole-carbamate

INTRODUCTION

Fenbendazole FBZ, methyl-5-(phenylthio)-2-benzimidazole carbamate is an almost colorless powder with a molecular weight of 299.2 (Figure 1). It melts with decomposition at 233°C and is freely soluble only in dimethylsulfoxide (DMSO). Its ultra-violet (UV) spectrum in methanol shows maximum absorption at 298 nm.¹ Fenbendazole is presently available in 6 formulations all designed for oral consumption.

Fenbendazole is thought to work by interfering with the parasites' metabolism. In studies on Ascaris suum FBZ was found to inhibit glycogen formation and breakdown.² In Hymenolepis diminuta FBZ exerts a neurotoxic effect which causes the suckers to lose form and function. Eight hours after treatment the parasite becomes paralyzed and soon dies.³

Fenbendazole is used worldwide in a variety of animals from birds to elephants. In the United States, it is presently licensed for use in horses only.

USE

Internal parasites of swine represent a large part of the one quarter of a billion dollar annual profit loss of swine producers.⁴ This loss not only affects the producer it ultimately affects the consumer as well. Kidney worms (Stephanurus dentatus) cause an estimated \$73 million annual loss to the swine industry.⁵ As many as 51% of swine livers in North Carolina were condemned as unfit for human consumption. Over 90% of these livers were infected with a combination of ascarid (A. suum) and kidney worm lesions.⁴

The most prominent member of the kidney worm family is Stephanurus

dentatus. Stephanurus dentatus lives in the southern and eastern parts of the United States and in warm climates such as Hawaii and Puerto Rico, but has been reported moving northward into Canada.⁶ Stephanurus dentatus has the capability of migrating to other parts of the body, most notably the liver. They cause emaciation, poor weight gain, ascites, abcesses, fibrosis and adhesions. Studies on swine infected with these worms show that they require 183 kg (404 lbs) more feed per pig and an additional 59 days to reach market weight.⁶ In studies done in North Carolina, FBZ was orally administered to sows in single doses of 10 or 15 mg/kg, and in doses of 2, 3 or 5 mg/kg daily for 3 days. On day 56 the sows were necropsied. While evidence of previous infections in the kidney, perirenal fat, adipose tissue and liver were found, no live mature or immature kidney worms were present.⁷

The most damaging parasite in swine is the roundworm, Ascaris suum. Ascaris suum is ubiquitous, appearing in as many as 100% of hogs examined in the United States. In 1962 it was estimated that A. suum caused a loss of \$200 million to the U.S. swine industry. One estimate put the annual egg production of A. suum at 700 tons with the annual worm production at 5000 tons.⁶ The reason for this tremendous output is the female's ability to lay 23 eggs per second, or 2 million eggs per day. These eggs are extremely resistant to environmental conditions and may remain viable for up to 6 years. Morphologically, though not physiologically, this species is the same as that found in man, in whom 25% of the worlds population is infected.⁸

Ascaris suum enters the pig when the 2nd stage larvae, which is still in the egg, is eaten. The eggs hatch in the intestine and the larvae migrate through the intestinal wall into the blood. They are then

carried to various organs of the body where they die or begin to mature. Two important organs are the liver and lungs. The larvae are carried to the liver where they mature. They may then migrate through the liver and be carried to the lungs where they can be coughed up and swallowed again. The larvae then lodge in the intestinal tract where they mature into egg laying adults. While eggs may hatch and larvae may migrate into most vertebrate hosts, they will only mature in an "appropriate" host which will supply the parasites living requirements.

There are two periods in which the ascarids exert an effect on swine: 1) When the larvae are migrating through the liver; and, 2) After the larvae have returned to the intestine to mature and lay eggs. During the migration period *A. suum* may cause white spots in the parenchyma of the liver. These may be of two different types depending on whether the larvae have stayed or have moved on through.

The two types of white spots are the granulation tissue-type and the lymphonodular type. The granulation tissue-type consists of a central lesion, intralobularly located, with a small (0.15 mm) granuloma containing larval remnants. The size of the spot depends on the length of time the larvae was in the area. A large spot is created when a larva gets stuck in a lobule exposing the surrounding area to its irritating action for a long period of time. Ascarid larvae are rarely found in the smaller spots. If the spot is fresh a mass of eosinophils may be seen surrounding the area. If an older spot there may be a caked mass of eosinophils with pyknotic nuclei.

The lymphonodular spots are large (1-5 mm) and firm consisting of lymphocytes and connective tissue forming a nodule around a larval remnant. In some of the older nodules the larvae found are dead and

morphologically altered; few eosinophils may be found. This may indicate that some of these older nodules are formed from older granulation-type tissue. Eventually (2 months) the white spots will regress. These white spots are causes of liver condemnations; an average of 2.1% of swine livers have been so condemned.

In lungs the migratory larvae may cause pneumonia (verminous), atelectasis, edema, hemorrhagic foci, and emphysema. Ascaris suum may also exacerbate other existing conditions, such as viral pneumonia.

Once the larvae have matured and started laying eggs in the intestine they will then compete with the host for available nutrition. Pigs infected with A. suum weighed 5 kg (11 lbs) after 3 months when compared to the control weight of 37 kg (82 lbs).⁶ The adult may gnaw at the mucosa producing irritations and lesions. They may migrate into the bile duct, stomach, gall bladder and large intestine. The migration seems related to the amount of food in each of the areas. These migrations cause other problems, such as stenosis of the bile ducts which may bring about rupture and death from peritonitis. Nervous signs and stunted growth may also occur. Young pigs seem to be more affected than older pigs. If they have been exposed when young, older pigs develop a resistance against ascarids.⁶ Fenbendazole was found to be 97-100% effective against A. suum when single oral doses of 7.5-25 mg FBZ/kg were employed. When given in doses of 3 or 5 mg/kg over a 3-day period it was found to be 99-100% effective.^{1,7,10,11}

Nodular worms (Oesophagostomum spp.) cause an estimated \$26 million annual loss in the United States. They are found in as many as 47% of the swine of some herds.^{3,12} Nodular worms generally reside in the large intestine and interfere with intestinal motility and food absorption.

They may produce intense inflammatory reactions which lead to the formation of nodules. Other effects include a mild toxemia, weakness, anemia, diarrhea, unthriftiness and even death. Unlike Ascaris spp. nodular worms affect older animals as much as or more than they affect young animals. Fenbendazole has been shown to virtually eliminate the adult stages of Oesophagostomum spp. when given at an oral dose of 5 mg/kg. Fenbendazole was less effective against immature stages of Oesophagostomum.¹³

Fenbendazole has also been shown to be effective against Hyostrogyles rubidus. At 3 mg/kg, 94% of these worms were expelled. Doubling of this dose resulted in the expulsion of 99% of the worms.^{1,13} FBZ has been less effective against Strongyloides ransomi and Metastrongylus spp.¹⁴ Trichuris suis is virtually eliminated when FBZ is given orally at 5 mg/kg for 3 days.⁷

In cattle FBZ has been used effectively against Ostertagia ostertagi, Haemonchus placei, Bunostomum phlebotum, Cooperia spp., and Oesophagostomum for both immature and adult stages at doses of 5-7 mg/kg (7.5 mg/kg is the recommended therapeutic dose).^{15,16}

Studies in horses have shown that FBZ is effective against Trichonema spp. and large and small species of strongyles. It has also been shown effective against Parascaris equorum and Oxyuris equi.^{17,18,19,20,21}

FBZ is effective against Toxocara canis, Ancylostomas caninum, Trichuris vulpis and Taenia hydatigena in the dog.^{22,23,24} In the cat FBZ is effective against Toxocara cati, Ancylostoma tubaeforme and Taenia taeniaeformis.²⁵

Domestic sheep studies show that FBZ is effective against Haemonchus contortus, Trichostrongylus colubriformis, Ostertagia circumcincta, Moniezia spp., Cooperia spp., Nematodirus filicollis and Strongyloides papillosus.^{26,27,28,29}

In Bighorn sheep FBZ is effective against adult lungworm (Protostrongylus spp.). It is one of the few anthelmintics that this animal will readily eat without rejecting it due to taste.³⁰

Fenbendazole is also effective against internal parasites in a wide variety of other animals both wild and domestic.^{14,30,31,32}

KINETICS

Radiolabeled FBZ studies in rats, sheep, dogs, pigs and rabbits have shown that absorption of FBZ from the digestive tract is generally slow.³³ Animals with single stomachs absorbed the drug more rapidly than animals with multi-chambered stomachs.^{34,35} Whether this is due to physical, biochemical or chemical differences is not known.

Approximately 1/3 of the FBZ is absorbed from the stomach in the pig.³³ Absorption of FBZ in pigs occurred rapidly (within 0.6 hours) after oral administration. In a study using 5 mg/kg of radiolabeled FBZ given orally to pigs, peak blood levels (0.86 ± 0.18 ug FBZ/ml) were reached 4 hours after dosing.³⁶ In another study using the same amount of chemically pure unlabeled FBZ, peak FBZ serum levels were lower (0.45 ± 0.10 ug FBZ/ml) and were reached later (10 ± 2 hours).³⁶ Peak blood levels (0.34 ± 0.09 ug FBZ/ml) in sheep weren't reached until 28 hours post-dosing (25% absorption).³⁴ Peak serum levels (0.58 ug FBZ/ml) weren't reached, in cattle, until 30 hours post-dosing.³⁴

When swine were given a single oral dose of 5 mg FBZ/kg, the excretory organs contained the highest amounts of FBZ. When tested 2

days post-dosing, the liver had 0.66 ppm FBZ and the kidney had 0.62 ppm. The drug was found in muscle at 0.24 ppm and in the fat at 0.22 ppm. A week after dosing residues of FBZ in kidney, muscle and fat were below detection limits (< 0.1 ppm). Residues in liver required 2 weeks after dosing before falling below the 0.1 ppm detection limit.

The half-life ($T_{1/2}$) of FBZ in serum following oral administration was 26 hours in sheep, 25 hours in cattle and 10 hours in swine.³⁴ The $T_{1/2}$ in sheep was reduced by almost 1/2 when the dose of FBZ was injected.^a When FBZ was injected into single stomach animals the $T_{1/2}$ was unaffected, thus suggesting that the rate of absorption in sheep is dependent upon which of the various stomachs contains the drug.

Most of the orally administered FBZ is eliminated via the feces. In studies using radiolabeled FBZ, orally administered, 50-60% of the label was found in the feces of swine. Of this 43% was the parent compound, while the remainder consisted of 5 unidentified metabolites.^b A later study identified one of the fecal metabolites as a sulfoxide derivative of FBZ.^c The urine contained 30-35% of the radioactivity. Only 1% of the total administered FBZ compound was parent compound; the rest were 6 different metabolites, the chief one being 5-(-hydroxyphenylthio)-benzimidazole-2-carbamate.³³ Identification of all the metabolites in

^aKellner H, Christ O: Pharmacokinetic examinations after oral administration of Hoe 881 in sheep, dogs, rabbit and rats. Unpublished data. Hoechst-Roussel Pharmaceuticals Inc., Sommerville, NJ, 1975.

^bKlopffer G: Metabolism of Panacur in the pig: Quatitative metabolite pattern. Unpublished data. Hoechst-Roussel Pharmaceuticals Inc, Sommerville, NJ, 1975.

^cSummary of currently available unpublished data from toxicity studies. Hoechst-Roussel Pharmaceuticals Inc, Sommerville, NJ, 1978.

urine and feces remains to be completed. The urine and fecal metabolites in swine appear to have the same characteristics as in other animals.³³

The rapidity with which FBZ leaves the animal is important when considering its use in food animals because of concern with residues.

SYSTEMIC TOXICITY

The systemic toxicity of FBZ is low. No LD₅₀ has been able to be established for the pig or any other animal because of physical limitations. The pig has tolerated 5000 mg/kg without effect. In rats and mice the oral LD₅₀ is thought to be greater than 10,000 mg/kg.^{1,2} Sheep have tolerated 5000 mg/kg with out clinical reactions. Pigeons dosed with 400 mg/kg have shown no signs of toxicity.¹⁴

Acute toxicity studies in the pig have revealed only transient changes from normal baseline biochemical parameters. At doses of 500, 1600 and 5000 mg/kg respectively given for 1 day each, SGOT levels were slightly elevated the 3rd day after the last administration of FBZ.¹⁴ Sorbitol dehydrogenase (SDH) activity was elevated for 7 days following the administration of 75 or 125 mg/kg, respectively, for 5 days. A dose-related leukopenia involving lymphocytes and neutrophils, occurred in pigs given 75 or 125 mg/kg, respectively, for 5 days. This increase developed on day +7 and continued to day +15. There were no significant lesions in any of the animals.³⁷

Since the mode of anthelmintic action appears to be the inhibition of glucose uptake and glycogen breakdown it is of interest to note that there have been no effects of FBZ on blood glucose levels of the

host.^{37,d} The carbamate moiety of this anthelmintic has not produced a decrease in cholinesterase activity.^{37,d}

Acute toxicity studies in sheep fed single doses of 75 mg FBZ/kg have shown an increase in SGOT, alkaline phosphatase, GDH and SDH for 3 days post-dosing. Higher levels of 500, 1600 or 5000 mg FBZ/kg have been associated with increases in SGOT, SGPT, GDH and SDH.^c In sheep given 5, 15 or 45 mg/kg for 30 days myocardial lesions were noted in some animals in the 45 mg group. In all dose groups a dose-dependent fat free vacuolization of the liver parenchyma was noted.¹⁴

No chronic (90 days or more) studies have been reported in swine. Chronic studies with rats at doses up to 25 mg/kg have not produced any significant deviations from the parameters of normal control populations.^{1,14} Dogs given 20, 50 or 125 mg FBZ/kg for 90 days also had no significant deviations from control values.^c

REPRODUCTIVE TOXICITY

Unlike some other members of the benzimidazole family, FBZ has shown little reproductive toxicity.^{38,39,40,c} Rats given daily oral doses of up to 2500 mg FBZ/kg from the 7th through 16th day of gestation had fetuses with no intrauterine developmental damage.^c In sheep treated orally with 15 mg FBZ/kg 4 times at 3-week intervals during various stages of pregnancy, no reproductive effects were found.^c No evidence of FBZ-induced teratogenicity has been found in any of the species in which FBZ has been tested.^{38,39,40,41} However, one of the metabolites of FBZ, a sulfoxide found in the milk of cows treated with FBZ, is teratogenic in the rat and sheep.⁴²

^dBooze T, Oehme F: Safety evaluation of fenbendazole in swine. Unpublished data, 1980.

The offspring of rabbits given daily oral doses of 10, 25 or 63 mg FBZ/kg from the 7th to the 19th day of gestation had decreased survivability in the 63 mg group when compared to the control group. No abnormalities were noted at the various stages of fetal development.^C

Rams dosed once with 50 mg FBZ/kg or once a month for 4 months with 15 mg FBZ/kg had no significant variations or abnormalities in semen.^C Ewes undergoing the same dosage regimen had no decreased fertility or other reproductive functions.^C

Twenty-four stallions ranging in age from 2-16 years given single oral doses of 20 mg FBZ/kg failed to show any significant effects on semen, testes, spermatogenesis or testosterone level.^C Pregnant mares given single doses of 10 mg/kg or 25 mg FBZ/kg, produced foals free from abnormalities born 1 to 121 days after treatment.^C

MISCELLANEOUS SAFETY STUDIES

Administration of 10 mg FBZ/kg into the trachea of sheep produced slightly elevated temperatures, increased respiratory frequencies and spontaneous cough for 2-3 days post-dosing. All signs disappeared without treatment. The recommended dose (5 mg FBZ/kg) did not produce any clinical effects.¹⁴

Fenbendazole was found to have no effects on motor activity, hexabarbital anesthesia, pain perception or convulsive activity in mice.^C

No anti-inflammatory, inflammatory, pyretic, anti-pyretic or diuretic activity was produced in rats receiving FBZ.^C

Five human males were given a dose of 3.8 mg FBZ/kg after breakfast and neither subjective nor objective side effects could be determined. The same held true for 6 males given 7.5 mg FBZ/kg 12 hours after a meal.^C

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SAFETY EVALUATION OF FENBENDAZOLE IN SWINE: III

by

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ABSTRACT

Thirty 25-kg female pigs were given fenbendazole (FBZ) in feed for 3 days to test the safety of the drug. The doses used were 0, 3, 9, 15 and 25 mg FBZ active ingredient/kg of body weight. Blood and urine were collected every other day 10 days prior to, 3 days during, and 10 days after dosing. Blood chemistry, hematology and urinalysis were evaluated. All pigs were sacrificed on day +13 following initiation of dosing, and gross and microscopic pathology examinations were performed. Bone marrow cytology was determined.

There were no significant differences between groups in any of the values measured during any phase of the experiment. This study indicated no significant drug-related effects in physical observation, blood chemistry, hematology, urinalysis, gross and microscopic pathology, or bone marrow cytology when FBZ was administered to pigs at doses of up to 25 mg/kg for 3 days.