C. H. M., Jr.

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NINETY-DAY FEEDING STUDY IN RATS AND DOGS WITH ZONYL® RP

Medical Research Project No. 1491

HASKELL LABORATORY FOR TOXICOLOGY
AND INDUSTRIAL MEDICINE

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This feeding study was performed by Mrs. Kathleen Carroll under the direction of Dr. Henry Sherman. The clinical laboratory and biochemistry tests were performed by Mrs. Louise L. Adams, Mr. Norman W. Henry, III, Mr. John R. Pennington, Jr., and Miss Adele M. Pochomis under the direction of Dr. John R. Barnes. Gross pathology and preparation of slides were carried out by Dr. Rudolf Culik, Dr. K. P. Lee, Mr. August H. Stenholm, Mr. William I. Swan, Mr. Francis Ulmer, Mr. Anthony T. DiLorenzo, Mrs. Jean A. Houck and Mrs. Joan A. Dimeler under the direction of Dr. James G. Aftosmis. Histopathologic evaluation of the tissues was conducted by Dr. Edwin F. Stula under Dr. Aftosmis' direction.

NINETY-DAY FEEDING STUDY IN RATS AND DOGS WITH ZONYL® RP

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SUMMARY

Zonyl® RP has been fed to rats and dogs for ninety days at dietary levels of 0, 500, 750, and 2,500 ppm. No nutritional or clinical signs of toxicity were observed in rats or dogs on any of the test levels.

Rats receiving the intermediate and highest dietary levels of Zonyl® RP showed lower erythrocyte counts, hemoglobin concentrations and hematocrits than those of the controls; those receiving the highest dietary level also showed a slightly higher incidence of hematuria and proteinuria. Male rats receiving the two higher dietary levels of Zonyl® RP showed slightly larger liver and kidney weights and higher organ/body weight ratios than did the controls or other test group; all female test rats had higher kidney weights and kidney/body weight ratios whereas the female rats on the highest dietary level also had greater liver weights and liver/body weight ratios. Of all the organs examined histologically, only the livers, and only those from the male animals receiving 2,500 ppm Zonyl® RP, showed changes, and these were considered to be reversible.

Dogs receiving the highest dietary level of Zonyl® RP had lower erythrocyte counts, hemoglobin concentrations and hematocrit values than did the controls. Alkaline phosphatase activities were elevated in the dogs in all test groups, whereas cholesterol values were higher in dogs receiving 750 and 2,500 ppm Zonyl® RP. The livers of the dogs from all three test groups were heavier than those from the control dogs. The liver was the only organ of those examined that exhibited histologic changes and this was confined to those coming from the highest level group.

Thus, the results of this ninety-day feeding study and those of the previous one support only 100 ppm as a "no-effect" level for Zonyl® RP.

A. RATS

PROCEDURE

Fifty male and 50 female weanling albino rats (ChR-CD) were housed in pairs, sexes separate, in suspended stainless steel wire cages and fed ground Purina Laboratory Chow (GPLC) with 1% corn oil (CO) added. During a pre-test period of five days, the animals were observed with respect to food consumption, eating habits, and weight gain. They were divided into four equal average-weight groups of 10 male and 10 female rats each at the end of this period on the basis of weight gain and freedom from gross respiratory disorders or other clinical signs of disease. The groups were then assigned at random to receive the following diets:

Group	Computer Groups	Diet
I (Control)	(1 and 2)	GPLC + 1% CO
II	(3 and 4)	GPLC + 1% CO + 500 ppm Zonyl® RP
III	(5 and 6)	GPLC + 1% CO + 750 ppm Zonyl® RP
IV	(7 and 8)	GPLC + 1% CO + 2,500 ppm Zonyl® RP

The highest dietary level (2,500 ppm) had been suggested by the FDA to act as a bridge between the present study and the one conducted earlier under MRO-840. The test material was added as active ingredient, Zonyl® RP, present in the slurry at a 35% concentration. An amount of water was added to the control diet equivalent to that contributed by the 35% aqueous slurry to the diet in Group IV. Diets were prepared fresh each week and stored at refrigerator temperature until used.

The animals were weighed once a week during the entire study. Food consumption data were obtained on a group and sex basis at the times the animals were weighed.

During the test, the animals were examined routinely for any abnormal behavior and any clinical manifestations of toxicity.

Hematological, urine and biochemical analyses were conducted on ten male and ten female rats from each group after they had been on their respective diets for one, two, and three months. Hematological evaluations included an erythrocyte count, a measure of hemoglobin concentration, a measure of the hematocrit, and a total and differential white blood cell count. Urine analysis consisted of a measure of the 24-hour urine volume, concentration in milliosmoles and creatinine, a test for sugar, blood, protein, and urobilinogen, and an observation of the color, appearance, and pH. Specimens with a negative test for blood were combined to form two pools of urine for each group and the sediment from these pools examined microscopically. All specimens with a positive test for blood were examined separately. In the biochemical tests, to measure liver function, alkaline phosphatase and glutamic-pyruvic transaminase activities and bilirubin concentration were measured in blood taken from the tails of 10 males and 10 females in each group.

A. RATS (Continued)

PROCEDURE (Continued)

After 91-98 days of continuous feeding, all the animals in each group were sacrificed by $CHCl_3$ administration. The following organs were weighed: brain, heart, lungs, liver, spleen, kidney, testis, stomach, adrenal, and pituitary. Organs or tissues, preserved in formalin and stained with hematoxylin-eosin, included, in addition to those listed above, the following: eye, exorbital lacrimal gland, sciatic nerve, skin, mammary gland, bone marrow, lymph node, skeletal muscle, trachea, aorta, salivary gland, esophagus, colon, cecum, duodenum, urinary bladder, prostate and seminal vesicles, uterus, Fallopian tubes, ovary, thyroid, parathyroid, and thymus. The above tissues from the control and highest level group (2,500 ppm) were evaluated histopathologically; only the livers from the animals in the other two test groups were examined histopathologically.

RESULTS

1. Weight Gain

Average body weight curves for control and test groups of animals are plotted in Figure 1; average body weights and average weight gains are summarized in Tables I, II, V and VI.

The presence of 2,500 ppm Zonyl® RP in the diet of male and female rats did not adversely affect their rate of weight gain.

2. Food Consumption

A summary of the average daily food consumption data, computed as grams ingested per rat for each group, is presented in Tables III, IV and V.

There were no meaningful differences among the control and test groups with respect to the amount of food they consumed over the entire test.

3. Food Efficiency

Food efficiency data, calculated as gram weight gain per gram of food consumed, are presented in Tables III-V.

There were no meaningful differences among control and test groups with respect to food efficiency.

A. RATS (Continued)

RESULTS (Continued)

4. Dose

The average daily ingestion of test material during each week was calculated in milligrams of Zonyl® RP per kilogram of body weight; these data are presented in Table VI.

The decline in the average dose of test material received by animals observed in this study is normal and typical of that observed in most feeding studies where rapidly growing animals are used initially and the concentration of test material is kept constant throughout the test.

5. Clinical Observations

None of the test animals in any of the three test groups exhibited any clinical signs of toxicity during the entire test that could be attributed to the test material.

6. Mortality

None of the animals in the control and test groups died during the entire feeding study.

7. Hematology

The results of the periodic hematological examinations conducted on rats fed the various levels of Zonyl® RP and their controls are summarized in Table VII.

The erythrocyte count, hemoglobin concentration and hematocrit of the rats fed Zonyl® RP were lower than those of the controls at 750 ppm and above. A one-way analysis of variance showed that the treatment with Zonyl® RP had a significant effect on these measurements. The values for these measurements, observed in the males but not the females fed 750 ppm Zonyl® RP, were significantly ($p < 0.05$) lower than those for the controls. Both sexes were affected by a level of 2,500 ppm in the diet. The calculated hematologic indices, mean corpuscular volume (MCV) and mean corpuscular hemoglobin (MCH) indicated that the erythrocytes of the rats fed 2,500 ppm Zonyl® RP were macrocytic and hypochromic. There were no effects on the number or distribution of leucocytes.

A. RATS (Continued)

RESULTS (Continued)

8. Urinalysis

The results of the periodic urine analyses conducted on rats fed various levels of Zonyl® RP are summarized in Table VIII.

A slightly higher incidence of hematuria and proteinuria occurred in the rats fed 2,500 ppm Zonyl® RP than in the other groups. All other measurements and observations made on the urine of the treated rats did not differ from those of the controls.

9. Biochemistry

The results of the periodic biochemical measurements conducted on the blood of rats fed various levels of Zonyl® RP are summarized in Table IX.

No effect on any of the biochemical measurements was found that could be related to the presence of the Zonyl® RP in the diet.

10. Pathology

A summary of the average weights of select organs taken from the control and test groups is presented in Table X; organ/body weight ratios are summarized in Table XI.

Among the test groups, male animals receiving the intermediate and high levels of Zonyl® RP showed higher average liver and kidney weights; both liver/body weight and kidney/body weight ratios were also slightly greater in these groups. Among the female test groups, all showed higher average kidney weights and kidney/body weight ratios than did the controls; average liver weights and liver/body weight ratios were slightly greater in the animals receiving 2,500 ppm Zonyl® RP than in the other test groups or the control.

A summary of the histopathologic findings is presented in Table XII, where 0 = no abnormalities detected, + = slight degree of lesion present, ard X = organ not on slide.

Test chemical-related histopathologic effects were found only in the livers of male rats fed the highest (2,500 ppm) dietary level of Zonyl® RP. Examination of the livers from rats that received the two lower levels of the test chemical did not reveal any compound-related effects.

A. RATS (Continued)

RESULTS (Continued)

10. Pathology (Continued)

The liver changes observed in the males in the highest dietary level group consisted of fatty change, cytomegaly, and cytoplasmic hyaline droplets. This type of liver change is considered to be reversible.

B. DOGS

PROCEDURE

During a pre-test period of approximately one month, 16 male and 16 female beagle dogs, 9 to 14 months old, were given Wayne Dog Krums® and water ad libitum between 3:00 p.m. and 7:00 a.m. Animals were examined daily for any abnormal behavior and any clinical manifestations of toxicity. During this period, specimens of blood and urine were collected from each dog twice for clinical laboratory examinations. The tests included in these examinations are listed below:

Hematology: Erythrocyte count, hemoglobin concentration, hematocrit, total and differential leucocyte count.

Urinalysis: An observation of color, appearance and pH; a measure of the 24-hour urine volume, creatinine, and osmolality; a test for sugar, blood, protein, acetone, urobilinogen, and bilirubin; a microscopic examination of the sediment.

Biochemistry: Glucose, urea-nitrogen, creatinine, cholesterol, alkaline phosphatase, glutamic-pyruvic transaminase, bilirubin, total protein, albumin, and albumin/globulin ratio

Four males and four females were allocated to each of the four groups on the basis of normal clinical and nutritional evaluations and assigned at random to receive the following diets:

Group	Diet
I (Control)	Wayne Dog Food (Krums®)
II	Krums® + 500 ppm Zonyl® RP
III	Krums® + 750 ppm Zonyl® RP
IV	Krums® + 2,500 ppm Zonyl® RP

Diets were prepared fresh each week. Diet was offered ad libitum to the dogs between 3:00 p.m. and 7:00 a.m.; water was available at all times.

B. DOGS (Continued)

PROCEDURE (Continued)

Diet consumption and body weight data were obtained each week and calculations were made to determine the approximate daily dose each week of Zonyl® RP per kilogram of body weight. Animals were examined daily for any clinical signs of toxicity.

The same clinical laboratory examinations made during the pre-test period were conducted on each dog after one, two, and three months of feeding.

After 98-105 days of continuous feeding, all dogs were sacrificed by electrocution and submitted to gross and histopathologic evaluation. Organ weights were obtained for the following: brain, heart, lungs, liver, spleen, pancreas, kidney, testis, prostate, stomach, thymus, adrenals, pituitary, and thyroid. Organs and tissues were preserved in formalin and stained with hematoxylin-eosin; these included, in addition to those mentioned above, the following: epididymis, Fallopian tubes, aorta, esophagus, uterus, ovary, duodenum, cecum, mammary gland, urinary bladder, spinal cord, trachea, salivary gland, bone marrow, lymph node, colon, sciatic nerve, skeletal muscle, eye, and skin. All tissues taken from the dogs on the control diet and highest test level diet were evaluated histologically; only the livers from the animals receiving the low and intermediate levels of Zonyl® RP were examined histologically. The livers from the control and highest level dogs were stained with Oil Red O.

RESULTS

1. Body Weight

The weekly body weight data of the individual dogs are presented in Tables XIII and XIV.

All dogs, control and test, showed normal body weight gains during the study.

2. Diet Consumption

Values calculated for average daily diet consumption for each dog are presented in Tables XV and XVI.

The amount of diet consumed by each dog varied from week to week. However, there was no adverse effect by the test material upon diet intake.

3. Dose

The average daily intake of Zonyl® RP in milligrams per kilogram of body weight was calculated for each dog; these results are presented in Tables XVII and XVIII.

RESULTS (Continued)

3. Dose (Continued)

Since the body weights of most of the dogs remained relatively constant throughout the test, the dose of Zonyl® RP received by each treated dog each week fluctuated with diet intake.

4. Clinical Signs

Regular examination disclosed no clinical changes in any of the test dogs that could be attributed to the feeding of Zonyl® RP.

All dogs survived the 90-day feeding period without incident.

5. Hematology

The results of the hematological measurements conducted throughout the feeding study are summarized in Table XIX; the numbersrepresent average values obtained during pretreatment and treatment periods. Individual values are presented in Appendix I.

The erythrocyte count, hemoglobin concentration, and hematocrit of the dogs fed 2,500 ppm Zonyl® RP were generally lower than those of the other dogs, control and test, during treatment. A one-way analysis of variance indicated that the treatment with Zonyl® RP significantly affected the hemoglobin concentration and hematocrit, whether expressed as grams of hemoglobin per 100 ml and percent of packed cells, or as the change from the pre-test observation for these measurements.

6. Urinalysis

The results of the urine analysis measurements conducted throughout the feeding study are summarized in Table XX; the numbers represent average values obtained during the pretreatment and treatment periods. Individual values are presented in Appendix I.

No effect attributable to the addition of Zonyl® RP to the dogs' diet was found in any of the measurements or observations made on the urine.

7. Biochemistry

The results of the biochemical measurements conducted throughout the feeding study are summarized in Table XXI; the figures recorded represent average values obtained during the

RESULTS (Continued)

7. Biochemistry (Continued)

pretreatment and treatment periods. Individual values are presented in Appendix I.

There was no effect on the glucose, urea-nitrogen, creatinine, transaminase, bilirubin, or plasma protein values. A one-way analysis of variance, however, showed that the total cholesterol and alkaline phosphatase activity of the dogs fed Zonyl® RP were significantly affected by the treatment. The alkaline phosphatase activity of the dogs fed the lowest dose, 500 ppm Zonyl® RP, was elevated significantly ($p < 0.05$). Both alkaline phosphatase and cholesterol values were elevated in the dogs fed 750 ppm and 2,500 ppm Zonyl® RP. This effect occurred after one month, was maximum at two months, and then stabilized, or decreased slightly, at three months. The effect was significant for the relative change from the pre-exposure, expressed as a percent, as well as for the increase in Bessey units (alkaline phosphatase) or mg % (cholesterol) for the Zonyl® RP treated dogs.

8. Pathology

The individual organ weights of the dogs sacrificed after three months' feeding of Zonyl® RP are presented in Tables XXII and XXIII.

The small group sizes and large variation do not permit a complete statistical analysis of the liver weights. However, a variance analysis of liver/body weight ratios indicates that there was a difference between control and test groups with respect to this ratio, a heavier liver being the effect of treatment. This is summarized in Table XXIV, where mean values are recorded. It would appear that the livers of all three groups, i.e., low, intermediate, and high dietary levels of Zonyl® RP, were affected by the presence of Zonyl® RP in the diet.

A summary of the histopathologic findings is presented in Tables XXV-XXVIII.

The livers from the highest level of feeding were pale and had rounded edges with a tight capsule. Histologically, the liver from the dogs in the highest level of feeding (2,500 ppm Zonyl® RP) was the only organ affected. The liver changes were difficult to detect. They consisted of a slight enlargement of hepatocytes (hypertrophy) together with an uneven distribution of cytoplasmic particles (degeneration). Examination of the livers from control and high level dogs stained with Oil Red O did not reveal an increase of lipid.

RESULTS (Continued)

8. Pathology (Continued)

No compound-related abnormalities were detected in the livers of the dogs receiving 500 and 750 ppm Zonyl® RP.

DISCUSSION

In the previously-reported ninety-day feeding study in rats and dogs (MRO-840), the lowest level fed, 100 ppm, was considered the "no-effect" level. The other two levels, 500-1,000 ppm and 2,500-5,000 ppm, did produce changes in both rats and dogs. In rats, this consisted of hematological changes at 2,500-5,000 ppm, increased liver and kidney weights at 500-1,000 ppm and 2,500-5,000 ppm levels, and pale yellowish livers in some male rats at the mid and highest levels; histologic changes were observed in only the livers from the highest level, 2,500-5,000 ppm. In dogs, plasma cholesterol and alkaline phosphatase were elevated in those fed 2,500-5,000 ppm Zonyl® RP, suggesting liver damage. Liver weights were increased at the middle and highest dietary levels; histologic changes were observed in only the livers of dogs receiving the highest dietary level.

The present study confirms the results obtained earlier. There does not appear to be a "no-effect" level in this present study, since increased liver and kidney weights were observed at the lowest dietary level in rats and since increased alkaline phosphatase activity and increased liver weights were observed in the lowest level in the dogs.

Thus, the results of this ninety-day feeding study and those of the previous one support only 100 ppm as a "no-effect" level for Zonyl® RP.

SUMMARY

Zonyl® RP has been fed to rats and dogs for ninety days at dietary levels of 0, 500, 750, and 2,500 ppm. No nutritional or clinical signs of toxicity were observed in rats or dogs on any of the test levels.

Rats receiving the intermediate and highest dietary levels of Zonyl® RP showed lower erythrocyte counts, hemoglobin concentrations and hematocrits than those of the controls; those receiving the highest dietary level also showed a slightly higher incidence of hematuria and proteinuria. Male rats receiving the two higher dietary levels of Zonyl® RP showed slightly larger liver and kidney weights and higher organ/body weight ratios than did the controls or other test group; all female test rats had higher kidney weights and kidney/body weight ratios whereas the female rats on the highest dietary level also had greater liver weights and liver/body weight ratios. Of all the organs examined histologically, only the livers, and only those from the male animals receiving 2,500 ppm Zonyl® RP, showed changes, and these were considered to be reversible.

Dogs receiving the highest dietary level of Zonyl® RP had lower erythrocyte counts, lower hemoglobin concentrations, and hematocrit values

SUMMARY (Continued)

than did the controls. Alkaline phosphatase activities were elevated in the dogs in all test groups, whereas cholesterol values were higher in dogs receiving 750 and 2,500 ppm Zonyl® RP. The livers of the dogs from all three test groups were heavier than those from the control dogs. The liver was the only organ of those examined that exhibited histologic changes and this was confined to those coming from the highest level group.

Thus, the results of this ninety-day feeding study and those of the previous one support only 100 ppm as a "no-effect" level for Zonyl® RP.

BODY WEIGHTS OF MALE & FEMALE RATS FED VARIOUS LEVELS OF ZONYL® RP

MR 1491

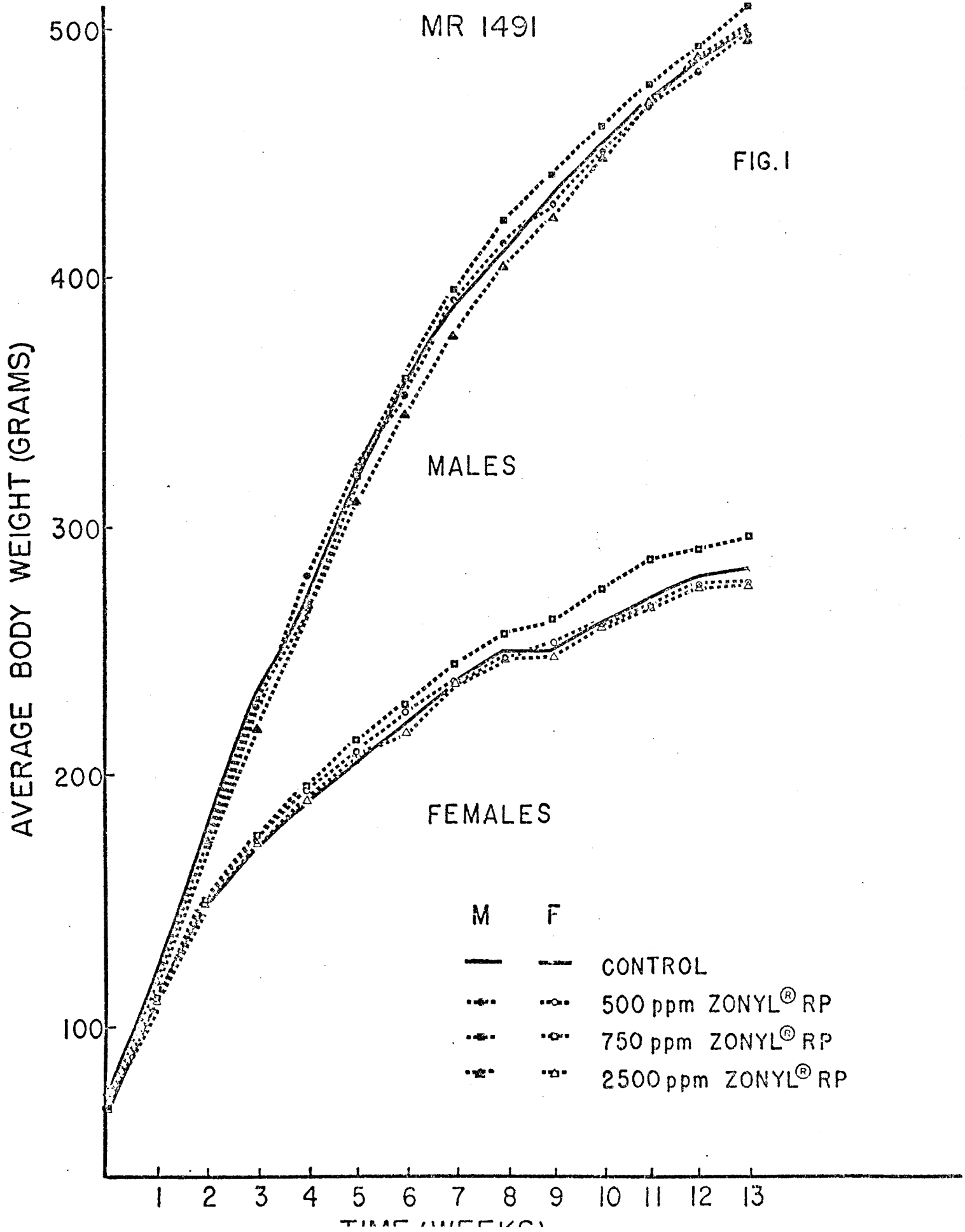

FIG. 1

TABLE I

AVERAGE BODY WEIGHTS AND AVERAGE WEIGHT GAINS OF MALE RATS FED VARIOUS LEVELS OF ZONYL® RP

Days on Test	Group I Control	Zonyl® RP Group II 500 ppm	Group III 750 ppm	Group IV 2,500 ppm
		Average Body Weight (gm)		
0	70	69	69	68
7	123	120	119	117
14	179	174	172	168
21	233	227	229	221
28	266	280	267	267
35	321	323	320	310
42	358	358	358	345
49	388	390	396	377
56	411	413	423	404
63	432	431	441	423
70	452	451	461	448
77	472	470	478	471
84	487	482	492	489
91	500	497	510	495
		Average Weight Gain (gm)		
0- 7	53	51	50	49
7-14	56	54	53	51
14-21	54	53	57	53
21-28	33	53	38	46
28-35	55	43	53	33
35-42	37	35	38	35
42-49	30	32	38	32
49-56	23	23	27	27
56-63	21	18	18	19
63-70	20	20	20	25
70-77	20	19	17	23
77-84	15	12	14	18
84-91	13	15	18	6

TABLE II

AVERAGE BODY WEIGHTS AND AVERAGE WEIGHT GAINS OF FEMALE RATS FED VARIOUS LEVELS OF ZONYL® RP

Days on Test	Group I Control	Zonyl® RP Group II 500 ppm	Group III 750 ppm	Group IV 2,500 ppm
		Average Body Weight (gm)		
0	69	70	70	70
7	113	114	110	112
14	147	148	149	150
21	170	173	175	176
28	189	194	196	195
35	205	208	214	208
42	220	225	228	217
49	238	236	244	236
56	250	247	257	246
63	250	253	262	247
70	259	260	273	261
77	270	268	286	267
84	279	276	290	275
91	282	277	295	276
		Average Weight Gain (gm)		
0- 7	44	44	40	42
7-14	35	34	39	38
14-21	22	25	26	26
21-28	19	21	21	19
28-35	16	14	18	13
35-42	15	17	14	9
42-49	18	11	16	19
49-56	12	11	13	10
56-63	0	6	5	1
63-70	9	7	11	14
70-77	11	8	13	6
77-84	9	8	4	8
84-91	3	1	5	1

TABLE III

AVERAGE DAILY FOOD CONSUMPTION AND FOOD EFFICIENCY OF MALE RATS FED VARIOUS LEVELS OF ZONYL® RP

Days on Test	Group I Control	Zonyl® RP Group II 500 ppm	Group III 750 ppm	Group IV 2,500 ppm
	Average Daily Food Consumption (gm)			
0- 7	14.9	14.8	14.0	14.1
7-14	20.1	18.4	18.5	18.2
14-21	19.4	20.7	21.1	20.1
21-28	23.3	24.3	23.3	23.1
28-35	25.0	22.1	25.5	24.8
35-42	25.4	25.8	25.8	25.4
42-49	24.4	25.2	26.1	25.6
49-56	25.6	25.7	25.8	26.1
56-63	25.6	25.5	25.8	24.2
63-70	24.4	24.9	25.9	26.1
70-77	24.5	24.5	25.9	27.9
77-84	25.0	24.7	26.3	27.4
84-91	23.8	23.1	25.4	25.4
	Gram Weight Gain/Gram Food Consumed			
0- 7	0.51	0.50	0.51	0.49
7-14	0.40	0.42	0.41	0.40
14-21	0.40	0.37	0.38	0.38
21-28	0.20	0.31	0.23	0.28
28-35	0.31	0.28	0.30	0.25
35-42	0.21	0.19	0.21	0.19
42-49	0.18	0.18	0.20	0.18
49-56	0.13	0.13	0.15	0.15
56-63	0.11	0.10	0.10	0.11
63-70	0.12	0.11	0.11	0.14
70-77	0.11	0.11	0.09	0.12
77-84	0.09	0.07	0.08	0.09
84-91	0.08	0.09	0.10	0.03

TABLE IV

AVERAGE DAILY FOOD CONSUMPTION AND FOOD EFFICIENCY OF FEMALE RATS FED VARIOUS LEVELS OF ZONYL® RP

Days on Test	Group I Control	Zonyl® RP Group II 500 ppm	Group III 750 ppm	Group IV 2,500 ppm
	Average Daily Food Consumption (gm)			
0- 7	13.5	14.0	13.0	13.1
7-14	16.1	16.9	16.0	15.9
14-21	12.9	16.8	15.6	14.7
21-28	17.0	18.2	17.3	17.4
28-35	17.6	16.9	17.2	16.9
35-42	17.8	19.1	18.1	17.3
42-49	18.2	17.7	18.8	18.1
49-56	18.8	20.4	19.1	18.9
56-63	21.2	20.6	18.3	18.2
63-70	16.2	17.6	17.3	17.3
70-77	18.2	19.2	20.2	18.9
77-84	18.5	19.0	18.6	18.3
84-91	17.0	16.9	17.9	16.5
	Gram Weight Gain/Gram Food Consumed			
0- 7	0.46	0.45	0.44	0.46
7-14	0.31	0.29	0.35	0.34
14-21	0.24	0.21	0.24	0.25
21-28	0.16	0.16	0.17	0.16
28-35	0.13	0.12	0.15	0.11
35-42	0.12	0.13	0.11	0.08
42-49	0.14	0.09	0.12	0.15
49-56	0.09	0.08	0.10	0.08
56-63	-	0.04	0.04	0.01
63-70	0.08	0.06	0.09	0.11
70-77	0.08	0.06	0.09	0.05
77-84	0.07	0.06	0.03	0.06
84-91	0.02	0.01	0.04	0.01

TABLE V

AVERAGE WEIGHT GAIN, FOOD CONSUMPTION, AND FOOD EFFICIENCY DATA, CALCULATED AT APPROXIMATELY MONTHLY INTERVALS, OF MALE AND FEMALE RATS FED VARIOUS LEVELS OF ZONYL® RP

		MALES			FEMALES		
Group	Days on Test	Weight Gain (gm)	Food Consumption (gm)	Food Efficiency	Weight Gain (gm)	Food Consumption (gm)	Food Efficiency
I (Control)	0-28	196	544	0.36	120	417	0.29
	28-56	145	703	0.21	61	507	0.12
	56-91	89	863	0.10	32	637	0.05
	Total	430	2110	0.20	213	1561	0.14
II (500 ppm Zonyl® RP)	0-28	211	548	0.38	124	461	0.27
	28-56	133	692	0.19	53	519	0.10
	56-91	84	859	0.10	30	654	0.05
	Total	428	2099	0.20	207	1634	0.13
III (750 ppm Zonyl® RP)	0-28	198	539	0.37	126	434	0.29
	28-56	156	723	0.22	61	512	0.12
	56-91	87	905	0.10	38	647	0.06
	Total	441	2167	0.20	225	1593	0.14
IV (2500 ppm Zonyl® RP)	0-28	199	529	0.38	125	428	0.29
	28-56	137	713	0.19	51	499	0.10
	56-91	91	917	0.10	30	625	0.05
	Total	427	2159	0.20	206	1552	0.13

TABLE VI

AVERAGE DAILY INTAKE OF ZONYL® RP

Average Dose in Milligrams/Kilogram/Day

Days on Test	Group I Control	Zonyl® RP Group II 500 ppm	Zonyl® RP Group III 750 ppm	Zonyl® RP Group IV 2,500 ppm
		MALES		
0- 7	-	78	112	382
7-14	-	63	95	319
14-21	-	52	79	259
21-28	-	48	70	237
28-35	-	37	65	215
35-42	-	38	57	194
42-49	-	34	52	177
49-56	-	32	47	167
56-63	-	30	45	144
63-70	-	28	43	149
70-77	-	27	41	152
77-84	-	26	41	142
84-91	-	24	38	129
		FEMALES		
0- 7	-	76	108	361
7-14	-	65	92	303
14-21	-	52	72	226
21-28	-	50	70	234
28-35	-	42	63	209
35-42	-	44	61	204
42-49	-	38	60	200
49-56	-	42	57	196
56-63	-	41	53	185
63-70	-	34	48	170
70-77	-	36	53	179
77-84	-	35	49	169
84-91	-	31	46	150

TABLE VII

SUMMARY OF HEMATOLOGIC MEASUREMENTS ON RATS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES Months on Test			FEMALES Months on Test		
		1	2	3	1	2	3
Erythrocytes x 10^6/mm^3	0	5.98	6.14	6.38	5.87	4.65	6.04
	500	-	5.65	5.70	-	5.38	5.66
	750	5.64	5.39	6.12	5.86	4.33	5.93
	2,500	5.58	4.92	5.27	5.94	4.18	5.17
Hemoglobin gm/100 ml	0	14.9	15.6	16.7	15.4	13.5	16.6
	500	-	15.6	15.2	-	15.1	15.9
	750	13.9	14.5	15.6	15.2	12.1	16.2
	2,500	13.3	13.7	15.5	14.9	11.8	15.3
Hematocrit %	0	43	45	49	44	37	46
	500	-	43	43	-	43	44
	750	39	42	45	41	33	45
	2,500	38	39	44	41	32	42
Leucocytes x 10^3/mm^3	0	13.4	13.2	12.6	10.8	10.5	7.1
	500	-	12.4	10.7	-	9.3	7.3
	750	12.9	14.1	12.3	10.2	10.6	8.9
	2,500	13.7	15.9	14.5	14.4	14.2	10.1
Neutrophils %	0	22	19	18	20	22	20
	500	-	22	23	-	17	20
	750	26	21	22	21	21	19
	2,500	25	19	21	19	19	21
Lymphocytes %	0	75	77	79	77	74	76
	500	-	75	75	-	80	77
	750	72	75	75	76	75	78
	2,500	73	79	76	78	77	75

TABLE VII (Continued)

SUMMARY OF HEMATOLOGIC MEASUREMENTS ON RATS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES Months on Test			FEMALES Months on Test		
		1	2	3	1	2	3
Monocytes %	0	1.0	0.9	0.1	0.3	1.0	0.5
	500	-	0.6	0.6	-	0.1	0.7
	750	1.5	0.4	0.1	1.0	0.9	0.5
	2,500	1.4	0.5	0.5	0.9	1.2	0.8
Eosinophils %	0	2.0	2.4	2.5	2.5	4.7	3.5
	500	-	2.3	2.1	-	2.7	2.7
	750	1.1	3.2	2.8	2.2	3.2	2.4
	2,500	1.4	2.2	2.9	2.1	3.2	3.4
Basophils %	0	0.1	0	0	0	0	0.1
	500	-	0.1	0.1	-	0	0
	750	0.1	0.1	0	0.1	0.1	0
	2,500	0	0	0.1	0	0.1	0.1
Atypical Cells %	0	0	0	0	0	0	0
	500	-	0	0	-	0	0
	750	0	0	0	0	0	0
	2,500	0	0	0	0	0	0
Nucleated RBC's per 100 WBC's	0	0	0.1	0	0	0	0
	500	-	0	0	-	0	0
	750	0	0.1	0	0	0	0
	2,500	0	0	0	0	0	0

TABLE VIII

SUMMARY OF URINALYSIS DATA ON RATS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES Months on Test			FEMALES Months on Test		
		1	2	3	1	2	3
Volume ml/24 hrs.	0	18	19	17	13	19	14
	500	-	22	16	-	15	12
	750	15	18	18	12	15	15
	2,500	15	20	21	13	18	13
Osmolality mOs/L	0	1349	1696	1857	1590	1473	1619
	500	-	1818	2012	-	1763	1926
	750	1578	1845	1860	1849	1792	1852
	2,500	1760	1757	1711	1783	1644	1842
Creatinine mg/24 hrs.	0	9.2	17.4	15.2	7.1	11.8	9.0
	500	-	16.7	15.9	-	10.0	8.2
	750	9.5	17.8	17.0	7.1	10.8	9.5
	2,500	9.3	16.7	16.7	7.4	10.3	8.6
Blood Number Positive	0	0	1	0	0	1	0
	500	-	0	0	-	1	0
	750	0	0	0	0	0	0
	2,500	1	2	1	1	3	1
Sugar Number Abnormal[1)]	0	0	0	0	0	0	0
	500	-	0	0	-	0	0
	750	0	0	0	0	0	0
	2,500	0	0	0	0	0	0
Bilirubin Number Positive	0	0	0	0	0	0	0
	500	-	0	0	-	0	0
	750	0	0	0	0	0	0
	2,500	0	0	0	0	0	0

1) Number ++ or greater by Clinitest®

TABLE VIII (Continued)

SUMMARY OF URINALYSIS DATA ON RATS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES Months on Test			FEMALES Months on Test		
		1	2	3	1	2	3
Protein Number Abnormal[2]	0	0	0	0	0	0	1
	500	-	0	0	-	0	2
	750	0	0	0	0	0	1
	2,500	0	1	2	0	0	3
Urobilinogen	0	0.4	1.0	0.6	0.7	1.0	0.8
	500	-	1.0	0.8	-	1.0	0.9
	750	0.6	1.0	0.7	0.7	1.0	0.8
	2,500	0.5	1.0	0.7	0.6	1.0	0.8
Erythrocytes per hpf	0	0	0[a]	0	0	0[b]	0
	500	-	0	0	-	0[b]	0
	750	0	0	0	0	0	0
	2,500	0[a]	0[a][b]	0[a]	0[b]	0[a][c]	1[a]
Leucocytes per hpf	0	0-1	0-1	0-1	0-1	0-1	0-1
	500	-	0-1	0-1	-	0-1	0-3
	750	0-1	0-1	0-1	0-1	0-1	0-1
	2,500	0-1	0-1	0-1	0-3	0-1	0-1
Epithelial Cells per hpf	0	0	0	0-1	0	0-1	0-1
	500	-	0	0-1	-	0-1	0-1
	750	0	0	0-1	0	0	0-1
	2,500	0	0-1	0	0	0	0-1
Casts per lpf	0	0	0	0	0	0	0
	500	-	0	0	-	0	0
	750	0	0	0	0	0	0
	2,500	0	0	0	0	0	0

2) Number ++ or greater by Albustix®

a) 1/10 hematuria

b) 1/10 with positive test for blood examined separately

c) 2/10 with positive test for blood examined separately

TABLE IX

SUMMARY OF BIOCHEMICAL MEASUREMENTS ON RATS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES Months on Test			FEMALES Months on Test		
		1	2	3	1	2	3
Alkaline Phosphatase Bessey Units	0	44	38	32	35	22	19
	500	-	-	-	-	-	-
	750	47	38	33	33	23	17
	2,500	41	33	24	26	20	14
Transaminase Reitman-Frankel Units	0	18	12	8	14	19	14
	500	-	-	-	-	-	-
	750	18	10	9	15	18	12
	2,500	18	12	18	17	21	15
Bilirubin mg %	0	1.1	1.7	0.6	1.0	0.3	0.5
	500	-	-	-	-	-	-
	750	0.6	1.5	0.3	0.9	0.4	0.5
	2,500	0.5	1.4	0.4	1.2	0.4	0.4

TABLE X

AVERAGE ORGAN WEIGHTS IN GRAMS OF MALE AND FEMALE RATS FED VARIOUS LEVELS OF ZONYL® RP

Group	Final Body Weight	Brain	Heart	Lungs	Liver	Spleen	Kidney	Testis	Stomach	Adrenal	Pituitary
					MALES						
I (Control)	500	2.19	1.44	2.39	17.08	0.77	3.46	3.36	2.04	0.058	0.012
II (500 ppm Zonyl® RP)	505	2.24	1.50	2.40	17.95	0.71	3.78	3.27	1.90	0.053	0.014
III (750 ppm Zonyl® RP)	524	2.25	1.52	2.47	21.46	0.70	4.30	3.22	2.06	0.058	0.016
IV (2,500 ppm Zonyl® RP)	495	2.19	1.45	2.42	22.00	0.69	4.45	3.31	2.03	0.059	0.014
					FEMALES						
I (Control)	286	2.06	0.91	1.84	10.72	0.57	2.13	-	1.43	0.074	0.017
II (500 ppm Zonyl® RP)	288	2.02	0.96	1.76	11.39	0.49	2.66	-	1.53	0.076	0.019
III (750 ppm Zonyl® RP)	306	2.08	0.97	1.86	11.76	0.53	2.87	-	1.65	0.078	0.016
IV (2,500 ppm Zonyl® RP)	276	2.06	0.97	1.85	13.24	0.53	3.04	-	1.46	0.089	0.019

TABLE XI

SUMMARY OF ORGAN/BODY WEIGHT RATIOS OF MALE AND FEMALE RATS FED VARIOUS LEVELS OF ZONYL® RP

Group	% of Body Weight									
	Brain	Heart	Lungs	Liver	Spleen	Kidney	Testis	Stomach	Adrenal	Pituitary
					MALES					
I (Control)	0.44	0.29	0.48	3.41	0.15	0.69	0.67	0.41	0.012	0.002
II (500 ppm Zonyl® RP)	0.44	0.30	0.48	3.55	0.14	0.75	0.65	0.38	0.010	0.002
III (750 ppm Zonyl® RP)	0.43	0.29	0.47	4.10	0.13	0.82	0.61	0.39	0.011	0.003
IV (2,500 ppm Zonyl® RP)	0.44	0.29	0.49	4.44	0.14	0.90	0.67	0.41	0.011	0.002
					FEMALES					
I (Control)	0.72	0.32	0.64	3.75	0.20	0.74	-	0.50	0.025	0.005
II (500 ppm Zonyl® RP)	0.70	0.33	0.61	3.95	0.17	0.92	-	0.53	0.026	0.006
III (750 ppm Zonyl® RP)	0.68	0.32	0.61	3.84	0.17	0.94	-	0.54	0.025	0.005
IV (2,500 ppm Zonyl® RP)	0.75	0.35	0.67	4.80	0.19	1.10	-	0.53	0.032	0.006

TABLE XII

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 MR. # - 1491001

JULY 10, 1972

COMPOUND - "ZONYL" RP (35% SLURRY OF "ZONYL" RP)

ANIMAL #	7558	7561	7560	7574	7565	7539	7541	7536	7568	7578	7546	7555	7575	7581	7550	7544
GROUP #	01	01	01	01	01	01	01	01	01	01	07	07	07	07	07	07
TREATMENT DAYS	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91	91
POST-TREATMENT DAYS																
DIET/DOSE VALUE											2500	2500	2500	2500	2500	2500
INITIAL WEIGHT	62	63	66	67	67	69	73	77	78	82	57	62	66	66	66	67
LOW WEIGHT																
FINAL WEIGHT	454	527	490	472	492	501	502	562	497	505	406	508	384	438	510	434
SEX	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
DIED/SACRIFICED	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
EYE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXORBITAL LACRIMAL GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRAIN NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
MEDULLA OBLONGATA NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SCIATIC NERVE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKIN NORMAL MORPHOLOGIC STRUCTURES	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0
SKIN ORGAN MISSING			X													
MAMMARY GLAND NORMAL MORPHOLOGIC STRUCTURES						0						0				0
MAMMARY GLAND ORGAN MISSING	X	X	X	X	X		X	X	X	X	X		X	X	X	
BONE MARROW NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPLEEN NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LYMPH NODE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
LYMPH NODE ORGAN MISSING														X		
SKELETAL MUSCLE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRACHEA NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LUNG NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
LUNG INTERSTITIAL PNEUMONIA						+										
HEART NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
AORTA NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALIVARY GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIVER NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0			0			
LIVER GRANULOMA																
LIVER CLOUDY SWELLING											+					
LIVER HYALINE DROPLET DEGENERATION																
LIVER CYTOPLASMIC LIPID DROPLET ALT											+	+		+	+	+

TABLE XII (Continued)

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 MR. # - 1491001
COMPOUND - "ZONYL" MP (35% SLURRY OF "ZONYL" RP)

JULY 10, 1972

ANIMAL #	7558	7561	7560	7574	7565	7539	7541	7536	7568	7578	7546	7555	7575	7581	7550	7544
LIVER HYPERTROPHY											+	+		+	+	+
PANCREAS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ESOPHAGUS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STOMACH NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
DUODENUM NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
COLON NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CECUM NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KIDNEY NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0
URINARY BLADDER NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROSTATE AND SEMINAL VESICLE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TESTIS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EPIDIDYMIS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UTERUS, NORMAL MORPHOLOGIC STRUCTURES																
FALLOPIAN TUBE NORMAL MORPHOLOGIC STRUCTURES																
OVARY NORMAL MORPHOLOGIC STRUCTURES																
PITUITARY GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ADRENAL GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THYROID GLAND NORMAL MORPHOLOGIC STRUCTURES	0							0			0				0	0
THYROID GLAND ORGAN MISSING		X	X	X	X	X	X		X	X		X	X	X		
PARATHYROID GLAND NORMAL MORPHOLOGIC STRUCTURES								0	0							0
PARATHYROID GLAND ORGAN MISSING	X	X	X	X	X	X	X			X	X	X	X	X	X	
THYMUS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE XII-A

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 NR. # - 1491001

JULY 10, 1972

COMPOUND - "ZONYL" NP (35% SLURRY OF "ZONYL" RP)

ANIMAL #	7545	7573	7584	7548	7617	7623	7618	7621	7624	7587	7595	7633	7634	7592	7619	7594
GROUP #	07	07	07	07	02	02	02	02	02	02	02	02	02	02	08	08
TREATMENT DAYS	91	91	91	91	92	92	92	92	92	92	92	92	92	92	92	92
POST-TREATMENT DAYS															2500	2500
DIET/DOSE VALUE	2500	2500	2500	2500												
INITIAL WEIGHT	70	71	74	79	49	62	63	70	72	72	72	73	75	80	60	64
LOW WEIGHT																
FINAL WEIGHT	633	519	523	512	243	268	270	333	273	275	291	281	302	322	242	295
SEX	M	M	M	M	F	F	F	F	F	F	F	F	F	F	F	F
DIED/SACRIFICED	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
EYE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXORBITAL LACRIMAL GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BRAIN NORMAL MORPHOLOGIC STRUCTURES	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
MEDULLA OBLONGATA NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SCIATIC NERVE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKIN NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKIN ORGAN MISSING																
MAMMARY GLAND NORMAL MORPHOLOGIC STRUCTURES				0	0		0	0	0	0	0	0	0	0		0
MAMMARY GLAND ORGAN MISSING	X	X	X			X									X	
BONE MARROW NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPLEEN NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LYMPH NODE NORMAL MORPHOLOGIC STRUCTURES	0	0		0	0	0	0	0	0	0	0		0	0	0	0
LYMPH NODE ORGAN MISSING			X									X				
SKELETAL MUSCLE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRACHEA NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LUNG NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LUNG INTERSTITIAL PNEUMONIA																
HEART NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AORTA NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SALIVARY GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIVER NORMAL MORPHOLOGIC STRUCTURES			0		0	0	0	0	0	0	0	0	0	0	0	0
LIVER GRANULOMA				+												
LIVER CLOUDY SWELLING		+														
LIVER HYALINE DROPLET DEGENERATION				+												
LIVER CYTOPLASMIC LIPID DROPLET ALT	+	+		+												

TABLE XII-A (Continued)

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 MR. # - 1491001 JULY 10, 1972
COMPOUND - "ZONYL" MP (35% SLURRY OF "ZONYL" RP)

ANIMAL #	7543	7573	7584	7548	7617	7623	7618	7621	7624	7587	7595	7633	7634	7592	7619	7594
LIVER HYPERTROPHY	+	+		+												
PANCREAS NORMAL MORPHOLOGIC STRUCTURES	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
ESOPHAGUS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STOMACH NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DUODENUM NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLON NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CECUM NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KIDNEY NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
URINARY BLADDER NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PROSTATE AND SEMINAL VESICLE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0												
TESTIS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0												
EPIDIDYMIS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0												
UTERUS NORMAL MORPHOLOGIC STRUCTURES					0	0	0	0	0	0	0	0	0	0	0	0
FALLOPIAN TUBE NORMAL MORPHOLOGIC STRUCTURES					0	0	0	0	0	0	0	0	0	0	0	0
OVARY NORMAL MORPHOLOGIC STRUCTURES					0	0	0	0	0	0	0	0	0	0	0	0
PITUITARY GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ADRENAL GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
THYROID GLAND NORMAL MORPHOLOGIC STRUCTURES		0				0		0		0						0
THYROID GLAND ORGAN MISSING	X		X	X	X		X		X		X	X	X	X	X	
PARATHYROID GLAND NORMAL MORPHOLOGIC STRUCTURES						0						0				
PARATHYROID GLAND ORGAN MISSING	X	X	X	X	X		X	X	X	X	X		X	X	X	X
THYMUS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE XII-B

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 MR. # - 1491001
COMPOUND - "ZONYL" MP (35% SLURRY OF "ZONYL" RP)

JULY 10, 1972

ANIMAL #	7632	7602	7603	7613	7590	7589	7600	7614	7542	7572	7547	7559	7563	7583	7564	7582
GROUP #	08	08	08	08	08	08	08	08	03	03	03	03	03	03	03	03
TREATMENT DAYS	92	92	92	92	92	92	92	92	96	96	96	96	96	96	96	96
POST-TREATMENT DAYS																
DIET/DOSE VALUE	2500	2500	2500	2500	2500	2500	2500	2500	500	500	500	500	500	500	500	500
INITIAL WEIGHT	67	71	73	74	75	76	77	80	63	68	68	68	70	73	78	80
LOW WEIGHT																
FINAL WEIGHT	303	260	260	268	319	274	291	250	433	453	477	521	547	507	565	522
SEX	F	F	F	F	F	F	F	F	M	M	M	M	M	M	M	M
DIED/SACRIFICED	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
EYE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
EXORBITAL LACRIMAL GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
BRAIN NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
MEDULLA OBLONGATA NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
SCIATIC NERVE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
SKIN NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
SKIN ORGAN MISSING																
MAMMARY GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0									
MAMMARY GLAND ORGAN MISSING								X								
BONE MARROW NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
SPLEEN NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
LYMPH NODE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
LYMPH NODE ORGAN MISSING																
SKELETAL MUSCLE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
TRACHEA NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
LUNG NORMAL MORPHOLOGIC STRUCTURES	0		0	0	0		0	0								
LUNG INTERSTITIAL PNEUMONIA						+										
HEART NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
AORTA NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
SALIVARY GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
LIVER NORMAL MORPHOLOGIC STRUCTURES		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIVER GRANULOMA																
LIVER CLOUDY SWELLING																
LIVER HYALINE DROPLET DEGENERATION																
LIVER CYTOPLASMIC LIPID DROPLET ALT																

TABLE XII-B (Continued)

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 MR. # - 1491001

JULY 10, 1972

COMPOUND - "ZONYL" MP (35% SLURRY OF "ZONYL" RP)

ANIMAL #	7632	7602	7603	7613	7590	7589	7600	7614	7542	7572	7547	7559	7563	7583	7564	7582
LIVER HYPERTROPHY																
PANCREAS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
ESOPHAGUS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
STOMACH NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
DUODENUM NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
COLON NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
CECUM NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
KIDNEY NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
URINARY BLADDER NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
PROSTATE AND SEMINAL VESICLE NORMAL MORPHOLOGIC STRUCTURES																
TESTIS NORMAL MORPHOLOGIC STRUCTURES																
EPIDIDYMIS NORMAL MORPHOLOGIC STRUCTURES																
UTERUS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
FALLOPIAN TUBE NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
OVARY NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
PITUITARY GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
ADRENAL GLAND NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								
THYROID GLAND NORMAL MORPHOLOGIC STRUCTURES		0														
THYROID GLAND ORGAN MISSING	X		X	X	X	X	X	X								
PARATHYROID GLAND NORMAL MORPHOLOGIC STRUCTURES																
PARATHYROID GLAND ORGAN MISSING	X	X	X	X	X	X		X								
THYMUS NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0								

TABLE XII-C

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 MR. # - 1491001

JULY 10, 1972

COMPOUND - "ZONYL" MP (35% SLURRY OF "ZONYL" RP)

ANIMAL #	7576	7533	7631	7586	7599	7625	7627	7628	7604	7608	7626	7593	7577	7545	7551	7540
GROUP #	03	03	04	04	04	04	04	04	04	04	04	04	05	05	05	05
TREATMENT DAYS	96	96	97	97	97	97	97	97	97	97	97	97	97	97	97	97
POST-TREATMENT DAYS																
DIET/DOSE VALUE	500	500	500	500	500	500	500	500	500	500	500	500	750	750	750	750
INITIAL WEIGHT	96	96	56	61	63	68	70	72	75	77	78	82	63	63	63	66
LOW WEIGHT																
FINAL WEIGHT	482	542	245	242	259	268	301	293	281	333	346	309	507	549	552	525
SEX	M	M	F	F	F	F	F	F	F	F	F	F	M	M	M	M
DIED/SACRIFICED	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
EYE NORMAL MORPHOLOGIC STRUCTURES																
EXORBITAL LACRIMAL GLAND NORMAL MOR PHOLOGIC STRUCTURES																
BRAIN NORMAL MORPHOLOGIC STRUCTURES																
MEDULLA OBLONGATA NORMAL MORPHOLOGI C STRUCTURES																
SCIATIC NERVE NORMAL MORPHOLOGIC ST RUCTURES																
SKIN NORMAL MORPHOLOGIC STRUCTURES																
SKIN ORGAN MISSING																
MAMMARY GLAND NORMAL MORPHOLOGIC ST RUCTURES																
MAMMARY GLAND ORGAN MISSING																
BONE MARROW NORMAL MORPHOLOGIC STRU CTURES																
SPLEEN NORMAL MORPHOLOGIC STRUCTURE S																
LYMPH NODE NORMAL MORPHOLOGIC STRUC TURES																
LYMPH NODE ORGAN MISSING																
SKELETAL MUSCLE NORMAL MORPHOLOGIC STRUCTURES																
TRACHEA NORMAL MORPHOLOGIC STRUCTUR ES																
LUNG NORMAL MORPHOLOGIC STRUCTURES																
LUNG INTERSTITIAL PNEUMONIA																
HEART NORMAL MORPHOLOGIC STRUCTURES																
AORTA NORMAL MORPHOLOGIC STRUCTURES																
SALIVARY GLAND NORMAL MORPHOLOGIC S TRUCTURES																
LIVER NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIVER GRANULOMA																
LIVER CLOUDY SWELLING																
LIVER HYALINE DROPLET DEGENERATION																
LIVER CYTOPLASMIC LIPID DROPLET ALT																

TABLE XII-C (Continued)

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 MR. # - 1491001

JULY 10, 1972

COMPOUND - "ZONYL" MP (35% SLURRY OF "ZONYL" RP)

ANIMAL #	7576	7538	7631	7586	7599	7625	7627	7628	7604	7608	7626	7593	7577	7545	7551	7540
LIVER HYPERTROPHY																
PANCREAS NORMAL MORPHOLOGIC STRUCTURES																
ESOPHAGUS NORMAL MORPHOLOGIC STRUCTURES																
STOMACH NORMAL MORPHOLOGIC STRUCTURES																
DUODENUM NORMAL MORPHOLOGIC STRUCTURES																
COLON NORMAL MORPHOLOGIC STRUCTURES																
CECUM NORMAL MORPHOLOGIC STRUCTURES																
KIDNEY NORMAL MORPHOLOGIC STRUCTURES																
URINARY BLADDER NORMAL MORPHOLOGIC STRUCTURES																
PROSTATE AND SEMINAL VESICLE NORMAL MORPHOLOGIC STRUCTURES																
TESTIS NORMAL MORPHOLOGIC STRUCTURES																
EPIDIDYMIS NORMAL MORPHOLOGIC STRUCTURES																
UTERUS NORMAL MORPHOLOGIC STRUCTURES																
FALLOPIAN TUBE NORMAL MORPHOLOGIC STRUCTURES																
OVARY NORMAL MORPHOLOGIC STRUCTURES																
PITUITARY GLAND NORMAL MORPHOLOGIC STRUCTURES																
ADRENAL GLAND NORMAL MORPHOLOGIC STRUCTURES																
THYROID GLAND NORMAL MORPHOLOGIC STRUCTURES																
THYROID GLAND ORGAN MISSING																
PARATHYROID GLAND NORMAL MORPHOLOGIC STRUCTURES																
PARATHYROID GLAND ORGAN MISSING																
THYMUS NORMAL MORPHOLOGIC STRUCTURES																

TABLE XII-D

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 MR. # - 1491001
COMPOUND - "ZONYL" MP (35% SLURRY OF "ZONYL" PP)

JULY 10, 1972

ANIMAL #	7552	7579	7567	7554	7562	7556	7583	7630	7615	7620	7622	7616	7601	7635	7607	7597
GROUP #	05	05	05	05	05	05	06	06	06	06	06	06	06	06	06	06
TREATMENT DAYS	97	97	97	97	97	97	98	98	98	98	98	98	98	98	98	98
POST-TREATMENT DAYS																
DIET/DOSE VALUE	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
INITIAL WEIGHT	68	68	70	73	76	78	60	62	63	63	67	71	74	77	77	82
LOW WEIGHT																
FINAL WEIGHT	482	488	540	492	530	575	345	304	303	323	291	271	316	272	313	312
SEX	M	M	M	M	M	M	F	F	F	F	F	F	F	F	F	F
DIED/SACRIFICED	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
EYE NORMAL MORPHOLOGIC STRUCTURES																
EXORBITAL LACRIMAL GLAND NORMAL MOR PHOLOGIC STRUCTURES																
BRAIN NORMAL MORPHOLOGIC STRUCTURES																
MEDULLA OBLONGATA NORMAL MORPHOLOGI C STRUCTURES																
SCIATIC NERVE NORMAL MORPHOLOGIC ST RUCTURES																
SKIN NORMAL MORPHOLOGIC STRUCTURES																
SKIN ORGAN MISSING																
MAMMARY GLAND NORMAL MORPHOLOGIC ST RUCTURES																
MAMMARY GLAND ORGAN MISSING																
BONE MARROW NORMAL MORPHOLOGIC STRU CTURES																
SPLEEN NORMAL MORPHOLOGIC STRUCTURE S																
LYMPH NODE NORMAL MORPHOLOGIC STRUC TURES																
LYMPH NODE ORGAN MISSING																
SKELETAL MUSCLE NORMAL MORPHOLOGIC STRUCTURES																
TRACHEA NORMAL MORPHOLOGIC STRUCTUR ES																
LUNG NORMAL MORPHOLOGIC STRUCTURES																
LUNG INTERSTITIAL PNEUMONIA																
HEART NORMAL MORPHOLOGIC STRUCTURES																
AORTA NORMAL MORPHOLOGIC STRUCTURES																
SALIVARY GLAND NORMAL MORPHOLOGIC S TRUCTURES																
LIVER NORMAL MORPHOLOGIC STRUCTURES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIVER GRANULOMA																
LIVER CLOUDY SWELLING																
LIVER HYALINE DROPLET DEGENERATION																
LIVER CYTOPLASMIC LIPID DROPLET ALT																

TABLE XII-D (Continued)

HISTOPATHOLOGY TO-DATE SUMMARY - RAT

HASKELL # - 7247 TEST # - 33 MR. # - 1491001

JULY 10, 1972

COMPOUND - "ZONYL" MP (35% SLURRY OF "ZONYL" RP)

ANIMAL #	7552	7579	7567	7554	7562	7556	7588	7630	7615	7620	7622	7616	7601	7635	7607	7597
LIVER HYPERTROPHY																
PANCREAS NORMAL MORPHOLOGIC STRUCTURES																
ESOPHAGUS NORMAL MORPHOLOGIC STRUCTURES																
STOMACH NORMAL MORPHOLOGIC STRUCTURES																
DUODENUM NORMAL MORPHOLOGIC STRUCTURES																
COLON NORMAL MORPHOLOGIC STRUCTURES																
CECUM NORMAL MORPHOLOGIC STRUCTURES																
KIDNEY NORMAL MORPHOLOGIC STRUCTURES																
URINARY BLADDER NORMAL MORPHOLOGIC STRUCTURES																
PROSTATE AND SEMINAL VESICLE NORMAL MORPHOLOGIC STRUCTURES																
TESTIS NORMAL MORPHOLOGIC STRUCTURES																
EPIDIDYMIS NORMAL MORPHOLOGIC STRUCTURES																
UTERUS NORMAL MORPHOLOGIC STRUCTURES																
FALLOPIAN TUBE NORMAL MORPHOLOGIC STRUCTURES																
OVARY NORMAL MORPHOLOGIC STRUCTURES																
PITUITARY GLAND NORMAL MORPHOLOGIC STRUCTURES																
ADRENAL GLAND NORMAL MORPHOLOGIC STRUCTURES																
THYROID GLAND NORMAL MORPHOLOGIC STRUCTURES																
THYROID GLAND ORGAN MISSING																
PARATHYROID GLAND NORMAL MORPHOLOGIC STRUCTURES																
PARATHYROID GLAND ORGAN MISSING																
THYMUS NORMAL MORPHOLOGIC STRUCTURES																

TABLE XIII

BODY WEIGHTS OF INDIVIDUAL MALE DOGS FED ZONYL® RP

Group	Dog No.	Weekly Weight in Kilograms														
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	Avg.
	1150	8.1	8.2	8.6	8.1	7.9	8.0	8.1	8.2	8.2	8.3	8.2	8.4	8.4	8.4	8.2
I	1154	11.2	10.9	11.0	11.1	11.0	11.0	10.8	11.2	11.1	11.3	11.4	11.2	11.4	11.5	11.2
(Control)	1158	11.4	11.4	11.4	11.6	11.1	11.5	11.5	11.8	11.8	12.0	11.8	11.7	12.0	11.9	11.6
	1162	9.5	9.2	9.2	9.4	9.3	9.5	9.6	9.7	9.5	9.6	9.7	9.6	9.7	9.9	9.5
	1153	10.8	11.3	11.1	11.4	11.1	11.2	11.3	11.5	11.4	11.6	11.2	11.5	11.7	11.6	11.3
II	1155	9.3	9.2	9.4	9.5	9.4	9.4	9.5	9.6	9.8	9.8	9.8	10.0	10.0	9.8	9.6
(500 ppm	1159	14.0	14.9	14.0	14.3	14.2	14.2	14.3	14.6	14.4	14.8	14.8	14.9	14.7	15.0	14.5
Zonyl® RP)	1165	9.0	9.5	9.5	9.8	9.5	9.6	9.4	9.8	9.6	9.8	9.9	9.8	9.7	9.9	9.6
	1152	11.2	11.0	11.1	11.3	11.4	11.2	11.3	11.7	11.3	11.4	11.7	11.5	11.6	11.8	11.4
III	1156	8.3	8.2	8.3	8.4	8.1	8.1	8.2	8.3	8.4	8.2	8.6	8.3	8.4	8.3	8.3
(750 ppm	1160	9.1	9.1	9.0	9.1	9.1	9.3	9.3	9.5	9.4	9.4	9.4	9.4	9.4	9.4	9.3
Zonyl® RP)	1164	7.8	7.5	7.6	8.0	7.8	7.9	7.8	8.2	8.1	8.0	8.0	8.0	7.9	8.0	7.9
	1151	10.8	10.6	10.6	10.7	10.4	10.8	10.8	10.8	10.8	11.0	11.0	10.9	10.7	10.5	10.7
IV	1157	10.5	10.8	10.7	11.0	10.8	10.6	10.8	10.9	10.8	11.2	11.1	11.0	11.1	10.9	10.9
(2,500 ppm	1161	9.0	8.7	8.8	8.8	8.8	8.8	8.5	8.9	8.8	8.9	8.8	8.8	9.0	8.9	8.8
Zonyl® RP)	1163	9.8	10.0	10.1	10.2	10.0	10.2	10.3	10.5	10.5	10.4	10.6	10.8	10.5	10.5	10.3

TABLE XIV

BODY WEIGHTS OF INDIVIDUAL FEMALE DOGS FED ZONYL® RP

Group	Dog No.	Weekly Weight in Kilograms														
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	Avg.
	1137	10.5	10.6	10.7	10.9	10.7	10.8	10.9	11.0	11.0	10.8	10.9	11.0	11.0	10.9	10.8
I	1141	11.8	12.0	12.0	12.0	12.2	12.0	11.7	11.6	11.5	11.5	11.4	11.5	11.4	11.5	11.7
(Control)	1145	8.0	7.8	8.0	8.3	8.2	8.2	8.4	8.5	8.5	8.4	8.8	9.0	9.2	9.1	8.4
	1147	8.9	8.7	8.6	8.8	8.6	9.0	9.1	9.2	9.2	9.4	9.3	9.4	9.5	9.4	9.1
	1135	8.2	8.1	8.1	8.3	8.4	8.5	8.7	8.5	8.5	8.5	8.2	8.3	8.2	8.4	8.4
II	1140	7.0	7.0	7.0	7.2	7.0	7.1	7.2	7.3	7.3	7.2	7.3	7.3	7.3	7.2	7.2
(500 ppm	1143	8.1	8.8	8.0	8.2	8.0	8.4	8.8	8.6	8.6	8.4	8.5	8.6	8.8	8.6	8.4
Zonyl® RP)	1149	6.3	6.5	6.6	6.8	6.8	6.8	6.8	6.9	6.9	7.0	7.1	7.0	6.9	7.0	6.8
	1136	13.0	13.3	13.2	13.3	13.4	13.7	13.8	14.1	14.4	14.9	15.2	15.3	15.3	15.1	14.1
III	1139	8.0	7.8	7.8	7.9	7.9	8.0	8.0	8.4	8.5	8.4	8.4	8.7	8.7	8.5	8.2
(750 ppm	1144	9.2	8.5	8.3	8.8	8.6	8.8	8.7	8.9	8.8	8.8	8.8	8.9	9.0	9.0	8.8
Zonyl® RP)	1148	9.6	9.8	9.4	9.6	9.4	9.8	9.8	10.0	10.0	10.2	10.2	10.2	10.7	10.6	10.0
	1134	6.0	6.1	6.1	6.2	6.1	6.2	6.4	6.4	6.5	6.6	6.6	6.7	6.7	6.7	6.4
IV	1138	8.8	8.4	8.9	9.4	9.3	9.5	10.0	9.8	10.2	9.8	9.8	9.5	9.4	9.2	9.4
(2,500 ppm	1142	9.6	9.2	9.0	9.2	8.8	8.4	8.4	8.4	8.5	8.6	8.5	8.4	8.4	8.3	8.7
Zonyl® RP)	1146	7.0	7.0	7.1	7.0	6.9	6.8	6.9	6.8	7.2	7.0	6.8	6.6	6.4	6.5	6.8

TABLE XV

DIET CONSUMPTION OF INDIVIDUAL MALE DOGS FED ZONYL® RP

Group	Dog No.	Average Daily Diet Consumption in Grams During Week													
		1	2	3	4	5	6	7	8	9	10	11	12	13	Avg.
I (Control)	1150	290	350	289	295	313	336	300	361	317	291	360	346	331	321
	1154	328	365	340	363	310	326	358	350	325	374	324	391	364	348
	1158	410	400	390	370	432	381	415	393	384	417	375	394	467	402
	1162	318	316	361	336	345	335	336	351	258	318	321	339	382	332
II (500 ppm Zonyl® RP)	1153	345	389	380	427	439	384	415	381	408	373	419	383	385	394
	1155	326	403	339	392	417	387	414	404	348	421	394	416	345	385
	1159	429	555	500	489	541	517	567	502	525	544	569	461	526	517
	1165	330	352	339	346	338	320	386	327	381	361	375	352	418	356
III (750 ppm Zonyl® RP)	1152	320	441	435	429	329	382	414	429	390	381	333	412	408	392
	1156	241	279	269	254	267	263	270	301	256	322	343	356	262	283
	1160	314	356	375	381	349	326	327	359	293	322	389	352	369	347
	1164	308	333	306	350	286	259	315	328	262	293	281	221	263	293
IV (2,500 ppm Zonyl® RP)	1151	320	416	396	421	438	370	409	429	430	380	448	371	330	397
	1157	379	417	418	404	432	387	426	426	361	382	420	382	421	404
	1161	260	306	370	347	305	314	371	384	314	304	355	355	362	334
	1163	296	333	352	318	370	341	330	356	293	314	323	300	341	328

TABLE XVI

DIET CONSUMPTION OF INDIVIDUAL FEMALE DOGS FED ZONYL® RP

Group	Dog No.	Average Daily Diet Consumption in Grams During Week													
		1	2	3	4	5	6	7	8	9	10	11	12	13	Avg.
	1137	382	396	406	364	338	378	386	391	312	316	338	358	374	364
I	1141	428	373	372	453	287	286	280	395	356	401	470	452	500	389
(Control)	1145	263	287	303	284	281	331	290	259	226	311	312	285	274	285
	1147	200	198	280	321	334	262	327	321	359	295	318	306	330	296
	1135	251	323	329	332	320	329	319	356	355	305	244	202	331	307
II	1140	265	267	283	277	254	273	329	301	232	231	200	261	285	266
(500 ppm	1143	258	297	375	380	392	386	343	338	362	326	247	349	338	338
Zonyl® RP)	1149	349	362	369	362	412	359	369	366	373	337	367	381	409	370
	1136	427	409	368	426	388	429	450	492	538	449	455	403	420	435
III	1139	304	317	317	357	309	283	319	331	293	257	332	310	240	305
(750 ppm	1144	197	290	304	305	298	313	291	271	259	296	308	317	307	289
Zonyl® RP)	1148	346	372	361	364	382	353	335	318	360	244	272	402	380	345
	1134	279	270	280	284	320	293	311	261	253	251	276	260	280	278
IV	1138	300	448	422	414	350	399	377	370	398	352	233	254	319	357
(2,500 ppm	1142	275	277	309	277	183	261	344	328	342	256	352	421	429	320
Zonyl® RP	1146	244	267	261	252	284	256	255	282	217	198	276	104	248	242

TABLE XVII

AVERAGE DOSES OF INDIVIDUAL MALE DOGS FED ZONYL® RP

Group	Dog No.	Average Daily Dose in Milligrams/Kilograms during Week													
		1	2	3	4	5	6	7	8	9	10	11	12	13	Avg.
	1150	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I	1154	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Control	1158	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1162	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1153	45	50	17	19	20	17	18	17	18	16	18	16	17	22
II	1155	51	62	18	21	22	21	22	21	18	22	20	21	17	26
500 ppm	1159	42	55	18	17	19	18	20	17	18	18	19	16	18	23
Zonyl® RP	1165	51	53	18	18	18	17	20	17	20	18	19	18	21	24
	1152	62	86	29	28	22	26	27	28	26	25	22	27	26	33
III	1156	63	73	24	23	25	24	25	27	23	29	31	32	23	32
750 ppm	1160	74	85	31	31	28	26	26	29	23	26	31	28	29	36
Zonyl® RP	1164	87	94	29	33	28	25	30	30	25	28	26	21	25	37
	1151	192	252	94	99	103	86	95	99	99	86	102	86	78	113
IV	1157	230	253	97	93	101	90	98	99	82	85	96	87	96	116
2,500 ppm	1161	190	223	105	99	87	91	106	109	89	86	101	100	101	114
Zonyl® RP	1163	192	214	86	79	92	84	79	85	70	75	75	71	81	99

TABLE XVIII

AVERAGE DOSES BY INDIVIDUAL FEMALE DOGS FED ZONYL® RP

Group	Dog No.	Average Daily Dose in Milligrams/Kilogram during Week													
		1	2	3	4	5	6	7	8	9	10	11	12	13	Avg.
	1137	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I	1141	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Control	1145	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1147	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1135	44	57	20	20	19	19	19	21	21	18	15	12	20	24
II	1140	54	54	20	20	18	19	23	21	16	16	14	18	20	24
500 ppm	1143	44	50	23	24	24	22	20	20	21	19	14	20	19	25
Zonyl® RP	1149	78	78	28	27	30	26	27	26	27	24	26	27	29	35
	1136	69	66	21	24	21	23	24	26	28	22	22	20	21	30
III	1139	82	87	30	34	29	26	29	30	26	23	29	27	21	36
750 ppm	1144	50	74	26	26	26	27	25	23	22	25	26	26	26	31
Zonyl® RP	1148	76	83	28	29	30	27	25	24	27	18	20	29	27	34
	1134	300	284	115	114	129	116	121	102	96	95	105	97	105	137
IV	1138	224	334	115	110	93	108	95	92	99	90	61	67	86	121
2,500 ppm	1142	188	195	85	77	53	78	102	98	99	104	105	125	128	110
Zonyl® RP	1146	224	245	93	90	104	94	94	101	76	72	103	40	97	110

TABLE XIX

SUMMARY OF HEMATOLOGIC MEASUREMENTS ON DOGS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES				FEMALES			
		Pre-test	Months on Test			Pre-test	Months on Test		
			1	2	3		1	2	3
Erythrocytes x 10^6/mm^3	0	6.62	7.51	7.33	7.05	6.31	6.61	6.93	6.66
	500	6.05	6.87	6.70	6.54	6.31	5.86	6.77	6.31
	750	6.10	6.55	6.65	6.61	6.47	6.46	7.20	6.95
	2,500	6.24	6.59	6.36	6.09	6.65	5.85	5.93	6.09
Hemoglobin gm/100 ml	0	16.7	18.0	18.0	18.2	16.8	16.3	17.8	17.5
	500	15.6	16.7	16.7	16.3	15.9	15.7	16.9	16.0
	750	15.9	16.3	16.6	16.9	16.7	17.3	17.9	17.5
	2,500	16.0	15.7	15.5	15.3	17.2	14.9	15.0	15.5
Hematocrit %	0	44	49	48	48	43	44	47	46
	500	41	46	46	43	43	43	44	42
	750	42	44	44	46	44	47	47	46
	2,500	42	42	41	41	45	40	38	41
Leucocytes x 10^3/mm^3	0	11.8	11.6	14.3	11.4	10.5	12.2	12.3	9.5
	500	12.7	13.0	13.7	11.1	12.0	10.6	12.9	10.3
	750	11.1	12.9	12.5	13.1	12.5	13.2	14.8	11.3
	2,500	11.4	13.2	13.5	15.4	11.1	11.1	12.5	9.4
Segmented Neutrophils %	0	66	67	63	63	65	72	72	64
	500	64	62	68	67	70	66	68	67
	750	65	70	66	69	67	69	66	61
	2,500	68	64	68	71	62	62	70	63
Non-segmented Neutrophils %	0	0.8	0.3	0.3	0.5	0.8	0	0.5	0.5
	500	0	0.8	0.5	0.5	0.9	0.5	0.5	1.0
	750	0.4	0.3	0.5	0	1.4	0.8	1.3	1.0
	2,500	0.5	1.5	0	1.5	0.4	0.8	1.0	0.8
Metamyelocytes %	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0
	2,500	0	0	0	0	0	0	0	0

TABLE XIX (Continued)

SUMMARY OF HEMATOLOGIC MEASUREMENTS ON DOGS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES				FEMALES			
		Pre-test	Months on Test			Pre-test	Months on Test		
			1	2	3		1	2	3
Lymphocytes %	0	27	25	28	26	25	25	25	27
	500	31	32	26	27	25	30	27	25
	750	30	27	26	24	27	25	27	30
	2,500	29	26	26	21	28	29	26	30
Eosinophils %	0	5	7	9	11	7	3	3	8
	500	4	4	5	6	2	3	4	7
	750	3	2	7	6	3	6	5	7
	2,500	3	8	5	6	8	7	3	6
Monocytes %	0	1.3	1.5	1.0	0.8	1.9	0.3	0.5	0
	500	1.4	1.8	0.8	0.5	1.9	0.8	0.3	0.5
	750	1.6	1.3	0.5	0.8	1.0	0.5	0.5	0.8
	2,500	0.1	0.3	1.5	0.5	1.4	1.5	0.8	1.3
Basophils %	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0
	2,500	0	0	0	0	0	0	0	0
Atypical Cells %	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0
	2,500	0	0	0	0	0	0	0	0
Nucleated RBC's per 100 WBC's	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0
	2,500	0	0	0	0	0	0	0	0

TABLE XX

SUMMARY OF URINALYSIS DATA ON DOGS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES				FEMALES			
			Months on Test				Months on Test		
		Pre-Test*	1	2	3	Pre-Test	1	2	3
Volume ml/24 hrs.	0	178	135	165	150	159	126	134	150
	500	228	209	180	176	169	140	149	150
	750	178	134	114	116	153	150	97	140
	2,500	266	163	159	199	203	209	178	151
Osmolality mOs/L	0	1549	1944	1775	2004	1648	1900	1794	1684
	500	1091	1482	1790	1638	1366	1639	1725	1861
	750	1612	1875	1951	1906	1635	1627	1348	1807
	2,500	1513	1500	1651	1516	1527	1456	1594	1859
Creatinine mg/100 ml	0	142	179	173	207	177	175	184	170
	500	96	114	153	158	130	113	154	160
	750	145	137	179	192	151	112	126	194
	2,500	116	98	158	145	119	106	125	170
Blood Number Positive	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	1	0	0	0
	750	0	0	0	0	0	0	2	0
	2,500	1	0	0	0	0	0	0	0
Sugar Number Abnormal	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0
	2,500	0	0	0	0	0	0	0	0
Acetone Number Positive	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0
	2,500	0	0	0	0	0	0	0	0
Bilirubin Number Positive	0	8	4	3	4	2	3	4	3
	500	5	3	4	4	0	1	2	4
	750	6	4	4	4	3	3	4	4
	2,500	4	2	3	4	0	0	2	2

* Average of the measurement per dog for volume, osmolality, creatinine; number positive or abnormal in eight specimens for blood, sugar, acetone, bilirubin, protein.

TABLE XX (Continued)

SUMMARY OF URINALYSIS DATA ON DOGS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES				FEMALES			
			Months on Test				Months on Test		
		Pre-Test*	1	2	3	Pre-Test	1	2	3
Protein Number Abnormal	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0
	2,500	0	0	0	0	0	0	0	0
Urobilinogen	0	0.9	1.0	0.8	0.8	0.9	1.0	0.8	1.0
	500	0.4	0.6	0.6	0.8	0.3	1.0	1.0	0.8
	750	0.8	0.8	0.6	1.0	0.8	1.0	0.6	1.0
	2,500	0.7	0.6	0.8	0.8	0.4	0.6	1.0	1.0
Erythrocytes per hpf	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0-6	0
	2,500	0	0	0	0	0	0	0	0
Leucocytes per hpf	0	0-4	0-3	0-1	0-1	0-2	0-8	0-1	0-2
	500	0-2	0-1	0-1	0-10	0-2	0-2	0-1	0-1
	750	0-6	0-2	0-4	0-5	0-2	0-1	0-2	0-5
	2,500	0-6	0-10	0-5	0-3	0-2	0-1	0-1	0
Epithelial Cells per hpf	0	0-1	0-3	0	0-1	0-2	0-3	0-1	0-5
	500	0-1	0-1	0	0-1	0-2	0-5	0-1	0-4
	750	0	0-1	0	0-2	0-1	0-1	0-2	0-4
	2,500	0	0-1	0	0-2	0-3	0-1	0-2	0-1
Casts per lpf	0	0	0	0	0	0	0	0	0
	500	0	0	0	0	0	0	0	0
	750	0	0	0	0	0	0	0	0
	2,500	0	0	0	0	0	0	0	0

TABLE XXI

SUMMARY OF BIOCHEMICAL MEASUREMENTS ON DOGS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES				FEMALES			
		Pre-test	Months on Test			Pre-test	Months on Test		
			1	2	3		1	2	3
Glucose mg %	0	123	137	125	116	112	108	123	106
	500	128	140	126	112	119	112	108	106
	750	111	111	116	109	107	95	113	105
	2,500	114	101	117	107	107	96	114	112
Urea Nitrogen mg %	0	14	14	15	14	14	21	22	27
	500	16	22	19	20	17	21	25	25
	750	14	21	17	16	18	23	19	21
	2,500	17	23	21	19	16	21	21	18
Cholesterol mg %	0	137	133	150	138	158	164	168	195
	500	146	140	174	163	156	180	205	230
	750	161	184	206	189	157	209	258	293
	2,500	148	181	206	188	159	277	314	256
Alkaline Phosphatase Bessey Units	0	4.2	3.2	3.3	3.0	4.3	3.9	3.6	5.2
	500	6.4	6.9	8.1	8.2	6.4	8.4	7.4	6.1
	750	4.4	6.6	6.9	5.3	4.4	6.2	7.2	7.3
	2,500	4.4	10.7	11.3	11.7	5.2	10.5	12.3	11.6
Transaminase Reitman-Frankel Units	0	8	17	15	13	6	9	14	12
	500	7	14	15	11	6	12	10	10
	750	8	15	18	17	5	10	11	9
	2,500	7	11	15	13	5	13	18	15
Total Protein g/100 ml	0	6.3	6.1	6.2	6.4	6.2	6.0	6.0	6.3
	500	6.2	6.0	6.2	6.2	6.3	5.8	6.2	6.5
	750	6.1	5.9	6.1	6.2	6.1	6.1	6.5	6.8
	2,500	6.0	6.2	6.3	6.3	6.3	6.4	6.6	6.5

TABLE XXI (Continued)

SUMMARY OF BIOCHEMICAL MEASUREMENTS ON DOGS FED ZONYL® RP FOR THREE MONTHS

	ppm in Diet	MALES				FEMALES			
		Pre-test	Months on Test			Pre-test	Months on Test		
			1	2	3		1	2	3
Albumin/Globulin	0	1.12	1.27	0.97	1.00	1.11	1.29	1.09	1.29
	500	1.15	1.16	1.15	1.03	1.14	1.05	0.97	1.14
	750	1.11	1.25	1.18	1.02	1.19	1.16	1.07	0.91
	2,500	1.07	1.05	0.98	1.13	1.16	0.98	0.93	1.12
Albumin g/100 ml	0	3.3	3.4	3.0	3.2	3.2	3.3	3.2	3.5
	500	3.3	3.2	3.3	3.1	3.3	3.0	3.1	3.4
	750	3.2	3.3	3.3	3.1	3.3	3.2	3.4	3.2
	2,500	3.1	3.1	3.1	3.3	3.3	3.2	3.1	3.4
Creatinine mg %	0	0.6	0.6	0.8	0.8	0.7	0.7	0.9	1.1
	500	0.7	0.6	0.8	0.9	0.7	0.6	0.7	0.8
	750	0.6	0.5	0.7	0.9	0.7	0.7	0.8	0.7
	2,500	0.7	0.6	0.7	0.8	0.7	0.6	0.8	0.9
Bilirubin mg %	0	0.2	0.4	0.3	0.2	0.1	0.2	0.2	0.2
	500	0.1	0.4	0.2	0.2	0.1	0.3	0.4	0.6
	750	0.2	0.3	0.2	0.2	0.1	0.4	0.3	0.5
	2,500	0.2	0.3	0.2	0.2	0.2	0.3	0.3	0.3

TABLE XXII

ORGAN WEIGHTS IN GRAMS OF INDIVIDUAL MALE DOGS SACRIFICED AFTER THREE MONTHS' FEEDING OF ZONYL® RP

Group	Dog No.	Body Wt. (kg)	Brain	Heart	Lungs	Liver	Spleen	Pancreas	Kidney	Testis	Prostate	Bladder	Stomach	Thymus	Adrenals	Pituitary	Thyroid
I	1158	12.0	90	106	127	397	30	40	64	25	11.8	5.2	110	9.5	1.3	0.068	0.85
Control	1154	11.5	73	102	175	332	27	32	70	19	7.0	6.9	95	8.3	1.7	0.059	0.92
	1162	11.0	74	111	132	301	25	29	69	24	5.0	6.3	92	5.8	1.2	0.070	0.76
	1150	8.0	77	76	95	270	24	25	47	14	4.6	4.6	86	9.2	1.0	0.056	0.74
II	1153	11.5	73	108	174	408	36	25	73	24	5.3	5.6	93	36.3	1.5	0.077	0.45
500 ppm	1165	9.9	71	90	144	400	26	29	59	21	4.9	5.0	93	13.7	1.2	0.068	0.25
Zonyl® RP	1159	14.9	85	143	191	593	22	32	77	32	8.0	8.8	128	13.7	1.8	0.084	1.02
	1155	10.0	75	74	153	370	20	25	70	14	8.9	4.9	86	4.3	1.1	0.066	0.91
III	1164	8.2	69	68	120	320	15	32	57	17	6.4	6.2	74	8.8	0.8	0.059	0.25
750 ppm	1160	9.8	82	95	121	357	24	29	55	17	5.9	4.8	80	13.2	1.4	0.044	0.65
Zonyl® RP	1152	11.8	91	88	157	454	29	26	59	17	11.2	4.9	108	9.6	1.6	0.057	0.96
	1156	8.6	85	60	121	309	23	18	46	17	7.3	3.2	78	8.7	0.9	0.064	0.57
IV	1163	10.3	84	84	113	486	24	25	68	25	6.2	5.6	99	11.0	1.5	0.084	1.21
2,500 ppm	1161	9.0	81	80	113	493	20	18	62	19	3.4	4.4	87	9.8	1.1	0.064	0.65
Zonyl® RP	1151	11.0	75	87	149	541	22	22	60	20	3.3	5.6	108	16.6	1.0	0.050	1.10
	1157	11.0	90	101	197	516	29	32	63	16	4.3	4.0	99	6.7	1.2	0.073	0.86

TABLE XXIII

ORGAN WEIGHTS IN GRAMS OF INDIVIDUAL FEMALE DOGS SACRIFICED AFTER THREE MONTHS' FEEDING OF ZONYL® RP

Group	Dog No.	Body Wt. (kg)	Brain	Heart	Lungs	Liver	Spleen	Pancreas	Kidney	Stomach	Thymus	Adrenal	Pituitary	Thyroid
I	1137	11.4	78	107	172	349	25	24	57	103	6.2	1.1	0.072	1.19
Control	1141	11.7	76	107	161	372	23	20	66	111	14.5	1.8	0.058	1.03
	1145	9.2	75	65	140	347	19	26	46	83	7.6	1.7	0.059	0.81
	1147	9.6	65	94	152	308	28	31	62	92	12.3	2.0	0.078	0.65
II	1135	8.3	68	81	114	356	22	22	54	87	5.3	1.0	0.076	0.37
500 ppm	1140	7.5	65	60	98	274	22	21	43	76	10.2	1.0	0.072	0.70
Zonyl® RP	1143	8.8	81	70	121	397	19	30	46	88	17.6	1.4	0.074	0.78
	1141	7.6	75	78	134	357	15	22	42	80	4.4	1.6	0.054	1.06
III	1148	10.8	74	74	126	352	16	21	44	77	11.4	1.5	0.062	1.01
750 ppm	1139	8.6	78	73	138	416	23	30	60	83	11.7	1.8	0.071	0.82
Zonyl® RP	1144	9.4	60	67	118	350	17	21	47	75	6.9	1.3	0.060	0.88
	1136	15.3	84	99	189	533	30	30	69	117	13.9	1.5	0.074	0.86
IV	1146	6.8	72	55	90	342	11	21	39	76	6.3	1.2	0.061	0.57
2,500 ppm	1138	9.2	82	80	109	520	17	24	54	80	11.7	1.8	0.049	0.37
Zonyl® RP	1142	8.6	76	79	104	430	21	24	53	76	9.0	1.2	0.056	0.74
	1134	6.8	73	67	80	351	12	22	42	70	10.2	1.7	0.035	0.22

TABLE XXIV

AVERAGE LIVER WEIGHTS AND LIVER/BODY WEIGHT RATIOS OF DOGS FED ZONYL® RP

Group	ppm Zonyl® RP	MALES			FEMALES		
		Final Body Weight (kg)	Liver Weight (g)	Liver Weight / Body Weight X 100	Final Body Weight (kg)	Liver Weight (g)	Liver Weight / Body Weight X 100
I	0	10.4	325	3.15	10.5	344	3.29
II	500	11.6	442	3.82	8.0	346	4.28
III	750	9.6	360	3.75	11.0	413	3.83
IV	2,500	10.3	509	4.95	7.8	411	5.22

TABLE XXV

Histopathology - Group I (Control) - H-7247 - MR-1491

		RESPIRATORY AND CARDIOVASCULAR				DIGESTIVE								GENITOURINARY				
Dog No.	Sex	Lung	Upper trachea	Heart	Aorta	Stomach	Duodenum	Cecum	Colon	Salivary gland	Pancreas	Liver	Esophagus	Testis/ovary	Epididymis/ Fallopian tube	Uterus/ Prostate	Bladder	Kidney
1150	♂	A+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1154	♂	-	-	-	-	-	-	-	-	-	-	-	-	B+	-	-	-	-
1158	♂	C+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1162	♂	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1137	♀	C+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1141	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1145	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1147	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Code: A = Focal pleural fibrosis.
B = Focal germinal cell atrophy or hypoplasia.
C = Focal suppurativepneumonitis.
- = No abnormalities detected.
+ = Slight degree of lesion.

TABLE XXV (Continued)

Histopathology - Group I (Control) - H-7247 - MR-1491

			ENDOCRINE				NERVOUS AND MUSCULOSKELETAL				SKIN AND APPENDAGES			HEMIC AND LYMPHATIC			
Dog No.	Days On Test	Sex	Pituitary	Thyroid	Parathyroid	Adrenal	Skeletal Muscle	Sciatic Nerve	Brain	Spinal Cord	Eye	Mammary Gland	Skin	Bone Marrow	Spleen	Thymus	Lymph Node
1150	104	♂	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-
1154	98	♂	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-
1158	98	♂	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-
1162	98	♂	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-
1137	99	♀	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-
1141	99	♀	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-
1145	99	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1147	99	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Code: - = No abnormalities detected.

0 = No tissue available on slide.

TABLE XXVI

Histopathology - Group IV - H-7247 - MR-1491

		RESPIRATORY AND CARDIOVASCULAR				DIGESTIVE								GENITOURINARY				
Dog No.	Sex	Lung	Upper Trachea	Heart	Aorta	Stomach	Duodenum	Cecum	Colon	Salivary Gland	Pancreas	Liver	Esophagus	Testis/ Ovary	Epididymis/ Fallopian Tube	Uterus/ Prostate	Bladder	Kidney
1157	♂	C+	-	-	-	-	-	-	-	-	-	D+	-	B+	-	-	-	-
1151	♂	-	-	-	-	-	-	-	-	-	-	D+	-	B+	-	-	-	-
1161	♂	-	-	-	-	-	-	-	-	-	-	D+	-	-	-	-	-	-
1163	♂	C+	-	-	-	-	-	-	-	-	-	D+	-	-	-	-	-	-
1134	♀	-	-	-	-	-	-	-	-	-	-	D+	-	-	-	-	-	-
1142	♀	C++	-	-	-	-	-	-	-	-	-	D+	-	-	-	-	-	-
1146	♀	-	-	-	-	-	-	-	-	-	-	D+	-	-	-	-	-	-
1138	♀	-	-	-	-	-	-	-	-	-	-	D+	-	-	-	-	-	-

Code: C = Focal suppurative pneumonitis.
B = Focal germinal cell atrophy or hypoplasia.
D = Hepatocyte hypertrophy and degeneration.
- = No abnormalities detected.
+ = Slight degree of lesion.
++ = Moderate degree of lesion.

TABLE XXVI (Continued)

Histopathology - Group IV - H-7247 - MR-1491

		ENDOCRINE				NERVOUS AND MUSCULOSKELETAL				SKIN AND APPENDAGES			HEMIC AND LYMPHATIC			
Dog No.	Sex	Pituitary	Thyroid	Parathyroid	Adrenal	Skeletal Muscle	Sciatic Nerve	Brain	Spinal Cord	Eye	Mammary Gland	Skin	Bone Marrow	Spleen	Thymus	Lymph Node
1157	♂	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-
1151	♂	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-
1161	♂	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-
1163	♂	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-
1134	♀	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-
1142	♀	-	-	-	-	-	-	-	-	-	O	-	-	-	-	E+
1146	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1138	♀	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Code: E = Subcapsular eosinophil infiltration.
- = No abnormalities detected.
O = No tissue available on slide.
+ - Slight degree of lesion.

TABLE XXVII

Histopathology - Group II - H-7247 - MR-1491

Dog No.	Sex	Liver
1155	♂	-
1159	♂	-
1165	♂	-
1153	♂	-
1149	♀	-
1143	♀	-
1140	♀	-
1135	♀	-

Code: - = No abnormalities detected.

TABLE XXVIII

Histopathology - Group III - H-7247 - MR-1491

Dog No.	Sex	Liver
1156	♂	-
1152	♂	-
1160	♂	-
1164	♂	-
1136	♀	-
1144	♀	-
1139	♀	-
1148	♀	-

Code: - = No abnormalities detected.

APPENDIX I

APPENDIX I (1)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1150
Sex: Male
Group: Control

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.56	6.84	7.84	7.24	7.28
Hemoglobin	16.1	17.4	18.6	18.3	19.2
Hematocrit	40	45	50	49	49
Leucocytes	8.1	8.5	9.3	11.2	11.5
DIFFERENTIAL					
Neutrophils	63	52	74	50	57
Seg.	62	52	73	50	57
Juv.	1	0	1	0	0
Myel.	0	0	0	0	0
Lymphocytes	24	44	21	28	28
Eosinophils	10	4	4	22	13
Monocytes	2	0	1	0	2
Basophils	1	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	118	119	120	132	134
Urea Nitrogen	22	17	17	19	13
Cholesterol	110	130	120	130	120
Alk. Phos.	2.9	3.0	2.6	2.5	2.3
GPT	6	5	16	16	14
Total Protein	6.4	6.3	6.2	6.2	6.1
A/G	1.10	1.28	1.44	1.02	0.97
Creatinine	0.6	0.8	0.5	0.8	0.7
Bilirubin	0.3	0.4	0.4	0.5	0.2
Albumin	3.7	3.5	3.7	3.1	3.0
Urinalysis					
Volume	185	160	155	125	110
Appearance	D,Y,Cl,P	D,Y,Cl,P	A,Cl	D,Y,Cl,P	D,Y,Cl
Osmolality	1950	1373	2146	2159	2081
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	N	N
Acetone	N	N	N	N	N
pH	6.8	7.0	6.8	6.8	7.0
Urobilinogen	1.0	1.0	1.0	1.0	1.0
Bilirubin	P	P	P	P	P
Protein	Tr	Tr	1+	1+	1+
Creatinine	132	108	150	166	212
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-2	1-4	0-3	0-1	0
Epithelial	0	0	0	0	0-1
Bacteria	2+	2+	2+	2+	2+
Cast	0	0	0	0	0
Sperm	0	1-5	0	2-6	5-10

APPENDIX I (2)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1154
Sex: Male
Group: Control

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	7.28	7.24	8.04	7.88	7.64
Hemoglobin	18.7	18.1	19.4	19.0	19.2
Hematocrit	51	48	54	49	51
Leucocytes	15.0	11.5	12.5	12.1	11.7
DIFFERENTIAL					
Neutrophils	74	70	67	63	68
Seg.	71	70	67	63	66
Juv.	3	0	0	0	2
Myel.	0	0	0	0	0
Lymphocytes	22	24	25	32	23
Eosinophils	4	6	7	5	9
Monocytes	0	0	1	0	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	150	124	180	126	124
Urea Nitrogen	13	10	14	10	12
Cholesterol	145	175	145	160	150
Alk. Phos.	4.7	4.9	3.4	3.8	3.3
GPT	12	5	20	13	12
Total Protein	6.4	6.6	6.2	6.3	6.7
A/G	1.04	1.07	1.17	1.14	1.24
Creatinine	0.5	0.8	0.6	0.8	0.8
Bilirubin	0.1	0.1	0.4	0.2	0.2
Albumin	3.3	3.4	3.3	3.4	3.7
Urinalysis					
Volume	245	275	205	270	185
Appearance	Y,Cl,P	Y,Cl,P	A,Cl	Y,Cl,P	D,Y,Cl,P
Osmolality	1357	1194	1740	1142	1845
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	N	N
Acetone	N	N	N	N	N
pH	7.0	7.2	7.0	7.2	7.2
Urobilinogen	1.0	0.1	1.0	0.1	1.0
Bilirubin	P	P	P	N	P
Protein	1+	N	Tr	Tr	Tr
Creatinine	130	114	138	114	180
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0	0	0
Epithelial	0-1	0	0-1	0	0-1
Bacteria	2+	1+	2+	1+	1+
Cast	0	0	0	0	0
Sperm	0-1	0	1-4	2-4	0

APPENDIX I (3)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1158
Sex: Male
Group: Control

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.56	6.32	7.00	7.00	6.48
Hemoglobin	16.1	16.4	16.8	17.4	17.4
Hematocrit	42	44	46	47	47
Leucocytes	9.9	9.8	9.4	16.9	10.9
DIFFERENTIAL					
Neutrophils	67	72	62	68	73
Seg.	67	72	62	67	73
Juv.	0	0	0	1	0
Myel.	0	0	0	0	0
Lymphocytes	27	24	32	26	21
Eosinophils	4	3	2	3	6
Monocytes	2	0	4	3	0
Basophils	0	1	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	116	122	134	123	101
Urea Nitrogen	14	15	16	19	18
Cholesterol	135	145	135	165	150
Alk. Phos.	3.6	5.3	2.9	3.3	2.9
GPT	8	-	15	15	14
Total Protein	5.7	6.2	6.0	6.2	6.2
A/G	1.19	1.09	1.09	0.73	0.75
Creatinine	0.4	1.0	0.6	0.8	0.8
Bilirubin	0.1	0.1	0.3	0.3	0.3
Albumin	3.1	3.2	3.1	2.6	2.7
Urinalysis					
Volume	95	75	50	90	95
Appearance	A,C1,P	L,A,C1	A,C1	D,Y,C1	D,Y,C1
Osmolality	1929	1520	1919	1908	1955
Occult Blood	N	N	N	N	N
Sugar	1+	Tr	1+	Tr	N
Acetone	N	N	N	N	N
pH	7.0	6.4	6.2	6.4	6.8
Urobilinogen	1.0	1.0	1.0	1.0	1.0
Bilirubin	P	P	P	P	P
Protein	1+	Tr	1+	1+	Tr
Creatinine	132	260	242	222	262
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-1	0	0-2	0	0-1
Epithelial	0	0	0	0	0-1
Bacteria	1+	1+	1+	2+	2+
Cast	0	0	0	0	0
Sperm	0	0	1-5	0	4-5

APPENDIX I (4)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1162
Sex: Male
Group: Control

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.08	6.08	7.16	7.20	6.80
Hemoglobin	15.3	15.6	17.1	17.2	17.1
Hematocrit	40	40	47	46	46
Leucocytes	14.6	16.8	15.0	16.9	11.3
DIFFERENTIAL					
Neutrophils	67	67	65	70	54
Seg.	67	65	65	70	54
Juv.	0	2	0	0	0
Myel.	0	0	0	0	0
Lymphocytes	27	23	22	25	30
Eosinophils	2	8	13	4	15
Monocytes	4	2	0	1	1
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	118	114	112	118	106
Urea Nitrogen	9	8	10	11	14
Cholesterol	115	140	130	145	130
Alk. Phos.	5.0	4.5	3.9	3.6	3.6
GPT	9	8	15	14	11
Total Protein	6.2	6.9	6.1	6.0	6.4
A/G	1.04	1.06	1.38	1.00	1.03
Creatinine	0.5	0.7	0.5	0.6	0.7
Bilirubin	0.1	0.1	0.3	0.2	0.2
Albumin	3.2	3.6	3.5	3.0	3.2
Urinalysis					
Volume	160	225	130	175	210
Appearance	D,Y,Cl,P	L,A,Cl,P	A,Cl,P	Y,Cl,P	L,A,Cl,P
Osmolality	1556	1514	1971	1892	2133
Occult Blood	N	N	N	N	N
Sugar	N	N	N	N	N
Acetone	N	N	N	N	N
pH	8.0	7.2	7.0	7.2	7.0
Urobilinogen	1.0	1.0	1.0	1.0	0.1
Bilirubin	P	P	P	P	P
Protein	1+	Tr	1+	1+	1+
Creatinine	128	132	184	190	172
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-1	0	1-3	0	0
Epithelial	0	0-1	1-3	0	0-1
Bacteria	1+	2+	1+	2+	1+
Cast	0	0	0	0	0
Sperm	0	0-1	0-2	1-3	3-6

APPENDIX I (5)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1153
Sex: Male
Group: 500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	7.00	7.68	7.84	8.08	7.60
Hemoglobin	17.3	18.8	18.7	19.7	18.7
Hematocrit	48	50	52	53	50
Leucocytes	13.3	11.1	11.0	15.4	9.9
DIFFERENTIAL					
Neutrophils	66	60	62	62	63
Seg.	66	60	61	61	62
Juv.	0	0	1	1	1
Myel.	0	0	0	0	0
Lymphocytes	30	34	33	30	28
Eosinophils	4	2	2	8	7
Monocytes	0	4	3	0	2
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	116	158	140	142	104
Urea Nitrogen	13	14	21	18	23
Cholesterol	140	160	100	170	160
Alk. Phos.	6.4	6.1	7.8	8.2	8.6
GPT	9	7	20	18	10
Total Protein	6.2	6.5	6.3	6.3	6.6
A/G	1.39	0.89	1.21	1.18	0.98
Creatinine	0.4	0.8	-	0.9	0.9
Bilirubin	0.1	0.1	0.4	0.3	0.4
Albumin	3.6	3.1	3.4	3.4	3.3
Urinalysis					
Volume	245	185	215	110	210
Appearance	Y,Cl,P	Y,Cl,P	A,Cl,P	Y,Cl,P	D,Y,Cl,P
Osmolality	605	1268	1147	1567	1331
Occult Blood	N	N	N	N	N
Sugar	N	N	N	N	N
Acetone	N	N	N	N	N
pH	8.0	7.0	7.0	7.6	6.8
Urobilinogen	0.1	1.0	0.1	0.1	1.0
Bilirubin	N	P	P	P	P
Protein	N	Tr	Tr	1+	Tr
Creatinine	66	118	88	130	138
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0-1	0-1	0	0
Epithelial	0	0	0	0	0-1
Bacteria	3+	2+	3+	2+	2+
Cast	0	0	0	0	0
Sperm	0	0	1-5	2-5	3-10

APPENDIX I (6)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1155
Sex: Male
Group: 500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	5.92	5.68	6.56	6.76	6.64
Hemoglobin	14.9	14.4	15.6	16.1	15.9
Hematocrit	39	37	42	41	41
Leucocytes	13.0	13.9	13.2	12.5	9.2
DIFFERENTIAL					
Neutrophils	65	62	66	68	69
Seg.	65	62	66	67	69
Juv.	0	0	0	1	0
Myel.	0	0	0	0	0
Lymphocytes	28	26	28	28	28
Eosinophils	6	9	6	4	3
Monocytes	1	3	0	0	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	112	114	120	126	120
Urea Nitrogen	20	17	26	21	11
Cholesterol	115	135	135	160	145
Alk. Phos.	7.6	7.1	8.1	10.6	12.0
GPT	6	4	15	13	11
Total Protein	5.8	6.1	6.0	6.5	6.1
A/G	1.00	1.08	1.00	1.06	1.30
Creatinine	0.6	0.8	0.6	0.8	0.7
Bilirubin	0.1	0.1	0.5	0.2	0.1
Albumin	2.9	3.2	3.0	3.3	3.4
Urinalysis					
Volume	195	245	125	185	155
Appearance	Y,Cl,P	Y,Cl,P	A,Cl,P	D,Y,Cl,P	L,A,Cl,P
Osmolality	1478	1273	1819	1966	2181
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	N	N
Acetone	N	N	N	N	N
pH	7.0	7.0	7.0	7.0	6.8
Urobilinogen	0.1	1.0	1.0	1.0	1.0
Bilirutin	N	P	N	P	P
Protein	Tr	N	1+	1+	1+
Creatinine	104	92	124	158	208
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0-2	0	0	0
Epithelial	0-1	0	0	0	0
Bacteria	2+	2+	1+	2+	3+
Cast	0	0	0	0	0
Sperm	0	0	0-1	0	0-1

APPENDIX I (7)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1159
Sex: Male
Group: 500 ppm

	Control		Months on Test 1	2	2
Hematology					
Erythrocytes	5.64	5.60	5.84	5.48	5.60
Hemoglobin	15.2	15.3	14.9	14.3	14.3
Hematocrit	40	39	39	36	36
Leucocytes	11.0	12.3	12.6	13.7	12.9
DIFFERENTIAL					
Neutrophils	72	60	60	75	71
Seg.	71	60	58	75	70
Juv.	1	0	2	0	1
Myel.	0	0	0	0	0
Lymphocytes	27	32	31	17	23
Eosinophils	1	5	5	6	6
Monocytes	0	3	4	2	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	116	124	118	118	109
Urea Nitrogen	18	17	17	17	19
Cholesterol	165	175	175	195	185
Alk. Phos.	6.6	6.4	7.5	8.7	8.3
GPT	7	6	9	13	12
Total Protein	6.2	6.3	6.1	6.0	6.1
A/G	0.92	1.48	1.40	1.13	0.93
Creatinine	0.5	0.9	0.5	0.8	0.9
Bilirubin	0.1	0.1	0.2	0.1	0.2
Albumin	3.0	3.8	3.6	3.2	2.9
Urinalysis					
Volume	350	165	185	235	275
Appearance	L,Y,Cl,P	Y,Cl,P	D,A,Cl,P	A,Cl,P	L,A,Cl,P
Osmolality	560	1121	1945	1929	1656
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	Tr	N
Acetone	N	N	N	N	N
pH	6.2	7.2	7.4	7.0	7.0
Urobilinogen	0.1	1.0	1.0	0.1	1.0
Bilirubin	N	P	P	P	P
Protein	N	Tr	1+	Tr	Tr
Creatinine	52	130	168	182	170
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0	0	5-10
Epithelial	0	0	0-1	0	0-1
Bacteria	2+	3+	2+	2+	2+
Cast	0	0	0	0	0
Sperm	0	0	0-1	0-1	0-2

APPENDIX I (8)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1165
Sex: Male
Group: 500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	4.96	5.92	7.24	6.48	6.32
Hemoglobin	13.2	15.7	17.6	16.6	16.3
Hematocrit	33	41	49	44	44
Leucocytes	10.4	16.2	15.0	13.2	12.2
DIFFERENTIAL					
Neutrophils	60	64	62	69	66
Seg.	60	64	62	69	66
Juv.	0	0	0	0	0
Myel.	0	0	0	0	0
Lymphocytes	38	35	35	30	27
Eosinophils	1	1	3	0	7
Monocytes	0	0	0	1	0
Basophils	1	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	134	150	182	116	116
Urea Nitrogen	12	16	23	18	25
Cholesterol	-	135	150	170	160
Alk. Phos.	6.5	4.8	4.2	4.8	4.0
GPT	12	7	13	14	12
Total Protein	6.2	6.2	5.5	6.1	6.1
A/G	1.11	1.35	1.03	1.22	0.91
Creatinine	-	0.9	0.6	0.8	0.9
Bilirubin	0.2	0.1	0.3	0.2	0.2
Albumin	3.3	3.6	2.8	3.4	2.9
Urinalysis					
Volume	200	240	310	190	65
Appearance	L,A,Cl,P	D,Y,Cl,P	Y,Cl	A,Cl,P	Y,Cl
Osmolality	1283	1136	1016	1698	1383
Occult Blood	N	N	N	N	N
Sugar	N	N	N	N	N
Acetone	N	N	N	N	N
pH	7.2	6.8	6.8	7.0	7.0
Urobilinogen	0.1	0.1	0.1	1.0	0.1
Bilirubin	P	P	P	P	P
Protein	Tr	Tr	N	1+	Tr
Creatinine	114	92	76	142	116
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-1	0	0	0-1	0-3
Epithelial	0-1	0	0	0	0
Bacteria	3+	1+	3+	2+	2+
Cast	0	0	0	0	0
Sperm	0	0	0	0-3	0-1

APPENDIX I (9)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1152
Sex: Male
Group: 750 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.56	6.80	7.04	7.36	7.08
Hemoglobin	16.9	17.0	17.1	17.9	17.8
Hematocrit	45	45	48	49	49
Leucocytes	8.9	8.2	10.9	13.6	11.8
DIFFERENTIAL					
Neutrophils	69	66	78	74	68
Seg.	68	65	78	74	68
Juv.	1	1	0	0	0
Myel.	0	0	0	0	0
Lymphocytes	26	31	22	25	28
Eosinophils	2	0	0	1	1
Monocytes	3	3	0	0	3
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	112	120	116	120	111
Urea Nitrogen	16	24	28	23	19
Cholesterol	150	165	185	215	195
Alk. Phos.	4.2	4.4	8.1	8.3	6.5
GPT	7	6	15	21	19
Total Protein	6.4	6.4	6.1	6.3	6.2
A/G	1.23	1.05	1.55	1.28	0.80
Creatinine	0.5	1.1	0.6	0.9	1.0
Bilirubin	0.1	0.1	0.2	0.3	0.2
Albumin	3.5	3.3	3.7	3.5	2.8
Urinalysis					
Volume	105	150	110	135	180
Appearance	A,Cl,P	D,Y,Cl,P	A,Cl	D,Y,Cl,P	D,Y,Cl,P
Osmolality	1850	1987	2120	2420	1861
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	Tr	Tr
Acetone	N	N	N	N	N
pH	7.2	7.0	6.4	6.8	7.0
Urobilinogen	0.1	1.0	1.0	1.0	1.0
Bilirubin	P	P	P	P	P
Protein	1+	Tr	Tr	1+	1+
Creatinine	236	180	180	182	180
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0	0-4	0-1
Epithelial	0	0	0-1	0	0-2
Bacteria	2+	2+	2+	2+	2+
Cast	0	0	0	0	0
Sperm	0	0-1	0	0-1	0

APPENDIX I (10)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1156
Sex: Male
Group: 750 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	5.68	6.12	6.56	6.52	6.40
Hemoglobin	14.1	15.9	16.1	15.7	16.0
Hematocrit	36	42	43	42	43
Leucocytes	11.1	10.5	12.9	11.4	11.7
DIFFERENTIAL					
Neutrophils	66	64	61	57	65
Seg.	65	64	61	57	65
Juv.	1	0	0	0	0
Myel.	0	0	0	0	0
Lymphocytes	32	34	32	29	26
Eosinophils	2	1	3	12	9
Monocytes	0	1	4	2	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	106	104	110	104	109
Urea Nitrogen	17	15	24	19	15
Cholesterol	160	180	180	190	180
Alk. Phos.	3.7	3.5	3.7	4.2	3.3
GPT	7	4	16	17	18
Total Protein	5.9	6.0	5.6	5.7	5.9
A/G	0.93	0.79	1.09	1.09	1.27
Creatinine	0.6	0.9	0.5	0.7	0.9
Bilirutin	0.1	0.1	0.5	0.1	0.1
Albumin	2.8	2.6	2.9	3.0	3.3
Urinalysis					
Volume	140	255	125	90	90
Appearance	Y,Cl,P	L,A,Cl,P	A,Cl,P	A,Cl,P	D,Y,Cl
Osmolality	1924	1777	2045	1971	2207
Occult Blood	N	N	N	N	N
Sugar	Tr	N	Tr	Tr	Tr
Acetone	N	N	N	N	N
pH	6.8	7.6	6.8	7.0	6.8
Urobilinogen	1.0	0.1	1.0	1.0	1.0
Bilirubin	N	P	P	P	P
Protein	Tr	Tr	1+	1+	1+
Creatinine	138	116	130	196	224
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	2-6	0	0-2	0-2	2-5
Epithelial	0	0	0-1	0	0-1
Bacteria	2+	2+	1+	2+	2+
Cast	0	0	0	0	0
Sperm	1-2	0-1	0	4-8	1-6

APPENDIX I (11)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1160
Sex: Male
Group: 750 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	5.92	5.68	6.20	6.44	6.40
Hemoglobin	15.5	15.7	16.3	16.9	17.2
Hematocrit	39	42	43	42	46
Leucocytes	8.1	8.5	9.6	8.9	14.4
DIFFERENTIAL					
Neutrophils	69	67	74	70	80
Seg.	69	67	73	70	80
Juv.	0	0	1	0	0
Myel.	0	0	0	0	0
Lymphocytes	29	30	25	29	18
Eosinophils	1	2	0	1	2
Monocytes	1	1	1	0	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	108	112	104	112	104
Urea Nitrogen	11	6	19	15	20
Cholesterol	160	180	200	230	200
Alk. Phos.	5.2	5.3	7.2	8.0	6.1
GPT	8	6	13	16	16
Total Protein	5.8	6.4	5.8	6.2	6.3
A/G	1.23	1.62	1.06	1.22	0.88
Creatinine	0.4	0.7	0.4	0.7	0.8
Bilirubin	0.1	0.1	0.2	0.2	0.2
Albumin	3.2	4.0	3.0	3.4	2.9
Urinalysis					
Volume	205	170	115	70	130
Appearance	Y,Cl,P	Y,Cl,P	A,Cl	D,Y,Cl,P	L,A,Cl,P
Osmolality	1215	1289	1992	1877	2151
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	Tr	N
Acetone	N	N	N	N	N
pH	7.0	7.0	6.8	7.2	6.8
Urobilinogen	0.1	1.0	0.1	0.1	1.0
Bilirubin	P	P	P	P	P
Protein	Tr	Tr	Tr	Tr	1+
Creatinine	112	130	140	196	180
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0-1	0	0
Epithelial	0	0	0	0	0-1
Bacteria	1+	2+	2+	2+	2+
Cast	0	0	0	0	0
Sperm	0-1	0	0-2	0	0-1

APPENDIX I (12)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1164
Sex: Male
Group: 750 ppm .

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.24	5.76	6.40	6.28	6.56
Hemoglobin	16.8	15.1	15.7	16.0	16.7
Hematocrit	44	40	42	42	44
Leucocytes	17.1	16.3	18.3	16.2	14.6
DIFFERENTIAL					
Neutrophils	59	62	67	66	64
Seg.	59	62	67	64	64
Juv.	0	0	0	2	0
Myel.	0	0	0	0	0
Lymphocytes	32	29	27	20	25
Eosinophils	5	9	6	14	11
Monocytes	4	0	0	0	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	114	114	114	127	110
Urea Nitrogen	11	9	12	12	11
Cholesterol	140	155	170	190	180
Alk. Phos.	4.2	4.4	7.4	7.2	5.3
GPT	8	15	14	17	15
Total Protein	5.8	6.3	6.1	6.1	6.2
A/G	1.04	1.00	1.29	1.12	1.13
Creatinine	0.4	0.8	0.5	0.6	0.7
Bilirubin	0.1	0.1	0.2	0.1	0.1
Albumin	3.0	3.2	3.4	3.2	3.3
Urinalysis					
Volume	225	170	185	160	65
Appearance	D,Y,Cl,P	Y,Cl,P	Y,Cl,P	D,Y,Cl,P	Y,Cl
Osmolality	1373	1478	1341	1535	1404
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	N	N
Acetone	N	N	N	N	N
pH	7.0	7.4	7.0	7.2	6.8
Urobilinogen	0.1	1.0	1.0	0.1	1.0
Bilirutin	P	N	P	P	P
Protein	Tr	N	1+	Tr	1+
Creatinine	132	118	96	142	182
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0-1	0	0-1
Epithelial	0	0	0	0	0-1
Bacteria	1+	2+	3+	2+	4+
Cast	0	0	0	0	0
Sperm	0	0-1	0-1	0	0

APPENDIX I (13)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1151
Sex: Male
Group: 2500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.64	6.48	7.00	6.68	6.20
Hemoglobin	17.2	17.3	16.5	16.4	16.3
Hematocrit	46	45	45	43	43
Leucocytes	13.0	12.1	16.7	16.5	21.9
DIFFERENTIAL					
Neutrophils	72	62	67	67	80
Seg.	71	62	64	67	77
Juv.	1	0	3	0	3
Myel.	0	0	0	0	0
Lymphocytes	23	37	26	27	14
Eosinophils	5	1	7	5	5
Monocytes	0	0	0	1	1
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	92	114	94	108	102
Urea Nitrogen	18	14	21	24	10
Cholesterol	150	155	185	230	200
Alk. Phos.	5.5	5.4	10.8	13.6	12.2
GPT	5	4	10	12	9
Total Protein	6.6	6.1	5.9	6.3	6.2
A/G	1.07	1.04	1.05	0.78	1.21
Creatinine	0.4	0.8	0.6	0.7	0.7
Bilirubin	0.2	0.1	0.2	0.1	0.1
Albumin	3.4	3.1	3.0	2.8	3.4
Urinalysis					
Volume	260	130	105	125	100
Appearance	L,A,Cl,P	D,Y,Cl,P	Y,Cl	A,Cl,P	D,Y,Cl,P
Osmolality	1651	1745	1730	1908	1824
Occult Blood	N	N	N	N	N
Sugar	N	N	N	N	N
Acetone	N	N	N	N	N
pH	7.0	7.6	7.0	7.0	6.8
Urobilinogen	0.1	1.0	1.0	1.0	1.0
Bilirubin	P	P	P	P	P
Protein	Tr	Tr	Tr	Tr	Tr
Creatinine	128	154	108	168	220
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0-1	0-1	0	0-3
Epithelial	0	0	0	0	0-1
Bacteria	2+	2+	3+	2+	4+
Cast	0	0	0	0	0
Sperm	0	0	0-1	0-1	0

APPENDIX I (14)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1157
Sex: Male
Group: 2500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.68	6.48	6.92	6.56	5.76
Hemoglobin	16.9	16.5	16.8	16.0	15.1
Hematocrit	44	44	45	42	40
Leucocytes	12.8	10.8	11.8	13.1	13.8
DIFFERENTIAL					
Neutrophils	78	73	67	73	68
Seg.	78	72	67	73	68
Juv.	0	1	0	0	0
Myel.	0	0	0	0	0
Lymphocytes	22	25	26	20	23
Eosinophils	0	2	7	4	9
Monocytes	0	0	0	3	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	116	114	94	122	103
Urea Nitrogen	25	18	27	17	22
Cholesterol	145	145	170	185	170
Alk. Phos.	4.1	4.2	12.6	10.1	11.7
GPT	10	4	11	14	12
Total Protein	5.8	5.9	6.3	6.0	6.2
A/G	1.03	1.02	1.03	1.11	1.08
Creatinine	0.6	0.9	0.6	0.7	0.7
Bilirubin	0.1	0.1	0.3	0.1	0.1
Albumin	2.9	3.0	3.2	3.2	3.2
Urinalysis					
Volume	240	150	175	90	180
Appearance	A,Cl,P	Y,Cl,P	A,Cl,P	A,Cl,P	D,Y,Cl,P
Osmolality	2138	1619	1961	1814	1567
Occult Blood	N	N	N	N	N
Sugar	N	N	N	N	N
Acetone	N	N	N	N	N
pH	7.2	6.8	7.0	7.2	7.2
Urobilinogen	0.1	0.1	0.1	1.0	1.0
Bilirubin	P	P	N	P	P
Protein	Tr	N	Tr	Tr	Tr
Creatinine	136	122	130	226	144
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0-1	0-1	0-2
Epithelial	0	0-1	0	0	0-1
Bacteria	2+	1+	2+	3+	3+
Cast	0	0	0	0	0
Sperm	0	0	1-3	0-1	0-4

APPENDIX I (15)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1161
Sex: Male
Group: 2500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.64	6.60	6.68	6.12	6.52
Hemoglobin	17.0	16.8	15.8	15.1	15.7
Hematocrit	44	44	42	39	42
Leucocytes	8.3	8.9	12.3	10.8	11.6
DIFFERENTIAL					
Neutrophils	61	56	66	65	67
Seg.	61	56	64	65	67
Juv.	0	0	2	0	0
Myel.	0	0	0	0	0
Lymphocytes	36	35	22	32	27
Eosinophils	3	8	11	3	5
Monocytes	0	1	1	0	1
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	119	120	105	112	100
Urea Nitrogen	20	12	30	22	27
Cholesterol	130	140	160	190	180
Alk. Phos.	3.7	3.6	8.6	8.7	10.1
GPT	9	8	12	17	14
Total Protein	6.3	6.1	6.2	6.4	6.4
A/G	1.08	1.18	1.08	1.09	1.28
Creatinine	0.5	0.7	0.6	0.7	0.8
Bilirubin	0.1	0.1	0.3	0.2	0.2
Albumin	3.3	3.3	3.2	3.3	3.6
Urinalysis					
Volume	140	120	180	150	170
Appearance	D,Y,Cl,P	L,A,Cl,P	A,Cl	D,Y,Cl,P	D,Y,Cl
Osmolality	1961	2272	1955	2164	2103
Occult Blood	P	N	N	N	N
Sugar	N	N	N	N	N
Acetone	N	N	N	N	N
pH	6.8	7.0	6.8	7.0	6.8
Urobilinogen	1.0	1.0	1.0	1.0	1.0
Bilirubin	N	N	P	P	P
Protein	Tr	Tr	Tr	1+	Tr
Creatinine	156	174	120	152	150
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-1	2-6	2-10	1-5	0-3
Epithelial	0	0	0-1	0	0-2
Bacteria	2+	1+	2+	2+	2+
Cast	0	0	0	0	0
Sperm	0-1	0	0-2	0	5-10

APPENDIX I (16)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1163
Sex: Male
Group: 2500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	5.12	5.24	5.76	6.08	5.88
Hemoglobin	13.1	13.7	13.8	14.6	14.2
Hematocrit	33	35	36	38	37
Leucocytes	12.4	12.8	11.8	13.4	14.1
DIFFERENTIAL					
Neutrophils	76	67	63	68	73
Seg.	75	66	62	68	70
Juv.	1	1	1	0	3
Myel.	0	0	0	0	0
Lymphocytes	23	27	31	24	21
Eosinophils	1	6	6	6	6
Monocytes	0	0	0	2	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	112	124	110	127	122
Urea Nitrogen	13	12	14	20	18
Cholesterol	150	165	210	220	200
Alk. Phos.	5.0	3.8	10.8	12.7	12.8
GPT	9	9	11	16	15
Total Protein	5.6	5.9	6.2	6.4	6.3
A/G	0.98	1.18	1.02	0.94	0.95
Creatinine	-	0.7	0.6	0.8	0.8
Bilirubin	0.1	0.1	0.2	0.5	0.5
Albumin	2.8	3.2	3.1	3.1	3.1
Urinalysis					
Volume	630	460	190	270	345
Appearance	L,Y,C1,P	L,Y,C1,P	L,Y,C1	Y,C1,P	Y,C1,P
Osmolality	248	471	352	718	570
Occult Blood	N	N	N	N	N
Sugar	N	N	N	N	N
Acetone	N	N	N	N	N
pH	7.0	7.0	7.6	7.2	7.0
Urobilinogen	0.1	0.1	0.1	0.1	0.1
Bilirubin	N	N	N	N	P
Protein	N	N	N	Tr	N
Creatinine	18	38	34	84	66
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-5	0-2	0-1	0-2	0
Epithelial	0	0	0-1	0	0-1
Bacteria	4+	3+	4+	3+	4+
Cast	0	0	0	0	0
Sperm	0	0	0	0	0

APPENDIX I (17)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1137
Sex: Female
Group: Control

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.72	6.68	7.40	7.28	7.76
Hemoglobin	17.8	18.3	18.5	18.9	19.7
Hematocrit	47	48	51	51	54
Leucocytes	12.4	11.4	13.1	10.6	9.1
DIFFERENTIAL					
Neutrophils	60	62	76	71	66
Seg.	58	62	76	71	66
Juv.	2	0	0	0	0
Myel.	0	0	0	0	0
Lymphocytes	28	25	20	24	25
Eosinophils	12	10	4	5	9
Monocytes	0	3	0	0	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	114	109	111	110	101
Urea Nitrogen	10	12	16	19	26
Cholesterol	160	150	160	185	165
Alk. Phos.	4.5	4.7	4.1	3.9	10.1
GPT	7	3	8	9	15
Total Protein	6.4	5.5	6.3	6.4	6.7
A/G	1.20	1.15	1.50	1.21	1.06
Creatinine	0.5	0.5	0.5	0.7	0.8
Bilirubin	0.1	0.2	0.2	0.2	0.2
Albumin	3.5	2.9	3.8	3.5	3.4
Urinalysis					
Volume	125	235	165	190	140
Appearance	D,Y,Cl,P	D,Y,Cl,P	A,Cl,P	A,Cl,P	A,Cl,P
Osmolality	1359	1651	2142	2013	1646
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	N	N
Acetone	N	N	N	N	N
pH	8.5	6.8	6.8	7.0	6.8
Urobilinogen	1.0	1.0	1.0	1.0	1.0
Bilirubin	P	N	P	P	P
Protein	Tr	Tr	Tr	Tr	1+
Creatinine	146	114	164	168	156
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0-1	2-8	0	0
Epithelial	0-1	0	0	0	0
Bacteria	3+	1+	2+	2+	2+
Cast	0	0	0	0	0

APPENDIX I (18)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1141
Sex: Female
Group: Control

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.52	6.60	6.00	6.64	6.28
Hemoglobin	17.5	17.6	14.9	17.2	16.2
Hematocrit	45	46	39	45	43
Leucocytes	10.4	11.1	9.0	10.8	7.8
DIFFERENTIAL					
Neutrophils	72	74	73	77	65
Seg.	72	71	73	75	65
Juv.	0	3	0	2	0
Myel.	0	0	0	0	0
Lymphocytes	21	15	26	20	27
Eosinophils	6	8	1	2	6
Monocytes	1	3	0	1	2
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	114	112	112	147	112
Urea Nitrogen	10	15	17	11	16
Cholesterol	145	140	190	160	145
Alk. Phos.	5.0	5.3	4.1	3.6	4.3
GPT	10	3	12	19	13
Total Protein	6.3	6.5	6.3	6.3	6.2
A/G	0.92	0.95	1.10	1.23	1.50
Creatinine	0.5	0.7	0.6	0.9	0.8
Bilirubin	0.1	0.3	0.2	0.1	0.1
Albumin	3.0	3.2	3.3	3.5	3.7
Urinalysis					
Volume	250	190	150	85	175
Appearance	D,Y,Cl,P	L,A,Cl,P	D,Y,Cl,P	D,Y,Cl,P	A,Cl,P
Osmolality	1546	2018	1625	1924	1856
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	N	N
Acetone	N	N	N	N	N
pH	7.0	6.6	7.0	8.0	7.0
Urobilinogen	1.0	1.0	1.0	1.0	1.0
Bilirubin	N	N	N	P	N
Protein	Tr	Tr	Tr	Tr	Tr
Creatinine	144	152	142	230	174
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-1	0	0	0-1	0-2
Epithelial	0-2	0-1	0-3	0-1	1-5
Bacteria	2+	1+	3+	3+	2+
Cast	0	0	0	0	0

APPENDIX I (19)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1145
Sex: Female
Group: Control

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	7.08	6.72	6.88	7.20	6.76
Hemoglobin	16.9	16.0	16.2	17.8	16.8
Hematocrit	43	41	43	47	42
Leucocytes	9.2	11.2	9.5	12.6	8.3
DIFFERENTIAL					
Neutrophils	74	64	78	74	66
Seg.	74	63	78	74	65
Juv.	0	1	0	0	1
Myel.	0	0	0	0	0
Lymphocytes	24	30	20	26	33
Eosinophils	2	3	2	0	1
Monocytes	0	3	0	0	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	106	118	110	118	102
Urea Nitrogen	13	11	14	15	21
Cholesterol	155	175	155	160	295
Alk. Phos.	3.5	3.4	3.5	3.2	3.1
GPT	7	6	10	17	13
Total Protein	5.9	5.9	5.4	5.7	6.5
A/G	1.16	1.47	1.58	0.99	1.32
Creatinine	0.7	0.8	0.6	0.8	1.0
Bilirutin	0.6	0.2	0.2	0.2	0.2
Albumin	3.2	3.5	3.3	2.8	3.7
Urinalysis					
Volume	190	80	110	120	175
Appearance	Y,Cl,P	A,Cl,P	A,Cl,P	D,Y,Cl,P	L,A,Cl,P
Osmolality	1289	2303	1824	1871	1735
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	N	Tr
Acetone	N	N	N	N	N
pH	7.6	8.0	7.2	7.0	7.0
Urobilinogen	1.0	1.0	1.0	1.0	1.0
Bilirubin	N	N	P	P	P
Protein	N	Tr	Tr	1+	1+
Creatinine	128	236	186	196	180
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0-1	0	0	0
Epithelial	0-1	0	0-1	0-1	0
Bacteria	2+	1+	2+	2+	1+
Cast	0	0	0	0	0

APPENDIX I (20)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1147
Sex: Female
Control

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.32	6.52	6.16	6.60	5.84
Hemoglobin	16.1	17.1	15.5	17.1	17.4
Hematocrit	43	44	43	45	46
Leucocytes	11.8	11.5	17.2	15.2	12.8
DIFFERENTIAL					
Neutrophils	61	60	60	66	60
Seg.	61	60	60	66	59
Juv.	0	0	0	0	1
Myel.	0	0	0	0	0
Lymphocytes	27	30	34	28	24
Eosinophils	11	6	5	5	16
Monocytes	1	4	1	1	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	114	110	100	116	109
Urea Nitrogen	20	22	36	41	46
Cholesterol	170	170	150	165	175
Alk. Phos.	4.4	3.9	4.0	3.6	3.1
GPT	8	5	6	10	8
Total Protein	6.8	6.4	5.8	5.7	5.8
A/G	1.04	1.02	0.98	0.94	1.27
Creatinine	0.8	1.1	1.0	1.2	1.8
Bilirubin	0.1	0.1	0.2	0.1	0.1
Albumin	3.5	3.2	2.9	2.8	3.2
Urinalysis					
Volume	150	50	80	140	110
Appearance	Y,Cl,P	D,Y,Cl	D,Y,Cl	D,Y,Cl	D,Y,Cl
Osmolality	1073	1945	2008	1367	1499
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	N	N
Acetone	N	N	N	N	N
pH	6.8	7.0	6.4	7.2	7.0
Urobilinogen	0.1	1.0	1.0	0.1	1.0
Bilirubin	P	N	P	P	P
Protein	Tr	Tr	Tr	Tr	Tr
Creatinine	152	340	208	138	170
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-2	0	0	0	0
Epithelial	0-1	0-2	0	0	0
Bacteria	2+	2+	1+	2+	2+
Cast	0	0	0	0	0

APPENDIX I (21)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1135
Sex: Female
Group: 500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	7.04	5.68	7.08	7.24	6.64
Hemoglobin	18.8	14.6	17.8	18.0	16.5
Hematocrit	49	47	48	48	43
Leucocytes	10.9	11.2	11.4	12.4	11.2
DIFFERENTIAL					
Neutrophils	66	72	71	74	60
Seg.	66	71	69	72	58
Juv.	0	1	2	2	2
Myel.	0	0	0	0	0
Lymphocytes	32	25	24	24	22
Eosinophils	1	0	5	2	16
Monocytes	1	3	0	0	2
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	102	110	118	104	110
Urea Nitrogen	13	8	11	23	22
Cholesterol	130	150	205	235	285
Alk. Phos.	7.0	6.6	8.0	6.5	4.2
GPT	6	2	9	10	9
Total Protein	6.7	5.8	5.8	6.6	6.8
A/G	1.40	1.09	1.05	0.90	0.80
Creatinine	0.5	0.5	0.6	0.7	0.8
Bilirubin	0.2	0.2	0.3	0.4	0.3
Albumin	3.9	3.0	3.0	3.1	3.0
Urinalysis					
Volume	60	165	160	160	145
Appearance	D,Y,Cl,P	Y,Cl,P	A,Cl,P	D,Y,Cl,P	A,Cl
Osmolality	1871	1136	1467	1488	2098
Occult Blood	N	N	N	N	N
Sugar	Tr	N	1+	Tr	N
Acetone	N	N	N	N	N
pH	6.6	7.0	8.0	7.0	6.8
Urobilinogen	0.1	0.1	1.0	1.0	1.0
Bilirubin	N	N	P	N	P
Protein	Tr	Tr	1+	Tr	Tr
Creatinine	202	88	118	154	182
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-1	0-2	0-1	0	0
Epithelial	0-2	0	0-5	0-1	0
Bacteria	1+	1+	2+	2+	1+
Cast	0	0	0	0	0

APPENDIX I (22)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1140
Sex: Female
Group: 500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.20	6.40	6.44	6.68	6.16
Hemoglobin	15.5	16.5	16.4	17.1	15.7
Hematocrit	41	44	45	45	41
Leucocytes	8.2	7.3	10.5	11.1	7.7
DIFFERENTIAL					
Neutrophils	62	72	61	69	68
Seg.	61	71	61	69	68
Juv.	1	1	0	0	0
Myel.	0	0	0	0	0
Lymphocytes	34	26	33	26	25
Eosinophils	3	2	4	5	7
Monocytes	0	0	2	0	0
Basophils	1	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	119	122	120	110	117
Urea Nitrogen	10	9	17	22	17
Cholesterol	170	170	165	170	200
Alk. Phos.	10.7	10.9	8.3	6.9	4.7
GPT	7	3	10	9	6
Total Protein	6.1	6.0	5.9	6.1	6.1
A/G	1.25	1.30	1.15	1.12	1.54
Creatinine	0.8	0.6	0.5	0.6	0.7
Bilirubin	0.1	0.1	0.3	0.3	0.3
Albumin	3.4	3.4	3.2	3.2	3.7
Urinalysis					
Volume	485	165	100	90	85
Appearance	L,Y,Cl,P	Y,Cl,P	D,Y,Cl	A,Cl	D,Y,Cl,P
Osmolality	209	951	1310	2151	1814
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	Tr	N
Acetone	N	N	N	N	N
pH	7.2	8.0	7.2	7.2	7.2
Urobilinogen	0.1	0.1	1.0	1.0	1.0
Bilirubin	N	N	N	P	P
Protein	N	N	Tr	1+	1+
Creatinine	14	74	102	204	196
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-2	0	0-2	0-1	0
Epithelial	0-2	0-1	0	0	0-1
Bacteria	3+	2+	1+	1+	2+
Cast	0	0	0	0	0

APPENDIX I (23)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1143
Sex: Female
Group: 500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	5.84	6.28	5.72	6.40	5.92
Hemoglobin	14.3	15.8	13.8	15.9	15.7
Hematocrit	36	41	37	40	41
Leucocytes	16.1	14.8	11.3	15.5	11.3
DIFFERENTIAL					
Neutrophils	70	74	68	60	67
Seg.	68	73	68	60	67
Juv.	2	1	0	0	0
Myel.	0	0	0	0	0
Lymphocytes	24	17	30	31	29
Eosinophils	1	5	2	9	4
Monocytes	5	4	0	0	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	116	112	93	106	109
Urea Nitrogen	11	12	32	32	33
Cholesterol	145	160	170	200	220
Alk. Phos.	3.7	4.7	6.5	5.4	4.1
GPT	7	4	11	9	11
Total Protein	6.1	6.4	5.7	6.6	6.6
A/G	1.12	1.05	0.97	0.99	1.34
Creatinine	0.5	0.8	0.6	0.7	0.9
Bilirubin	0.1	0.1	0.3	0.8	0.9
Albumin	3.2	3.3	2.8	3.3	3.8
Urinalysis					
Volume	150	140	170	150	205
Appearance	Y,Cl,P	Y,Cl,P	D,Y,Cl	Y,Cl,P	D,Y,Cl,P
Osmolality	1205	1079	1320	1714	1252
Occult Blood	N	N	N	N	N
Sugar	N	N	N	N	N
Acetone	N	N	N	N	N
pH	7.0	6.8	6.8	6.8	7.0
Urobilinogen	1.0	1.0	1.0	1.0	0.1
Bilirubin	N	N	N	P	P
Protein	Tr	Tr	Tr	Tr	Tr
Creatinine	144	146	102	146	114
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0-1	0	0
Epithelial	0	0-1	0	0	0
Bacteria	2+	1+	3+	4+	1+
Cast	0	0	0	0	0

APPENDIX I (24)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1149
Sex: Female
Group: 500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.64	6.40	4.20	6.76	6.52
Hemoglobin	15.9	15.6	14.8	16.6	16.0
Hematocrit	43	41	40	43	43
Leucocytes	11.5	16.0	9.2	12.6	11.0
DIFFERENTIAL					
Neutrophils	78	75	65	70	77
Seg.	78	74	65	70	75
Juv.	0	1	0	0	2
Myel.	0	0	0	0	0
Lymphocytes	22	23	33	28	22
Eosinophils	0	0	1	1	1
Monocytes	0	2	1	1	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	104	170	116	112	89
Urea Nitrogen	39	37	23	23	26
Cholesterol	170	150	180	215	215
Alk. Phos.	2.0	5.2	10.7	10.7	11.2
GPT	9	9	19	11	13
Total Protein	6.7	6.2	5.6	5.6	6.4
A/G	0.76	1.11	1.03	0.87	0.89
Creatinine	-	1.1	0.6	0.7	0.8
Bilirubin	0.1	0.1	0.2	0.2	0.7
Albumin	2.9	3.3	2.8	2.6	3.0
Urinalysis					
Volume	100	90	130	195	165
Appearance	L,A,Cl	A,Cl	D,A,Cl,P	D,Y,Cl,P	L,A,Cl,P
Osmolality	1950	2525	2460	1546	2281
Occult Blood	N	P	N	N	N
Sugar	N	N	1+	N	Tr
Acetone	N	N	N	N	N
pH	6.4	6.4	6.6	7.0	6.4
Urobilinogen	0.1	0.1	1.0	1.0	1.0
Bilirubin	N	N	N	N	P
Protein	N	N	Tr	Tr	Tr
Creatinine	184	184	130	112	148
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0-1	0-1	0-1
Epithelial	0-1	0-1	0-1	0	0-4
Bacteria	2+	3+	1+	2+	2+
Cast	0	0	0	0	0

APPENDIX I (25)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1136
Sex: Female
Group: 750 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.40	6.64	7.04	6.48	6.88
Hemoglobin	17.4	17.7	17.4	16.2	17.3
Hematocrit	46	46	48	42	46
Leucocytes	17.3	14.0	16.9	14.8	10.5
DIFFERENTIAL					
Neutrophils	68	64	71	63	49
Seg.	68	61	68	62	49
Juv.	0	3	3	1	0
Myel.	0	0	0	0	0
Lymphocytes	27	24	21	26	33
Eosinophils	5	10	8	11	18
Monocytes	0	2	0	0	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	102	90	94	106	109
Urea Nitrogen	12	12	21	12	12
Cholesterol	120	140	210	275	235
Alk. Phos.	4.8	4.7	6.3	7.6	7.9
GPT	5	2	8	9	7
Total Protein	6.4	5.9	6.3	6.6	6.9
A/G	1.24	1.50	0.78	0.98	0.63
Creatinine	0.5	0.7	0.6	0.6	0.6
Bilirubin	0.1	0.2	0.4	0.1	0.2
Albumin	3.5	3.5	2.8	3.3	2.7
Urinalysis					
Volume	275	185	195	135	150
Appearance	D,Y,Cl,P	D,Y,Cl,P	A,Cl,P	D,Y,Cl,P	D,Y,Cl,P
Osmolality	1677	1388	1772	1609	1735
Occult Blood	N	N	N	N	N
Sugar	N	N	Tr	Tr	Tr
Acetone	N	N	N	N	N
pH	7.0	8.2	7.0	8.2	7.2
Urobilinogen	0.1	1.0	1.0	1.0	1.0
Bilirubin	N	N	N	P	P
Protein	Tr	Tr	Tr	Tr	Tr
Creatinine	130	110	114	132	242
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0-1	0	1-5
Epithelial	0-1	0-1	0-1	0-2	0-3
Bacteria	1+	2+	1+	1+	3+
Cast	0	0	0	0	0

APPENDIX I (26)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1139
Sex: Female
Group: 750 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.08	6.24	4.40	7.28	6.64
Hmoglobin	16.7	17.4	16.5	18.5	17.1
Hematocrit	43	45	44	48	45
Leucocytes	12.7	11.8	11.5	16.6	10.8
DIFFERENTIAL					
Neutrophils	66	70	71	79	62
Seg.	66	68	71	78	62
Juv.	0	2	0	1	0
Myel.	0	0	0	0	0
Lymphocytes	29	27	24	21	30
Eosinophils	2	1	5	0	5
Monocytes	3	2	0	0	3
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	104	110	98	120	99
Urea Nitrogen	19	13	21	14	15
Cholesterol	170	170	190	250	340
Alk. Phos.	6.1	5.9	9.6	10.1	9.3
GPT	7	3	12	13	9
Total Protein	6.2	6.2	5.8	6.4	6.8
A/G	0.97	1.00	1.35	1.16	0.92
Creatinine	0.5	0.6	0.6	0.7	0.6
Bilirubin	0.1	0.1	0.3	0.1	0.1
Albumin	3.1	3.1	3.3	3.4	3.3
Urinalysis					
Volume	160	80	90	75	90
Appearance	Y,Cl,P	Y,Cl,P	Y,Cl	Y,Cl,P	Y,Cl
Osmolality	1399	1210	1535	1493	1562
Occult Blood	N	N	N	P	N
Sugar	N	N	Tr	N	N
Acetone	N	N	N	N	N
pH	7.0	7.0	7.0	7.0	7.2
Urobilinogen	1.0	0.1	1.0	0.1	1.0
Bilirubin	N	N	P	P	P
Protein	Tr	Tr	Tr	Tr	Tr
Creatinine	112	128	94	172	158
MICROSCOPIC					
RBC's	0	0	0	1-6	0
WBC's	0-2	0-2	0-1	0-2	0-2
Epithelial	0-1	0	0-1	0-1	0-4
Bacteria	2+	2+	1+	2+	2+
Cast	0	0	0	0	0

APPENDIX I (27)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1144
Sex: Female
Group: 750 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.40	6.80	7.32	7.76	7.12
Hemoglobin	15.0	17.3	18.2	19.2	18.1
Hematocrit	38	45	50	50	48
Leucocytes	12.4	11.0	11.4	13.4	12.5
DIFFERENTIAL					
Neutrophils	80	72	79	77	70
Seg.	77	71	79	75	67
Juv.	3	1	0	2	3
Myel.	0	0	0	0	0
Lymphocytes	17	25	20	22	29
Eosinophils	2	3	1	1	1
Monocytes	1	0	0	0	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	112	115	80	104	100
Urea Nitrogen	18	19	25	27	26
Cholesterol	160	185	200	245	285
Alk. Phos.	4.0	3.5	4.4	6.4	8.6
GPT	7	4	8	9	9
Total Protein	5.9	6.1	6.1	6.6	6.5
A/G	1.31	1.32	1.25	1.10	1.13
Creatinine	0.6	0.8	0.7	0.9	0.8
Bilirubin	0.2	0.2	0.6	0.7	1.2
Albumin	3.3	3.5	3.4	3.5	3.4
Urinalysis					
Volume	150	150	135	145	195
Appearance	D,Y,Cl,P	A,Cl,P	A,Cl	A,Cl	A,Cl,P
Osmolality	1898	1877	1766	1898	2194
Occult Blood	N	N	N	N	N
Sugar	N	Tr	1+	N	N
Acetone	N	N	N	N	N
pH	7.0	7.0	6.6	6.6	6.8
Urobilinogen	1.0	1.0	1.0	1.0	1.0
Bilirubin	P	N	P	P	P
Protein	Tr	Tr	Tr	N	Tr
Creatinine	184	188	126	148	166
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0	0	0	0	0-1
Epithelial	0	0	0-1	0	0-3
Bacteria	2+	2+	3+	1+	2+
Cast	0	0	0	0	0

APPENDIX I (28)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1148
Sex: Female
Group: 750 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.28	6.88	7.08	7.28	7.16
Hemoglobin	15.8	16.5	17.0	17.7	17.3
Hematocrit	42	43	47	46	46
Leucocytes	9.2	11.8	12.9	14.4	11.2
DIFFERENTIAL					
Neutrophils	59	71	56	51	67
Seg.	58	70	56	50	66
Juv.	1	1	0	1	1
Myel.	0	0	0	0	0
Lymphocytes	41	29	34	38	28
Eosinophils	0	0	8	9	5
Monocytes	0	0	2	2	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	106	116	108	120	112
Urea Nitrogen	26	25	26	22	31
Cholesterol	150	160	235	260	310
Alk. Phos.	3.1	2.9	4.4	4.6	3.4
GPT	8	5	12	13	11
Total Protein	5.8	5.9	6.2	6.3	7.0
A/G	1.11	1.10	1.24	1.03	0.94
Creatinine	-	0.8	0.7	0.8	0.8
Bilirubin	0.2	0.4	0.3	0.3	0.4
Albumin	3.1	3.1	3.4	3.2	3.4
Urinalysis					
Volume	115	110	180	33	125
Appearance	D,Y,C1,P	D,Y,C1	D,Y,C1	Y,C1	D,Y,C1
Osmolality	1777	1856	1436	392	2034
Occult Blood	N	N	N	P	N
Sugar	N	N	N	N	Tr
Acetone	N	N	N	N	N
pH	6.8	6.8	7.0	7.0	7.0
Urobilinogen	1.0	1.0	1.0	0.1	1.0
Bilirubin	P	P	P	P	P
Protein	Tr	N	Tr	Tr	Tr
Creatinine	174	184	114	50	208
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-1	0	0	0-1	0-1
Epithelial	0-1	0	0	0-2	0-2
Bacteria	2+	1+	3+	1+	2+
Cast	0	0	0	0	0

APPENDIX I (29)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1134
Sex: Female
Group: 2500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	5.68	6.64	6.40	6.60	6.60
Hemoglobin	17.6	18.1	16.8	17.1	16.8
Hematocrit	44	46	45	44	44
Leucocytes	10.5	9.0	9.0	13.2	9.1
DIFFERENTIAL					
Neutrophils	57	65	67	75	68
Seg.	57	65	66	73	68
Juv.	0	0	1	2	0
Myel.	0	0	0	0	0
Lymphocytes	38	30	27	19	29
Eosinophils	3	3	3	4	3
Monocytes	2	2	3	2	0
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	112	100	91	110	124
Urea Nitrogen	11	9	13	16	17
Cholesterol	140	155	235	290	285
Alk. Phos.	4.4	6.8	15.4	17.7	15.2
GPT	8	3	14	24	17
Total Protein	6.3	6.2	6.5	6.7	6.8
A/G	1.37	1.15	0.94	0.97	1.05
Creatinine	0.5	0.6	0.6	0.8	0.8
Bilirubin	0.1	0.2	0.3	0.2	0.5
Albumin	3.6	3.3	3.1	3.3	3.5
Urinalysis					
Volume	120	130	165	175	170
Appearance	D,Y,Cl,P	D,Y,Cl,P	A,Cl,P	D,Y,Cl,P	A,Cl,P
Osmolality	2116	1798	1724	1436	1903
Occult Blood	N	N	N	N	N
Sugar	Tr	Tr	Tr	N	N
Acetone	N	N	N	N	N
pH	7.0	7.0	6.8	7.0	7.2
Urobilinogen	1.0	1.0	1.0	1.0	1.0
Bilirubin	N	N	N	P	P
Protein	Tr	Tr	N	N	1+
Creatinine	156	124	116	100	144
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-1	0	0-1	0	0
Epithelial	0	0-1	0	0	0-1
Bacteria	2+	1+	3+	3+	3+
Cast	0	0	0	0	0

APPENDIX I (30)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1138
Sex: Female
Group: 2500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.52	6.68	5.84	5.16	6.16
Hemoglobin	17.1	17.4	14.9	12.8	15.3
Hematocrit	44	45	39	31	41
Leucocytes	8.5	7.7	10.7	9.7	7.4
DIFFERENTIAL					
Neutrophils	73	69	70	77	63
Seg.	72	69	70	75	60
Juv.	1	0	0	2	3
Myel.	0	0	0	0	0
Lymphocytes	22	20	28	23	34
Eosinophils	3	8	2	0	1
Monocytes	2	3	0	0	2
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	104	102	90	120	108
Urea Nitrogen	14	11	21	17	16
Cholesterol	175	180	348	436	275
Alk. Phos.	8.0	7.6	12.8	14.1	13.5
GPT	6	3	11	16	17
Total Protein	6.5	6.3	6.6	6.7	6.3
A/G	1.09	0.97	0.88	0.78	1.28
Creatinine	0.4	0.6	0.6	0.7	0.8
Bilirubin	0.1	0.2	0.3	0.2	0.2
Albumin	3.4	3.1	3.1	2.9	3.5
Urinalysis					
Volume	270	380	415	290	175
Appearance	Y,Cl,P	Y,Cl,P	Y,Cl	Y,Cl,P	A,Cl,P
Osmolality	1399	931	684	862	1420
Occult Blood	N	N	N	N	N
Sugar	N	N	N	N	N
Acetone	N	N	N	N	N
pH	7.0	7.0	6.8	7.0	7.2
Urobilinogen	0.1	0.1	0.1	1.0	1.0
Bilirubin	N	N	N	P	N
Protein	Tr	N	N	N	Tr
Creatinine	104	72	48	82	158
MICROSCOPIC					
RBC's	0	0	0	0	0
WBC's	0-1	0-1	0	0-1	0
Epithelial	0-1	0-1	0-1	0	0-1
Bacteria	2+	4+	3+	4+	2+
Cast	0	0	0	0	0

APPENDIX I (31)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1142
Sex: Female
Group: 2500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	5.76	6.00	5.28	5.96	5.72
Hemoglobin	16.1	16.3	13.6	15.9	14.9
Hematocrit	41	41	36	40	39
Leucocytes	16.1	12.3	13.3	14.7	8.5
DIFFERENTIAL					
Neutrophils	41	65	54	66	61
Seg.	40	65	52	66	61
Juv.	1	0	2	0	0
Myel.	0	0	0	0	0
Ly hocytes	23	28	30	27	25
Eosinophils	36	7	16	7	13
Monocytes	0	0	0	0	1
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	110	120	92	108	102
Urea Nitrogen	29	20	23	28	21
Cholesterol	140	155	265	260	235
Alk. Phos.	3.5	3.8	6.1	9.2	8.6
GPT	8	3	16	16	15
Total Protein	6.4	6.6	6.1	6.6	6.3
A/G	1.11	1.02	1.02	0.89	0.86
Creatinine	0.6	0.8	0.7	0.8	1.0
Bilirubin	0.6	0.2	0.2	0.5	0.2
Albumin	3.4	3.3	3.1	3.1	2.9
Urinalysis					
Volume	240	175	115	165	165
Appearance	D,Y,Cl,P	L,A,Cl,P	A,Cl,P	A,Cl,P	A,Cl,P
Osmolality	1766	2272	2168	2355	2168
Occult Blood	N	N	N	N	N
Sugar	N	Tr	Tr	N	N
Acetone	N	N	N	N	N
pH	6.8	6.8	7.0	6.6	7.0
Urobilinogen	0.1	1.0	1.0	1.0	1.0
Bilirubin	N	N	N	N	N
Protein	N	Tr	Tr	Tr	Tr
Creatinine	108	144	164	158	178
MICROSCOPIC					
RBC's	0	0	0	Contaminated with Bacteria	0
WBC's	0	0	0-1		0
Epithelial	0	0-3	0-1		0
Bacteria	1+	1+	2+		2+
Cast	0	0	0		0

APPENDIX I (32)
CLINICAL LABORATORY DATA ON INDIVIDUAL DOGS
FED ZONYL® RP FOR THREE MONTHS

Dog No.: 1146
Sex: Female
Group: 2500 ppm

	Control		Months on Test 1	2	3
Hematology					
Erythrocytes	6.48	6.72	5.88	6.00	5.88
Hemoglobin	15.4	16.7	14.3	14.2	15.0
Hematocrit	40	44	38	36	39
Leucocytes	11.1	8.6	11.4	12.3	12.6
DIFFERENTIAL					
Neutrophils	67	64	61	65	62
Seg.	66	64	61	65	62
Juv.	1	0	0	0	0
Myel.	0	0	0	0	0
Lymphocytes	31	35	31	34	30
Eosinophils	0	1	5	0	6
Monocytes	2	0	3	1	2
Basophils	0	0	0	0	0
Atypicals	0	0	0	0	0
Nucleated RBC	0	0	0	0	0
Biochemistry					
Glucose	97	108	110	116	112
Urea Nitrogen	18	15	26	23	19
Cholesterol	155	175	260	270	230
Alk. Phos.	3.8	4.0	7.8	8.3	8.9
GPT	6	3	11	17	12
Total Protein	5.8	6.0	6.3	6.2	6.6
A/G	1.17	1.41	1.07	1.06	1.28
Creatinine	0.6	0.7	0.6	0.8	0.9
Bilirubin	0.1	0.1	0.2	0.1	0.1
Albumin	3.1	3.5	3.3	3.2	3.7
Urinalysis					
Volume	200	110	140	80	95
Appearance	Y,Cl,P	Y,Cl	Y,Cl,P	D,Y,Cl	D,A,Cl,P
Osmolality	1189	743	1247	1724	1942
Occult Blood	N	N	N	N	N
Sugar	N	N	N	N	Tr
Acetone	N	N	N	N	N
pH	7.2	7.0	7.0	7.2	8.0
Urobilinogen	0.1	0.1	0.1	1.0	1.0
Bilirubin	N	N	N	N	P
Protein	Tr	Tr	Tr	Tr	1+
Creatinine	108	136	96	158	198
MICROSCOPIC					
RBC'S	0	0	0	0	0
WBC's	0	0-2	0-1	0	0
Epithelial	0-1	0-1	0-1	0-2	0-1
Bacteria	2+	3+	4+	2+	2+
Cast	0	0	0	0	0