MAYER, BROWN & PLATT

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CABLE LEMAYDC

November 1, 1977

Dr. George Roush, Jr.
Medical Department,
Monsanto Company
800 N. Lindbergh Blvd.
St. Louis, Missouri 63166

Re: PCB's and PBB's

Dear Dr. Roush:

This letter is to confirm our telephone conversation of several weeks ago. My law firm, Mayer, Brown & Platt, represents Velsicol Chemical Company, a defendant in ongoing litigation in the State of Michigan over alleged animal and human injury asserted to have been caused by a polybrominated biphenyl product manufactured by Velsicol.

Several plaintiffs in this litigation have requested that we provide the identity of, and perhaps a copy of, an Industrial Bio-Test Laboratories, Inc., report of a study apparently conducted for Monsanto. This report bears Bio-Test number J-7300 and is dated June 4, 1970. We ask that, if possible, you identify for us the title, the subject matter, and the Bio-Test authors of this report, or, in the alternative, authorize Bio-Test to disclose this information to us. As you recall, in his letter of August 12, 1977, to Mr. L. Roland Roegge with a copy to you, Mr. Fred R. Current, Bio-Test's corporate attorney, directed us to make any such request to you because Bio-Test without your authorization was unable to provide the information to us. I suggest that any letter of authorization be written to Mr. Current.

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Also, we would appreciate any suggestions which you may have as to the identity of doctors or experts who might be able to advise us with respect to any potential human health effects of PBB's, the possibility of their carcinogenicity, and their metabolism in humans and other mammals including the alleged formation of reactive arene oxide intermediates and the covalent binding of those arene oxides with protein macromolecules. Persons with a knowledge of these areas in the context of PCB's would likely be of assistance to us with respect to PBB's. We are also interested in the toxicology of chlorinated or brominated napthalenes and benzenes.

Finally, I suggest that, if convenient for you, we attempt to set up a meeting between defense counsel for Velsicol and counsel or personnel from Monsanto to discuss common litigation problems which we may have in the area of PCB's and PBB's.

If you have any questions, please call me.

Very truly yours,

Harley Hutchins

HH:kj
cc: Mr. Fred R. Current
Mr. L. Roland Roegge
Mr. James E. Knox

DSW 307700

PROJECT NO: 7BTL 70-16
REPORT FILE

410

*Industrial* **BIO-TEST** *Laboratories, Inc.*
1810 FRONTAGE ROAD
NORTHBROOK, ILLINOIS 60062
AREA CODE 312
TELEPHONE 272-3030

REPORT TO

MONSANTO COMPANY

# TOXICITY, REPRODUCTION AND RESIDUE STUDY ON AROCLOR 1242, LOT #AK-255 – CP98363 AROCLOR 1254, LOT #AK-38 CP98365 AROCLOR 1260, LOT #AK-3 CP98366 IN WHITE LEGHORN CHICKENS

JUNE 4, 1970

IBT NO. J7300

DSW 307701

STLCOPCB4069892

# Monsanto

Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166
Phone: (314) 694-1000

TOXICITY, REPRODUCTION AND RESIDUE STUDY ON:

AROCLOR 1242

AROCLOR 1254

AROCLOR 1260

IN WHITE LEGHORN CHICKENS

June 4, 1970

Submitted by:

R. Emmet Kelly, M. D.
Medical Director

DSW 307702

STLCOPCB4069893

*Industrial* **BIO-TEST** *Laboratories, Inc.*
1810 FRONTAGE ROAD
NORTHBROOK, ILLINOIS 60062
AREA CODE 312
TELEPHONE 272-3030

REPORT TO

MONSANTO COMPANY

# TOXICITY, REPRODUCTION AND RESIDUE STUDY ON AROCLOR 1242, LOT #AK-255 AROCLOR 1254, LOT #AK-38 AROCLOR 1260, LOT #AK-3 IN WHITE LEGHORN CHICKENS

JUNE 4, 1970

IBT NO. J7300

DSW 307703

STLCOPCB4069894

*Industrial* **BIO-TEST** *Laboratories, Inc.*
1810 FRONTAGE ROAD
NORTHBROOK, ILLINOIS 60062

June 4, 1970

Mr. Elmer Wheeler
Monsanto Company
800 N. Lindbergh Boulevard
St. Louis, Missouri 63166

Dear Mr. Wheeler:

Re: IBT No. J7300 - Toxicity, Reproduction & Residue Study on Aroclor 1242, Lot #AK-255, Aroclor 1254, Lot #AK-38 & Aroclor 1260, Lot #AK-3 in White Leghorn Chickens

We are submitting herewith our laboratory report dated June 4, 1970, prepared in connection with the above study.

Very truly yours,

J. C. Calandra
President

JCC/kjl

DSW 307704

STLCOPCB4069895

REPORT TO

MONSANTO COMPANY

# TOXICITY, REPRODUCTION AND RESIDUE STUDY ON AROCLOR 1242, LOT #AK-255 AROCLOR 1254, LOT #AK-38 AROCLOR 1260, LOT #AK-3 IN WHITE LEGHORN CHICKENS

JUNE 4, 1970

IBT NO. J7300

## I. Introduction

At the request of Monsanto Company, a toxicity, reproduction and residue study on Aroclor 1242, Lot #AK-255, Aroclor 1254, Lot #AK-38 and Aroclor 1260, Lot #AK-3 in white Leghorn chickens was initiated. This report presents the results of the investigation conducted at Wedge's Creek Research Farm Division, Industrial BIO-TEST Laboratories, Inc.



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II. Summary

White Leghorn chickens were fed Aroclor 1242, Aroclor 1254 or Aroclor 1260 at 1, 10 or 100 ppm in the diet. Effects on the chickens as well as on egg production, hatchability of the eggs and physical characteristics of the eggs were determined. These effects were as follows:

A. Body Weight

The body weights of males fed Aroclor 1242 at 10 or 100 ppm and the body weights of males and females fed Aroclor 1254 at 100 ppm were slightly lower than the weights of control chickens.

B. Food Consumption

The chickens fed Aroclor 1242 at 100 ppm or Aroclor 1254 at 100 ppm ate less than those fed the control diet.

C. Mortality and Reactions

About the same number of birds died in all groups, including controls. These animals exhibited anorexia and became progressively weaker, until death.

D. Pathology

The birds which died showed evidence of malnutrition and extensive growths on the kidneys, gonads, liver or heart. Most of the birds which were sacrificed at the end of the study did not show abnormal gross changes; however some of those fed Aroclor 1254 at 100 ppm showed changes in the heart, kidneys and ovaries.



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E. Egg Production

Egg production in hens fed Aroclor 1242 at 100 ppm or Aroclor 1254 at 100 ppm was much lower than the egg production of the control group.

F. Hatchability of Eggs

There was poor hatchability of eggs from hens fed Aroclor 1242 at 10 ppm. None of the eggs hatched from hens fed Aroclor 1242 at 100 ppm or Aroclor 1254 at 100 ppm. Eggs from hens fed Aroclor 1242 at 10 or 100 ppm, that did not hatch had a large number of embryos in the 1 to 3 cm size.

G. Physical Characteristics of Eggs

There were no significant differences in specific gravity among eggs from treated or from control hens. The egg shells, however, from hens fed Aroclor 1242 at 10 or 100 ppm or fed Aroclor 1254 at 100 ppm were not as thick as the shells of eggs from hens fed the control diet.

H. Conclusions

Therefore the ingestion of Aroclor 1242 at 1 ppm, Aroclor 1254 at 1 or 10 ppm or Aroclor 1260 at 1, 10 or 100 ppm caused no apparent effects on the mature chickens or on their eggs, including hatchability and physical characteristics of the eggs. However, the

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chickens fed Aroclor 1242 at 10 or 100 ppm or Aroclor 1254 at 100 ppm did not produce as many eggs as the chickens fed the control diet. The eggs from these three groups of chickens had thin shells and did not hatch well after incubation.

Respectfully submitted,

INDUSTRIAL BIO-TEST LABORATORIES, INC.

James Lee Stephens

Report prepared by: James L. Stephens, B.S.
Technical Supervisor
Wedge's Creek Research Farm

Donald H. Jenkins

Report approved by: Donald H. Jenkins, D.V.M.
Manager and Technical Director
Wedge's Creek Research Farm

M. L. Keplinger

M. L. Keplinger, Ph.D.
Manager, Toxicology

Otis E. Fancher

Otis E. Fancher, Ph.D.
Director

June 4, 1970

al:nk

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## III. Procedure

### A. Experimental Animals

The animals employed in this study were white Leghorn chickens. A total of 200 hens and 40 roosters were used.

### B. Organization of Groups

The animals were divided into ten equal groups; one Control Group (C) and nine Test Groups (TI through TIX). A structural outline of the experiment is presented in Table I.



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TABLE I

TEST MATERIAL: Three Aroclors

Outline of Experiment

White Leghorn Chickens

| Group | Number of Animals on Test Males | Females | Test Material | Dose Levels in Feed* (ppm) |
|---|---|---|---|---|
| Control (C) | 4 | 20 | None | - |
| Test I (TI) | 4 | 20 | Aroclor 1242, Lot #AK-255 | 1 |
| Test II (TII) | 4 | 20 | Aroclor 1242, Lot #AK-255 | 10 |
| Test III (TIII) | 4 | 20 | Aroclor 1242, Lot #AK-255 | 100 |
| Test IV (TIV) | 4 | 20 | Aroclor 1254, Lot #AK-38 | 1 |
| Test V (TV) | 4 | 20 | Aroclor 1254, Lot #AK-38 | 10 |
| Test VI (TVI) | 4 | 20 | Aroclor 1254, Lot #AK-38 | 100 |
| Test VII (TVII) | 4 | 20 | Aroclor 1260, Lot #AK-3 | 1 |
| Test VIII (TVIII) | 4 | 20 | Aroclor 1260, Lot #AK-3 | 10 |
| Test IX (IX) | 4 | 20 | Aroclor 1260, Lot #AK-3 | 100 |

* Purina Flock Chow, Ralston Purina Co., St. Louis, Missouri.





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C. Dosage and Feeding

All groups received the same base feed*. Test diets were prepared weekly. The test materials were diluted with acetone before addition to the feed to assure even distribution throughout the ration. An equal amount of acetone, without test material, was added to the control feed and the feed was then blended in the same manner as the test feeds.

All animals were allowed water and their respective control or test feed ad libitum. Dosing began when the birds were 12 weeks of age and continued until hatching results were available.

D. Observations

Observations were made daily to ascertain the presence or absence of clinical signs of toxicity indicative of test material effect. All chickens were individually weighed and the group feed consumption determined weekly.

As each group began laying, the eggs were collected daily and the egg weights recorded. When the egg weights were consistently between 50 and 60 grams, and at least 50 percent of the hens in the group were laying, egg collection for that group was started. The time required to meet these criteria was recorded for each group.



* Purina Flock Chow, Ralston Purina Co., St. Louis, Missouri.

STLCOPCB4069902

The egg production was collected for the following studies:

1. Egg Production and Quality

Eggs were collected, weighed and candled for a number of seven-day periods. The total number and individual weights of eggs collected, the total number of uncracked and unblemished eggs and the total number of each type of defective egg were recorded.

2. Hatchability

One-half of all non-defective eggs were randomly selected for hatching. These eggs were turned twice daily during the seven-day collection period, then placed in an incubator maintained at 99° to 100° F, with a wet bulb reading of 85° F. This procedure was followed until a minimum of 100 eggs from the control group and each no-effect test group had been set for hatching. The following was recorded:

a. Number hatched

b. Number unhatched

c. Viability of chicks over a 30-day period during which feed* and water were permitted ad libitum.

d. Examination of unhatched eggs for fertility and stage of development.

e. Weight of chicks after Day 1 and Day 30.

f. Gross pathological examination of chicks at sacrifice after the 30-day observation period.

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* Purina Startina, Ralston Purina Company, St. Louis, Missouri.

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3. Physical and Chemical Characteristics of Eggs

One-fourth of the non-defective eggs and all of the defective eggs were examined to determine the following:

a. Specific gravity (intact eggs only)

b. Thickness of shells at equatorial circumference (three measurements/egg).

4. Residue Studies

The remaining one-fourth of the non-defective eggs were quick-frozen and shipped to Monsanto Company for residue analysis.

After hatching results were available, one-half of the chickens in each group were sacrificed, defeathered and subjected to a gross pathological examination. Two sets of duplicate group composite samples of muscle, liver, fat and kidney were collected, one set from all of the hens and one set from all of the roosters sacrificed. One-half of the tissue samples were quick-frozen and shipped to Monsanto Company for analysis. The duplicate tissue samples and the carcasses were quick-frozen and stored until the results of the analyses were available.

The remaining chickens were fed the base diet without test material for 30 days. The eggs were collected, weighed and candled during the recovery period. A minimum of ten eggs per group per week were quick-frozen and shipped to Monsanto Company for analysis.



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## IV. Results

### A. Parent Generation

#### 1. Body Weight Data

The average male and female body weights during the test diet period are shown in Tables II through XI.

The average male and female body weights during the recovery diet period are shown in Table XII.

These data are summarized in Table XIIA. The body weights of males fed Aroclor 1242 at 10 or 100 ppm and the body weights of males and females fed Aroclor 1254 at 100 ppm were slightly lower than the weights of control chickens.



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TABLE II

TEST MATERIAL: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Control Group

| Sex | Mean Body Weights in Kilograms<br>Week: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.27 | 1.41 | 1.53 | 1.64 | 1.67 | 1.70 | 1.71 | 1.68 | 1.85 |
| F | 0.95 | 0.99 | 1.04 | 1.18 | 1.22 | 1.29 | 1.35 | 1.39 | 1.41 |

| Sex | Mean Body Weights in Kilograms<br>Week: 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.83 | 1.89 | 1.95 | 1.97 | 1.99 | 2.01 | 2.06 | 2.09 | 2.11 |
| F | 1.47 | 1.47 | 1.50 | 1.53 | 1.52 | 1.52 | 1.60 | 1.61 | 1.57 |

| Sex | Mean Body Weights in Kilograms<br>Week: 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|
| M | 2.14 | 2.14 | 2.24 | 2.27 | 2.31 | 2.36 | 2.38 | 2.35 | 2.43 |
| F | 1.59 | 1.57 | 1.75 | 1.75 | 1.75 | 1.78 | 1.81 | 1.84 | 1.89 |



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TABLE III

TEST MATERIAL: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Aroclor 1242 - 1 ppm

| Sex | Mean Body Weights in Kilograms<br>Week: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.27 | 1.46 | 1.57 | 1.65 | 1.68 | 1.72 | 1.80 | 1.82 | 1.83 |
| F | 0.95 | 1.00 | 1.07 | 1.18 | 1.25 | 1.30 | 1.39 | 1.45 | 1.47 |

| Sex | Mean Body Weights in Kilograms<br>Week: 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.85 | 1.95 | 2.01 | 2.06 | 2.08 | 2.14 | 2.17 | 2.19 | 2.22 |
| F | 1.45 | 1.49 | 1.55 | 1.57 | 1.57 | 1.58 | 1.59 | 1.65 | 1.67 |

| Sex | Mean Body Weights in Kilograms<br>Week: 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|
| M | 2.20 | 2.23 | 2.50 | 2.53 | 2.59 | 2.61 | 2.60 | 2.61 | 2.68 |
| F | 1.64 | 1.66 | 1.81 | 1.76 | 1.81 | 1.86 | 1.86 | 1.83 | 1.88 |



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TABLE IV

TEST MATERIAL: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Aroclor 1242 - 10 ppm

| Sex | Mean Body Weights in Kilograms<br>Week: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.28 | 1.45 | 1.41 | 1.49 | 1.52 | 1.55 | 1.59 | 1.66 | 1.63 |
| F | 0.95 | 1.00 | 1.05 | 1.17 | 1.22 | 1.29 | 1.38 | 1.41 | 1.48 |

| Sex | Mean Body Weights in Kilograms<br>Week: 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.60 | 1.71 | 1.71 | 1.77 | 1.80 | 1.81 | 1.82 | 1.84 | 1.86 |
| F | 1.41 | 1.52 | 1.50 | 1.53 | 1.57 | 1.62 | 1.63 | 1.63 | 1.63 |

| Sex | Mean Body Weights in Kilograms<br>Week: 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.89 | 1.86 | 2.00 | 2.03 | 2.05 | 2.11 | 2.11 | 2.08 | 2.11 |
| F | 1.59 | 1.59 | 1.74 | 1.79 | 1.82 | 1.90 | 1.82 | 1.84 | 1.82 |





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TABLE V

TEST MATERIAL: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Aroclor 1242 - 100 ppm

| Sex | Mean Body Weights in Kilograms<br>Week: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.28 | 1.41 | 1.52 | 1.58 | 1.61 | 1.67 | 1.69 | 1.70 | 1.72 |
| F | 0.96 | 1.02 | 1.07 | 1.15 | 1.19 | 1.27 | 1.37 | 1.38 | 1.44 |

| Sex | Mean Body Weights in Kilograms<br>Week: 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.60 | 1.75 | 1.78 | 1.76 | 1.75 | 1.77 | 1.81 | 1.79 | 1.78 |
| F | 1.46 | 1.52 | 1.47 | 1.52 | 1.47 | 1.65 | 1.67 | 1.66 | 1.63 |

| Sex | Mean Body Weights in Kilograms<br>Week: 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|
| M | 1.78 | 1.74 | 1.79 | 1.92 | 2.05 |
| F | 1.63 | 1.62 | 1.66 | 1.69 | 1.88 |





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TABLE VI

TEST MATERIAL: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Aroclor 1254 - 1 ppm

| | | Mean Body Weights in Kilograms | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sex | Week: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| M | 1.28 | 1.40 | 1.46 | 1.55 | 1.58 | 1.61 | 1.64 | 1.76 | 1.80 | |
| F | 0.96 | 1.00 | 1.06 | 1.15 | 1.20 | 1.27 | 1.40 | 1.42 | 1.49 | |

| | | Mean Body Weights in Kilograms | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sex | Week: 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
| M | 1.83 | 1.86 | 1.91 | 1.99 | 2.01 | 1.96 | 1.98 | 1.99 | 2.00 | |
| F | 1.51 | 1.54 | 1.54 | 1.61 | 1.62 | 1.62 | 1.65 | 1.66 | 1.69 | |

| | | Mean Body Weights in Kilograms | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sex | Week: 19 | 20 | 21 | 22 | 23 | 24 | 25 | | | |
| M | 1.85 | 2.22 | 2.21 | 2.24 | 2.22 | 2.26 | 2.26 | | | |
| F | 1.66 | 1.69 | 1.73 | 1.73 | 1.71 | 1.74 | 1.93 | | | |



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TABLE VII

TEST MATERIAL: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Aroclor 1254 - 10 ppm

| Sex | Mean Body Weights in Kilograms<br>Week: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.28 | 1.40 | 1.49 | 1.47 | 1.46 | 1.60 | 1.68 | 1.73 | 1.75 |
| F | 0.96 | 0.96 | 1.10 | 1.14 | 1.21 | 1.32 | 1.40 | 1.44 | 1.49 |

| Sex | Mean Body Weights in Kilograms<br>Week: 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.73 | 1.72 | 1.80 | 1.88 | 1.93 | 2.00 | 2.03 | 2.01 | 2.03 |
| F | 1.46 | 1.52 | 1.50 | 1.52 | 1.55 | 1.66 | 1.63 | 1.60 | 1.60 |

| Sex | Mean Body Weights in Kilograms<br>Week: 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|
| M | 2.06 | 2.03 | 2.07 | 2.08 | 2.07 | 2.00 | 2.14 | 2.07 | 2.30 |
| F | 1.64 | 1.64 | 1.62 | 1.66 | 1.68 | 1.61 | 1.63 | 1.54 | 1.84 |





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TABLE VIII

TEST MATERIAL: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Aroclor 1254 - 100 ppm

| | | Mean Body Weights in Kilograms | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sex | Week: | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| M | | 1.28 | 1.44 | 1.54 | 1.62 | 1.67 | 1.70 | 1.73 | 1.77 | 1.82 |
| F | | 0.95 | 0.98 | 1.05 | 1.12 | 1.17 | 1.22 | 1.27 | 1.37 | 1.40 |

| | | Mean Body Weights in Kilograms | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sex | Week: | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| M | | 1.77 | 1.73 | 1.62 | 1.85 | 1.85 | 1.81 | 1.84 | 1.74 | 1.70 |
| F | | 1.42 | 1.46 | 1.49 | 1.54 | 1.52 | 1.51 | 1.50 | 1.41 | 1.47 |

| | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|
| Sex | Week: | 18 | 19 | 20 | 21 | 22 |
| M | | 1.56 | 1.70 | 1.75 | 1.78 | 1.83 |
| F | | 1.48 | 1.55 | 1.50 | 1.54 | 1.81 |





STLCOPCB4069912

TABLE IX

TEST MATERIAL: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Aroclor 1260 - 1 ppm

| Sex | Mean Body Weights in Kilograms<br>Week: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.28 | 1.48 | 1.55 | 1.65 | 1.66 | 1.74 | 1.88 | 1.81 | 1.85 |
| F | 0.96 | 1.00 | 1.07 | 1.16 | 1.22 | 1.30 | 1.38 | 1.39 | 1.44 |

| Sex | Mean Body Weights in Kilograms<br>Week: 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.86 | 1.91 | 1.92 | 2.02 | 2.06 | 2.11 | 2.10 | 2.10 | 2.18 |
| F | 1.44 | 1.46 | 1.49 | 1.55 | 1.57 | 1.59 | 1.61 | 1.59 | 1.61 |

| Sex | Week: 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|
| M | 2.20 | 2.19 | 2.24 | 2.23 | 2.24 | 2.13 | 1.79 | 1.76 | 1.84 |
| F | 1.59 | 1.65 | 1.66 | 1.69 | 1.69 | 1.69 | 1.79 | 1.76 | 1.84 |



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TABLE X

TEST MATERIALS: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Aroclor 1260 - 10 ppm

| Sex | Mean Body Weights in Kilograms Week: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.28 | 1.47 | 1.54 | 1.62 | 1.68 | 1.72 | 1.76 | 1.79 | 1.84 |
| F | 0.95 | 0.99 | 1.05 | 1.17 | 1.24 | 1.31 | 1.39 | 1.41 | 1.51 |

| Sex | Mean Body Weights in Kilograms Week: 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.76 | 1.80 | 1.89 | 1.93 | 1.98 | 2.03 | 2.05 | 2.02 | 2.07 |
| F | 1.47 | 1.48 | 1.55 | 1.59 | 1.61 | 1.63 | 1.63 | 1.62 | 1.65 |

| Sex | Mean Body Weights in Kilograms Week: 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|
| M | 2.08 | 2.12 | 2.13 | 2.12 | 2.19 | 2.22 | 2.22 | 2.18 | 2.52 |
| F | 2.08 | 1.69 | 1.68 | 1.69 | 1.73 | 1.75 | 1.72 | 1.71 | 1.92 |



DSW 307723

STLCOPCB4069914

TABLE XI

TEST MATERIAL: Three Aroclors

Test Diet Period Body Weight Data

White Leghorn Chickens

Aroclor 1260 - 100 ppm

| Sex | Mean Body Weights in Kilograms Week: 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.28 | 1.45 | 1.46 | 1.55 | 1.59 | 1.61 | 1.70 | 1.77 | 1.73 |
| F | 0.95 | 1.00 | 1.03 | 1.14 | 1.21 | 1.27 | 1.35 | 1.43 | 1.46 |

| Sex | Mean Body Weights in Kilograms Week: 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|
| M | 1.77 | 1.80 | 1.82 | 1.69 | 1.94 | 1.93 | 1.97 | 1.97 | 1.98 |
| F | 1.48 | 1.51 | 1.53 | 1.55 | 1.56 | 1.57 | 1.58 | 1.61 | 1.64 |

| Sex | Mean Body Weights in Kilograms Week: 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|---|---|---|---|---|---|---|---|---|
| M | 2.00 | 1.90 | 1.97 | 1.92 | 1.99 | 1.99 | 2.00 | 2.05 |
| F | 1.64 | 1.67 | 1.63 | 1.68 | 1.68 | 1.71 | 1.68 | 1.86 |





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TABLE XII

TEST MATERIAL: Three Aroclors

Recovery Diet Period Body Weight Data

White Leghorn Chickens

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 26 | 27 | 28 | 29 | Sacrifice |
| Control | M | | 2.43 | 2.42 | 2.42 | 2.45 | 2.44 |
| | F | | 1.89 | 1.89 | 1.85 | 1.85 | 1.88 |

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 26 | 27 | 28 | 29 | Sacrifice |
| Aroclor 1242 | M | | 2.68 | 2.68 | 2.71 | 2.70 | 2.70 |
| 1 ppm | F | | 1.88 | 1.89 | 1.92 | 1.90 | 1.86 |

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 26 | 27 | 28 | 29 | Sacrifice |
| Aroclor 1242 | M | | 2.11 | 2.16 | 2.14 | 2.13 | 2.13 |
| 10 ppm | F | | 1.82 | 1.82 | 1.83 | 1.79 | 1.79 |

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 22 | 23 | 24 | 25 | Sacrifice |
| Aroclor 1242 | M | | 2.05 | 2.10 | 2.06 | 2.06 | 2.10 |
| 100 ppm | F | | 1.88 | 1.85 | 1.94 | 1.91 | 1.91 |

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 25 | 26 | 27 | 28 | Sacrifice |
| Aroclor 1254 | M | | 2.26 | 2.23 | 2.22 | 2.27 | 2.27 |
| 1 ppm | F | | 1.93 | 1.89 | 1.92 | 1.94 | 1.94 |

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 26 | 27 | 28 | 29 | Sacrifice |
| Aroclor 1254 | M | | 2.30 | 2.30 | 2.34 | 2.29 | 2.28 |
| 10 ppm | F | | 1.84 | 1.83 | 1.87 | 1.84 | 1.85 |

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 22 | 23 | 24 | 25 | Sacrifice |
| Aroclor 1254 | M | | 1.83 | 1.76 | 1.83 | 1.97 | 1.96 |
| 100 ppm | F | | 1.81 | 1.79 | 1.76 | 1.66 | 1.68 |

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TABLE XII continued

TEST MATERIAL: Three Aroclors

Recovery Diet Period Body Weight Data

White Leghorn Chickens

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 26 | 27 | 28 | 29 | Sacrifice |
| Aroclor 1260 | M | | 2.11 | 2.17 | 2.18 | 2.18 | 2.18 |
| 1 ppm | F | | 1.84 | 1.92 | 1.94 | 1.92 | 1.82 |

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 26 | 27 | 28 | 29 | Sacrifice |
| Aroclor 1260 | M | | 2.52 | 2.48 | 2.50 | 2.58 | 2.57 |
| 10 ppm | F | | 1.92 | 1.90 | 1.96 | 2.02 | 2.01 |

| | | | Mean Body Weights in Kilograms | | | | |
|---|---|---|---|---|---|---|---|
| Group | Sex | Week: | 25 | 26 | 27 | 28 | Sacrifice |
| Aroclor 1260 | M | | 2.05 | 2.12 | 2.14 | 2.20 | 2.26 |
| 100 ppm | F | | 1.86 | 1.90 | 1.90 | 1.93 | 1.95 |



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TABLE XII-A

TEST MATERIAL: Three Aroclors
White Leghorn Chickens

Summary of Body Weight Data

| Group and Test Material | Concentration (ppm) | Mean Body Weight Data - Kilograms 0 Day: Male | 0 Day: Female | Through Dosing: Male | Through Dosing: Female | At Sacrifice: Male | At Sacrifice: Female |
|---|---|---|---|---|---|---|---|
| I Control | - | 1.27 | 0.95 | 2.43 | 1.89 | 2.44 | 1.88 |
| II Arbclor 1242 | 1 | 1.27 | 0.95 | 2.68 | 1.88 | 2.70 | 1.86 |
| III Arbclor 1242 | 10 | 1.28 | 0.95 | 2.11 | 1.82 | 2.13 | 1.79 |
| IV Arbclor 1242 | 100 | 1.28 | 0.96 | 2.05 | 1.88 | 2.10 | 1.91 |
| V Aroclor 1254 | 1 | 1.28 | 0.96 | 2.26 | 1.93 | 2.27 | 1.94 |
| VI Arbclor 1254 | 10 | 1.28 | 0.96 | 2.30 | 1.84 | 2.28 | 1.85 |
| VII Aroclor 1254 | 100 | 1.28 | 0.95 | 1.83 | 1.81 | 1.97 | 1.68 |
| VIII Aroclor 1260 | 1 | 1.28 | 0.96 | 2.11 | 1.84 | 2.18 | 1.82 |
| IX Aroclor 1260 | 10 | 1.28 | 0.95 | 2.52 | 1.92 | 2.57 | 2.01 |
| X Aroclor 1260 | 100 | 1.28 | 0.95 | 2.05 | 1.86 | 2.26 | 1.95 |



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2. Food Consumption

The food consumption data for the parent generation are presented in Table XIII.

The chickens fed Aroclor 1242 at 100 ppm or Aroclor 1254 at 100 ppm ate less than those fed the control diet.

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TABLE XIII

TEST MATERIAL: Three Aroclors

Average Food Consumption in grams/bird/day

White Leghorn Chickens

| Week | Control | 1242 1 ppm | 1242 10 ppm | 1242 100 ppm | 1254 1 ppm | 1254 10 ppm | 1254 100 ppm | 1260 1 ppm | 1260 10 ppm | 1260 100 ppm |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Test Period | | | | | | |
| 1 | 67 | 66 | 78 | 63 | 77 | 77 | 80 | 82 | 78 | 66 |
| 2 | 90 | 67 | 81 | 70 | 82 | 72 | 54 | 39 | 54 | 88 |
| 3 | 97 | 98 | 90 | 77 | 95 | 88 | 90 | 99 | 98 | 86 |
| 4 | 113 | 136 | 101 | 82 | 113 | 107 | 107 | 90 | 102 | 95 |
| 5 | 89 | 110 | 94 | 61 | 93 | 95 | 80 | 80 | 100 | 87 |
| 6 | 147 | 134 | 121 | 86 | 109 | 120 | 99 | 135 | 107 | 132 |
| 7 | 117 | 143 | 120 | 77 | 99 | 111 | 137 | 141 | 103 | 87 |
| 8 | 131 | 125 | 109 | 90 | 108 | 130 | 140 | 146 | 117 | 145 |
| 9 | 126 | 156 | 132 | 99 | 129 | 127 | 128 | 142 | 154 | 148 |
| 10 | 232 | 204 | 204 | 176 | 206 | 210 | 171 | 254 | 192 | 221 |
| 11 | 172 | 166 | 166 | 175 | 151 | 144 | 164 | 186 | 157 | 174 |
| 12 | 134 | 132 | 140 | 94 | 126 | 114 | 113 | 163 | 128 | 131 |
| 13 | 144 | 136 | 156 | 97 | 148 | 139 | 78 | 162 | 134 | 148 |
| 14 | 135 | 138 | 160 | 78 | 134 | 140 | 74 | 139 | 130 | 162 |
| 15 | 117 | 118 | 147 | 98 | 129 | 126 | 76 | 125 | 126 | 108 |
| 16 | 123 | 167 | 185 | 111 | 170 | 171 | 98 | 178 | 141 | 153 |
| 17 | 121 | 137 | 127 | 31 | 128 | 99 | 38 | 129 | 113 | 129 |
| 18 | 109 | 110 | 111 | 23 | 102 | 76 | 68 | 106 | 103 | 106 |
| 19 | 167 | 149 | 131 | 62 | 115 | 139 | 14 | 138 | 128 | 129 |
| 20 | 86 | 100 | 39 | 20 | 69 | 79 | 28 | 100 | 94 | 88 |
| 21 | 126 | 108 | 99 | 101 | 128 | 95 | 94 | 149 | 101 | 120 |
| 22 | 266 | 154 | 154 | 100 | 117 | 169 | 80 | 150 | 123 | 120 |
| 23 | 247 | 217 | 256 | - | 87 | 33 | - | 130 | 138 | 207 |
| 24 | 249 | 198 | 197 | - | 134 | 124 | - | 148 | 135 | 120 |
| 25 | 190 | 156 | 167 | - | 171 | 102 | - | 143 | 133 | 191 |
| 26 | 148 | 144 | - | - | - | 122 | - | 139 | 71 | - |
| | | | | Recovery Period | | | | | | |
| 22 | - | - | - | 146 | - | - | 97 | - | | |
| 23 | - | - | - | 118 | - | - | 106 | - | - | - |
| 24 | - | - | - | 126 | - | - | 148 | - | - | - |
| 25 | - | - | 140 | 111 | 126 | - | 97 | - | - | 121 |
| 26 | 134 | 135 | 135 | 93 | 130 | 111 | 90 | 92 | 111 | 145 |
| 27 | 205 | 169 | 155 | - | 127 | 177 | - | 142 | 187 | 148 |
| 28 | 136 | 104 | 151 | - | 145 | 168 | - | 154 | 165 | 143 |
| 29 | 257 | 226 | 154 | - | 160 | 140 | - | 143 | 159 | 161 |
| 30 | 256 | 161 | - | - | - | 153 | - | 143 | 179 | - |

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3. Mortality and Reactions

The parent generation mortality chronology is presented in Table XIV. Autopsy of birds dying on test revealed malnutrition and extensive growths on kidneys, gonads, liver, or heart. These animals exhibited anorexia and grew progressively weaker until death.



STLCOPCB4069921

TABLE XIV

TEST MATERIAL: Three Aroclors

Mortality Data

White Leghorn Chickens

| Week | Control | 1242 1 ppm | 1242 10 ppm | 1242 100 ppm | 1254 1 ppm | 1254 10 ppm | 1254 100 ppm | 1260 1 ppm | 1260 10 ppm | 1260 100 ppm |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Test Period Mortality During Week Indicated | | | | | | |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 1F | 0 | 0 | 0 | 0 | 0 | 0 |
| 7 | 1F | 0 | 0 | 0 | 1M | 0 | 1F | 1F | 0 | 0 |
| 8 | 1F, 1M | 0 | 1F | 1F | 0 | 1F | 0 | 1F | 0 | 0 |
| 9 | 0 | 0 | 0 | 2F | 1F | 0 | 1F | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 1F, 1M | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | 0 | 1F | 1F | 0 | 0 | 0 | 0 | 1F | 0 | 0 |
| 12 | 0 | 0 | 2F | 1F | 1F | 1F | 2M | 0 | 0 | 0 |
| 13 | 0 | 0 | 1F | 0 | 0 | 1F | 0 | 0 | 0 | 1M |
| 14 | 0 | 1F | 0 | 3F | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | 1F | 0 | 0 | 0 | 0 | 1F | 1F | 0 | 1F | 0 |
| 16 | 1F | 2F | 1F | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | 0 | 0 | 0 | 1F | 0 | 0 | 2F | 0 | 0 | 0 |
| 18 | 1F | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | 1F | 0 | 0 | 0 | 0 | 0 | 1F | 1F | 0 | 0 |
| 20 | 1F | 0 | 0 | 0 | 1M | 0 | 1F | 0 | 1F | 1M |
| 21 | 0 | 0 | 0 | 1M | 1F | 0 | 0 | 0 | 0 | 1F |
| 22 | 0 | 0 | 0 | 0 | 1F | 0 | 1F | 0 | 0 | 0 |
| 23 | 1M | 0 | 0 | - | 0 | 0 | - | 0 | 1F | 1F |
| 24 | 1F | 0 | 0 | - | 2F | 1M | - | 2F, 1M | 1F | 1F |
| 25 | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - |
| 26 | 0 | 0 | - | - | - | 0 | - | 0 | 0 | - |
| | | | | Recovery Period Mortality During Week Indicated | | | | | | |
| 22 | - | - | - | 0 | - | - | 0 | - | - | - |
| 23 | - | - | - | 0 | - | - | 0 | - | - | - |
| 24 | - | - | - | 1F | - | - | 0 | - | - | - |
| 25 | - | - | 0 | 0 | 0 | - | 0 | - | - | 0 |
| 26 | 0 | 0 | 0 | 0 | 0 | 1F | 0 | 0 | 0 | 0 |
| 27 | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | 0 |
| 28 | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | 0 |
| 29 | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | 0 |
| 30 | 0 | 0 | - | - | - | 0 | - | 0 | 0 | - |



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4. Gross Pathology

The results of the gross pathological examinations at sacrifice are presented in Tables XV through XXIV.

The results of the gross pathological examinations at recovery sacrifice are presented in Tables XXV through XXXIV.



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TABLE XV

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Control Group

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 218-M | Normal |
| 733-F | Malnutrition - Small, diffuse growth on liver |
| 790-F | Malnutrition, Pericarditis, Myocarditis. Not Producing mature ova. |
| 837-F | Normal |
| 933-F | Normal |
| 938-F | Normal |
| 980-F | Normal |
| 83-F | Normal |

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TABLE XVI

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1242 - 1 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 212-F | Normal |
| 226-M | Normal |
| 798-F | Normal |
| 811-F | Malnutrition - Massive ovarian tumor. Many small tumors on kidneys. |
| 894-F | 3 cm. fatty encapsulated ball of pus in omentum. |
| 949-F | Normal |
| 981-F | Normal |
| 423-F | Normal |
| 758-F | Normal |
| 816-F | Normal |



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TABLE XVII

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1242 - 10 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 203-M | Normal |
| 230-M | Normal |
| 763-F | Normal |
| 862-F | Normal |
| 970-F | Normal |
| 988-F | One leathery and one hard shell egg in peritoneal cavity |
| 994-F | Malnutrition. Ovary and oviduct filled with consolidated white material. Small pale spots on kidneys. |
| 925-F | Normal |
| 828-F | Normal |



STLCOPCB4069926

TABLE XVIII

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1242 - 100 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 201-M | Omental fat depleted. |
| 770-F | Malnutrition. Not producing mature ova. Thin, semi-transparent ventricle wall. |
| 969-F | Normal |
| 772-F | Normal |
| 876-F | Normal |
| 707-F | Fat depletion. Ovum in peritoneal cavity. |



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TABLE XIX

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1254 - 1 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 233-M | Normal |
| 997-F | Normal |
| 877-F | Normal |
| 976-F | Normal |
| 704-F | Normal |
| 775-F | Normal |
| 916-F | Normal |
| 923-F | Malnutrition. Enlarged, fatty infiltrated spleen. Encapsulated tumors of breast muscle. Fatty infiltrated liver. Encapsulated chick embryo being absorbed. |

DSW 307737

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TABLE XX

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1254 - 10 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 244-M | Normal |
| 715-F | Malnutrition. Not producing mature ova. |
| 735-F | Malnutrition. Not producing mature ova. Several myocardial and hepatic fatty tumors. |
| 736-F | Normal |
| 813-F | Normal |
| 858-F | Normal |
| 866-F | Normal |
| 902-F | Not producing mature ova. |
| 881-F | Normal |



STLCOPCB4069929

TABLE XXI

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1254 - 100 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 227-M | Malnutrition. Pericarditis, Myocarditis. Hepatic consolidation and hemorrhage. |
| 723-F | Normal |
| 765-F | Normal |
| 826-F | Myocarditis. Pericarditis. Pale kidneys. Resorbing ovum in peritoneal cavity. Weak wall of left ventricle. |
| 832-F | Malnutrition. Not producing mature ova. |
| 848-F | Ovary contains many follicles filled with blood or resorbing. |
| 983-F | Normal |



STLCOPCB4069930

TABLE XXII

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1260 - 1 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 222-M | Normal |
| 829-F | Normal |
| 785-F | Not producing mature ova. |
| 792-F | Normal |
| 800-F | Normal |
| 794-F | Normal |
| 731-F | Normal |
| 944-F | Normal |



STLCOPCB4069931

TABLE XXIII

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1260 - 10 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 249-M | Normal |
| 239-M | Normal |
| 915-F | Normal |
| 903-F | Normal |
| 985-F | Normal |
| 999-F | Patent right oviduct filled with 40 ml. white granular-material and covered with growths. 3 fatty encapsulated growths on liver. |
| 922-F | Normal |
| 789-F | Normal |
| 932-F | Malnutrition. Enlarged liver. Ovarian and renal growths. |
| 732-F | Normal |

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STLCOPCB4069932

TABLE XXIV

TEST MATERIAL: Three Aroclors

Residue Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1260 - 100 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 211-M | Normal |
| 721-F | Normal |
| 806-F | Malnutrition |
| 984-F | Normal |
| 745-F | Normal |
| 896-F | Normal |
| 780-F | Normal |
| 979-F | Fatty growths on spleen and heart. |
| 853-F | Normal |



STLCOPCB4069933

TABLE XXV

TEST MATERIALS: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Control Group

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 224-M | Normal |
| 987-F | Normal |
| 717-F | Normal |
| 838-F | Fatty growths throughout kidneys |
| 912-F | Normal |
| 992-F | Normal |



STLCOPCB4069934

TABLE XXVI

TEST MATERIAL: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1242 - 1 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 238-M | Normal |
| 250-M | Normal |
| 703-F | Normal |
| 752-F | Normal |
| 782-F | Normal |
| 840-F | Normal |
| 867-F | Fibrous growths in duodenal mesentery. |
| 709-F | Normal |
| 897-F | Normal |
| 963-F | Normal |

DSW 307744

TABLE XXVII

TEST MATERIAL: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1242 - 10 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 235-M | Several large, pale growths on kidneys. |
| 252-M | Normal |
| 718-F | Normal |
| 796-F | Normal |
| 842-F | 10 ml. fluid-filled vesicle in mesometrium. Rubbery-shelled egg in peritoneal cavity. |
| 884-F | Normal |
| 888-F | Normal |
| 906-F | Malnutrition. Mottled and fibrotic liver. |
| 934-F | Normal |



STLCOPCB4069936

TABLE XXVIII

TEST MATERIAL: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1242 - 100 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 225-M | 3 small, white growths on heart. |
| 776-F | Normal |
| 742-F | Normal |
| 869-F | Normal |
| 964-F | 200 ml. fluid in peritoneal cavity. 25 ml. fluid in pleural cavity. Omentum fragmented and the omental fat necrotic. Ovary necrotic. Two dozen small white growths on heart. |



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TABLE XXIX

TEST MATERIAL: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1254 - 1 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 206-M | Normal |
| 714-F | Normal |
| 810-F | Normal |
| 833-F | Normal |
| 864-F | 3 ml. fluid-filled vesicle in mesometrium. |
| 891-F | Normal |
| 900-F | Normal |
| 910-F | Normal |

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TABLE XXX

TEST MATERIAL: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1254 - 10 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 217-M | Normal |
| 245-M | Normal |
| 778-F | Normal |
| 801-F | Normal |
| 786-F | Normal |
| 702-F | Normal |
| 847-F | Normal |
| 720-F | Resorbing ovum in peritoneal cavity. |
| 713-F | Normal |



STLCOPCB4069939

TABLE XXXI

TEST MATERIAL: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1254 - 100 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 229-M | Malnutrition. 50 ml. pericardial fluid. Enlarged, dark liver. |
| 998-F | Malnutrition. Several small, white cardiac growths. Enlarged pale kidneys. No detectable gall bladder. Not producing mature ova. |
| 724-F | Normal |
| 921-F | Normal |
| 957-F | Normal |
| 959-F | Normal |
| 819-F | 30 ml. yellow subcutaneous fluid. 100 ml. fluid in peritoneal cavity. 50 ml granular material and fluid in omentum. Enlarged, pale liver. Several small growths on heart. Enlarged ovary shedding immature ova. Malnutrition. |



STLCOPCB4069940

TABLE XXXII

TEST MATERIAL: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1260 - 1 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 232-M | Normal |
| 240-M | 3 cm. cage bruise (breast blister) |
| 946-F | Normal |
| 1000-F | Normal |
| 913-F | Normal |
| 885-F | Normal |
| 757-F | Normal |
| 729-F | Normal |
| 759-F | Resorbing egg in peritoneal cavity. |



STLCOPCB4069941

TABLE XXXIII

TEST MATERIAL: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1260 - 10 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 243-M | Small cage bruise (breast blister) |
| 215-M | 3 cm. cage bruise (breast blister) |
| 716-F | Normal |
| 784-F | Normal |
| 748-F | Normal |
| 849-F | Normal |
| 919-F | Resorbing ovum in peritoneal cavity. |
| 879-F | Normal |
| 839-F | Normal |
| 701-F | Resorbing ovum in omentum. |

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TABLE XXXIV

TEST MATERIAL: Three Aroclors

Recovery Sacrifice Gross Pathology

White Leghorn Chickens

Aroclor 1260 - 100 ppm

| Animal Number and Sex | Results of Gross Pathological Examination |
|---|---|
| 236-M | Normal |
| 737-F | Resorbing ovum in peritoneal cavity. |
| 805-F | Resorbing ovum in peritoneal cavity. |
| 754-F | Normal |
| 924-F | Normal |
| 966-F | Normal |
| 741-F | Normal |
| 926-F | Normal |
| 870-F | Normal |
| 996-F | Resorbing ovum in peritoneal cavity. |



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5. Egg Production

The weekly test period egg production is presented in Tables XXXV through XLIV.

The weekly recovery period egg production is presented in Tables XLV through LIV.

Egg production in groups fed Aroclor 1242 at 100 ppm or Aroclor 1254 at 100 ppm was much lower than the production of the control groups. After being on test for 12 or 13 weeks, a maximum of 40 to 43% of the hens in these two groups laid eggs. In the other groups about 90 to 100% of the hens laid eggs.



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TABLE XXXV

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Control Group

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 5 | 2 | 2 | 42.9 | 1.4 |
| 6 | 4 | 3 | 39.4 | 2.9 |
| 7 | 27 | 27 | 42.4 | 19.3 |
| 8 | 41 | 41 | 42.7 | 30.6 |
| 9 | 72 | 72 | 44.3 | 56.3 |
| 10 | 79 | 76 | 44.4 | 62.7 |
| 11 | 90 | 90 | 47.3 | 71.4 |
| 12 | 92 | 91 | 48.1 | 73.0 |
| 13 | 90 | 90 | 49.4 | 71.4 |
| 14 | 91 | 91 | 49.9 | 72.2 |
| 15 | 96 | 96 | 52.5 | 76.2 |
| 16 | 91 | 91 | 52.5 | 76.5 |
| 17 | 91 | 91 | 54.8 | 81.3 |
| 18 | 82 | 82 | 54.5 | 74.5 |
| 19 | 75 | 75 | 55.3 | 71.4 |
| 21* | 22 | 22 | 56.6 | 73.3 |
| 22 | 28 | 28 | 57.1 | 66.7 |
| 23 | 28 | 28 | 57.7 | 66.7 |
| 24 | 24 | 24 | 58.3 | 57.1 |
| 25 | 22 | 22 | 60.4 | 59.5 |
| 26 | 24 | 24 | 56.8 | 80.0 |

* Five days.

DSW 307754

TABLE XXXVI

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Aroclor 1242 - 1 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 4 | 5 | 3 | 42.0 | 3.4 |
| 5 | 9 | 9 | 34.3 | 6.1 |
| 6 | 15 | 15 | 40.1 | 10.2 |
| 7 | 35 | 35 | 42.2 | 23.8 |
| 8 | 69 | 69 | 43.3 | 46.9 |
| 9 | 108 | 104 | 46.0 | 73.5 |
| 10 | 108 | 107 | 47.2 | 73.5 |
| 11 | 97 | 94 | 47.9 | 66.4 |
| 12 | 99 | 96 | 50.0 | 70.7 |
| 13 | 97 | 96 | 49.8 | 69.3 |
| 14 | 101 | 100 | 50.7 | 73.7 |
| 15 | 102 | 100 | 51.8 | 76.7 |
| 16 | 94 | 94 | 52.5 | 71.8 |
| 17 | 94 | 93 | 52.9 | 78.3 |
| 18 | 100 | 100 | 53.4 | 84.0 |
| 19 | 89 | 89 | 53.8 | 74.8 |
| 21* | 30 | 30 | 55.0 | 75.0 |
| 22 | 32 | 32 | 57.4 | 57.1 |
| 23 | 40 | 40 | 54.9 | 71.4 |
| 24 | 37 | 37 | 56.6 | 66.1 |
| 25 | 42 | 42 | 59.2 | 75.0 |
| 26 | 38 | 38 | 57.6 | 67.9 |

* Five days.

DSW 307755

STLCOPCB4069946

TABLE XXXVII

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Aroclor 1242 - 10 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 5 | 1 | 1 | 33.8 | 0.7 |
| 6 | 10 | 10 | 34.9 | 7.1 |
| 7 | 33 | 32 | 42.3 | 23.6 |
| 8 | 62 | 62 | 43.1 | 44.3 |
| 9 | 77 | 76 | 45.0 | 57.9 |
| 10 | 89 | 89 | 47.0 | 66.9 |
| 11 | 98 | 97 | 48.7 | 74.7 |
| 12 | 87 | 86 | 50.8 | 69.0 |
| 13 | 95 | 94 | 49.4 | 79.2 |
| 14 | 87 | 83 | 50.8 | 77.0 |
| 15 | 85 | 84 | 51.6 | 75.9 |
| 16 | 74 | 74 | 52.2 | 67.3 |
| 17 | 73 | 73 | 53.1 | 70.9 |
| 18 | 71 | 71 | 53.2 | 72.4 |
| 19 | 73 | 73 | 55.2 | 74.5 |
| 20 | 68 | 68 | 54.8 | 69.4 |
| 21* | 25 | 25 | 56.4 | 71.4 |
| 22 | 39 | 39 | 56.0 | 79.6 |
| 23 | 34 | 34 | 58.2 | 69.4 |
| 24 | 38 | 38 | 59.2 | 77.6 |
| 25** | 17 | 17 | 59.9 | 84.0 |

* Five days.
** Three days.

DSW 307756

STLCOPCB4069947

TABLE XXXVIII

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Aroclor 1242 - 100 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 5 | 3 | 3 | 37.2 | 2.1 |
| 6 | 0 | 0 | - | 0 |
| 7 | 5 | 5 | 34.5 | 3.7 |
| 8 | 7 | 7 | 42.7 | 5.3 |
| 9 | 15 | 15 | 41.0 | 12.1 |
| 10 | 33 | 33 | 46.6 | 28.7 |
| 11 | 34 | 34 | 48.3 | 31.8 |
| 12 | 32 | 32 | 46.8 | 31.7 |
| 13 | 40 | 40 | 47.5 | 40.8 |
| 14 | 36 | 36 | 49.5 | 37.5 |
| 15 | 23 | 22 | 49.9 | 29.5 |
| 16 | 23 | 23 | 48.3 | 29.9 |
| 17 | 27 | 27 | 49.9 | 35.1 |
| 18 | 18 | 18 | 51.2 | 25.0 |
| 19 | 14 | 14 | 52.2 | 20.0 |
| 20 | 11 | 11 | 52.8 | 15.7 |
| 21* | 9 | 9 | 51.6 | 18.0 |
| 22** | 10 | 10 | 53.0 | 16.6 |

* Five days.
** Six days.

DSW 307757

TABLE XXXIX

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Aroclor 1254 - 1 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 6 | 7 | 7 | 38.4 | 5.0 |
| 7 | 32 | 32 | 40.1 | 22.9 |
| 8 | 68 | 68 | 42.6 | 48.6 |
| 9 | 81 | 81 | 44.9 | 57.9 |
| 10 | 98 | 97 | 46.3 | 73.7 |
| 11 | 91 | 91 | 48.2 | 68.4 |
| 12 | 100 | 99 | 48.9 | 75.2 |
| 13 | 92 | 92 | 51.5 | 72.4 |
| 14 | 105 | 103 | 50.2 | 83.3 |
| 15 | 108 | 107 | 51.7 | 85.7 |
| 16 | 99 | 99 | 52.0 | 78.6 |
| 17 | 105 | 105 | 53.5 | 83.3 |
| 18 | 102 | 102 | 56.1 | 81.0 |
| 19 | 99 | 99 | 52.3 | 78.6 |
| 21* | 68 | 68 | 54.3 | 75.6 |
| 22 | 80 | 80 | 56.1 | 67.8 |
| 23 | 64 | 64 | 56.4 | 57.1 |
| 24 | 73 | 73 | 58.4 | 67.0 |
| 25** | 21 | 21 | 59.9 | 47.7 |

* Five days.
** Three days.



STLCOPCB4069949

TABLE XL

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Aroclor 1254 - 10 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 5 | 2 | 2 | 36.5 | 1.4 |
| 6 | 25 | 25 | 41.9 | 17.9 |
| 7 | 37 | 37 | 41.0 | 26.4 |
| 8 | 56 | 56 | 42.3 | 41.5 |
| 9 | 84 | 82 | 44.9 | 63.2 |
| 10 | 88 | 88 | 45.2 | 66.2 |
| 11 | 87 | 87 | 48.0 | 65.4 |
| 12 | 86 | 86 | 50.7 | 65.2 |
| 13 | 88 | 86 | 51.1 | 69.8 |
| 14 | 88 | 86 | 51.2 | 73.9 |
| 15 | 89 | 88 | 52.0 | 75.4 |
| 16 | 86 | 86 | 52.1 | 76.7 |
| 17 | 93 | 93 | 51.2 | 83.0 |
| 18 | 80 | 80 | 52.3 | 71.4 |
| 19 | 85 | 85 | 54.0 | 75.9 |
| 20 | 88 | 88 | 54.1 | 78.6 |
| 21* | 64 | 64 | 52.0 | 80.0 |
| 22 | 84 | 84 | 55.6 | 75.0 |
| 23 | 62 | 62 | 55.2 | 55.4 |
| 24 | 48 | 48 | 54.0 | 42.9 |
| 25 | 58 | 58 | 56.0 | 51.8 |
| 26** | 54 | 54 | 55.9 | 56.3 |

* Five days.
** Six days.

DSW 307759

TABLE XLI

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Aroclor 1254 - 100 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 6 | 2 | 2 | 32.3 | 1.4 |
| 7 | 11 | 11 | 36.4 | 7.9 |
| 8 | 28 | 28 | 40.0 | 21.1 |
| 9 | 43 | 42 | 44.7 | 33.6 |
| 10 | 54 | 53 | 45.1 | 42.9 |
| 11 | 44 | 43 | 45.5 | 34.9 |
| 12 | 44 | 43 | 46.0 | 34.9 |
| 13 | 39 | 39 | 46.2 | 31.0 |
| 14 | 36 | 36 | 47.9 | 28.6 |
| 15 | 27 | 27 | 47.9 | 21.4 |
| 16 | 28 | 28 | 45.9 | 23.1 |
| 17 | 15 | 15 | 47.5 | 12.6 |
| 18 | 15 | 15 | 48.0 | 14.0 |
| 19 | 7 | 6 | 49.8 | 6.9 |
| 20 | 15 | 15 | 50.7 | 15.3 |
| 21* | 10 | 10 | 50.8 | 15.4 |
| 22** | 6 | 6 | 51.0 | 7.7 |

* Five days.
** Six days.



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TABLE XLII

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Aroclor 1260 - 1 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 5 | 1 | 1 | 33.6 | 0.7 |
| 6 | 23 | 23 | 34.5 | 16.4 |
| 7 | 34 | 34 | 40.4 | 24.5 |
| 8 | 64 | 64 | 43.4 | 48.1 |
| 9 | 76 | 75 | 45.7 | 60.3 |
| 10 | 83 | 83 | 46.6 | 65.9 |
| 11 | 89 | 89 | 48.3 | 70.6 |
| 12 | 90 | 90 | 50.4 | 75.0 |
| 13 | 82 | 81 | 51.3 | 68.9 |
| 14 | 86 | 85 | 50.9 | 72.3 |
| 15 | 84 | 84 | 52.1 | 70.6 |
| 16 | 72 | 72 | 52.8 | 60.5 |
| 17 | 81 | 79 | 53.1 | 68.1 |
| 18 | 68 | 68 | 55.4 | 57.1 |
| 19 | 75 | 75 | 48.6 | 64.1 |
| 20 | 73 | 73 | 55.9 | 65.2 |
| 21* | 59 | 59 | 50.4 | 73.8 |
| 22 | 59 | 59 | 57.8 | 52.7 |
| 23 | 68 | 68 | 56.8 | 60.7 |
| 24 | 60 | 60 | 58.6 | 57.7 |
| 25 | 70 | 70 | 59.2 | 71.4 |
| 26** | 50 | 50 | 59.2 | 59.5 |

* Five days.
** Six days.



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TABLE XLIII

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Aroclor 1260 - 10 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 5 | 8 | 8 | 41.6 | 5.7 |
| 6 | 18 | 17 | 39.3 | 12.9 |
| 7 | 36 | 36 | 37.8 | 25.7 |
| 8 | 51 | 51 | 43.3 | 36.4 |
| 9 | 85 | 85 | 44.6 | 60.7 |
| 10 | 110 | 110 | 45.3 | 78.6 |
| 11 | 97 | 97 | 46.6 | 71.9 |
| 12 | 99 | 99 | 48.1 | 74.4 |
| 13 | 99 | 98 | 48.7 | 74.4 |
| 14 | 106 | 105 | 50.3 | 75.7 |
| 15 | 101 | 101 | 50.3 | 73.2 |
| 16 | 84 | 84 | 51.2 | 63.2 |
| 17 | 94 | 92 | 51.5 | 70.7 |
| 18 | 100 | 100 | 52.1 | 75.1 |
| 19 | 98 | 98 | 52.1 | 73.7 |
| 21* | 67 | 67 | 50.6 | 74.4 |
| 22 | 83 | 83 | 53.4 | 65.9 |
| 23 | 83 | 83 | 54.1 | 66.9 |
| 24 | 76 | 76 | 56.3 | 63.9 |
| 25 | 73 | 73 | 56.6 | 64.6 |
| 26 | 78 | 78 | 56.4 | 69.6 |

* Five days.



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TABLE XLIV

TEST MATERIAL: Three Aroclors

Test Period Egg Production

White Leghorn Chickens

Aroclor 1260 - 100 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 6 | 3 | 3 | 39.1 | 2.1 |
| 7 | 20 | 20 | 38.1 | 14.3 |
| 8 | 51 | 51 | 41.6 | 36.4 |
| 9 | 82 | 81 | 45.9 | 58.6 |
| 10 | 98 | 97 | 47.0 | 70.0 |
| 11 | 108 | 104 | 47.9 | 77.1 |
| 12 | 109 | 107 | 49.5 | 77.9 |
| 13 | 111 | 111 | 49.8 | 79.3 |
| 14 | 111 | 110 | 50.8 | 79.3 |
| 15 | 113 | 113 | 50.9 | 80.7 |
| 16 | 100 | 100 | 50.6 | 71.4 |
| 17 | 118 | 117 | 55.0 | 84.3 |
| 18 | 105 | 105 | 54.0 | 75.0 |
| 19 | 106 | 106 | 53.0 | 75.7 |
| 21* | 69 | 69 | 54.0 | 70.4 |
| 22 | 93 | 93 | 53.9 | 69.9 |
| 23 | 73 | 73 | 55.3 | 55.7 |
| 24 | 76 | 76 | 56.1 | 60.3 |
| 25** | 20 | 20 | 57.3 | 37.0 |

* Five days.
** Three days.



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TABLE XLV

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Control Group

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 26* | 3 | 3 | 57.5 | 60.0 |
| 27 | 28 | 28 | 59.9 | 80.0 |
| 28 | 28 | 28 | 60.0 | 80.0 |
| 29 | 23 | 23 | 59.8 | 65.7 |
| 30 | 25 | 25 | 60.2 | 71.4 |
| 31* | 3 | 3 | 58.9 | 60.0 |

* One day.



STLCOPCB4069955

TABLE XLVI

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Aroclor 1242 - 1 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 27 | 42 | 42 | 57.6 | 75.0 |
| 28 | 48 | 48 | 59.5 | 85.7 |
| 29 | 46 | 46 | 59.2 | 82.1 |
| 30 | 47 | 47 | 59.0 | 83.9 |
| 31* | 10 | 10 | 59.1 | 62.5 |

* Two days.



STLCOPCB4069956

TABLE XLVII

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Aroclor 1242 - 10 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 26 | 33 | 33 | 58.3 | 67.3 |
| 27 | 22 | 22 | 58.1 | 44.9 |
| 28 | 30 | 30 | 58.6 | 61.2 |
| 29 | 31 | 31 | 57.6 | 63.3 |
| 30* | 3 | 3 | 59.2 | 42.9 |

* One day.

DSW 307766

TABLE XLVIII

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Aroclor 1242 - 100 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 22* | 0 | 0 | 0 | 0 |
| 23 | 9 | 9 | 60.9 | 25.7 |
| 24 | 7 | 7 | 61.8 | 21.2 |
| 25 | 10 | 10 | 59.5 | 35.7 |
| 26 | 7 | 7 | 55.8 | 25.0 |
| 27* | 0 | 0 | - | 0 |

* One day.



STLCOPCB4069958

TABLE XLIX

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Aroclor 1254 - 1 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 26 | 41 | 41 | 58.4 | 83.7 |
| 27 | 40 | 40 | 59.2 | 81.6 |
| 28 | 37 | 37 | 58.6 | 75.5 |
| 29 | 38 | 38 | 54.7 | 77.6 |
| 30* | 4 | 4 | 58.3 | 57.1 |

* One day.

DSW 307768

TABLE L

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Aroclor 1254 - 10 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 26* | 3 | 3 | 54.3 | 37.5 |
| 27 | 39 | 39 | 57.8 | 76.5 |
| 28 | 41 | 41 | 58.2 | 83.7 |
| 29 | 42 | 42 | 58.6 | 85.7 |
| 30 | 39 | 39 | 58.7 | 79.6 |
| 31* | 3 | 3 | 56.7 | 42.9 |

* One day.



STLCOPCB4069960

TABLE LI

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Aroclor 1254 - 100 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 22* | 4 | 4 | 47.0 | 66.7 |
| 23 | 14 | 14 | 50.1 | 33.3 |
| 24 | 18 | 18 | 52.9 | 42.9 |
| 25 | 14 | 14 | 54.0 | 33.3 |
| 26 | 9 | 9 | 52.0 | 21.4 |
| 27** | 6 | 6 | 54.2 | 50.0 |

* One day.
** Two days.



STLCOPCB4069961

TABLE LII

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Aroclor 1260 - 1 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 26* | 5 | 5 | 62.5 | 71.4 |
| 27 | 37 | 37 | 60.7 | 75.5 |
| 28 | 36 | 36 | 61.0 | 73.5 |
| 29 | 33 | 33 | 60.7 | 67.3 |
| 30 | 35 | 35 | 61.9 | 71.4 |
| 31* | 5 | 5 | 61.1 | 71.4 |

* One day.



STLCOPCB4069962

TABLE LIII

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Aroclor 1260 - 10 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 27 | 48 | 48 | 55.6 | 85.7 |
| 28 | 44 | 44 | 56.5 | 78.6 |
| 29 | 43 | 43 | 57.5 | 76.8 |
| 30 | 45 | 45 | 57.5 | 80.4 |
| 31* | 13 | 13 | 57.5 | 81.3 |

* Two days.



STLCOPCB4069963

TABLE LIV

TEST MATERIAL: Three Aroclors

Recovery Period Egg Production

White Leghorn Chickens

Aroclor 1260 - 100 ppm

| Test Week | Number of Eggs Laid | Number of Eggs Weighed | Average Egg Weight (grams) | Percent Production |
|---|---|---|---|---|
| 26 | 44 | 44 | 57.0 | 69.8 |
| 27 | 52 | 52 | 58.2 | 82.5 |
| 28 | 46 | 46 | 57.3 | 73.0 |
| 29 | 45 | 45 | 57.4 | 71.4 |
| 30* | 7 | 7 | 58.6 | 77.7 |

* One day.



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B. Eggs

1. Egg Production and Quality

The test period weekly egg production is presented in Tables XXXV through XLIV.

The recovery period weekly egg production is presented in Tables XLV through LIV.

The candling results for a number of seven-day periods are presented in Table LV, with the total number of eggs for each defect tested according to the following code:

Br = Broken in nest
Mbr = Broken during handling
Cr = Cracked shell
Dy = Double yolk present
Ny = No yolk present
Ck = Check shell
Sf = Soft or misshapen shell
Sp = Blood or meat spot in egg
Nas = Air bubble defective or absent

Where multiple defects occurred, the egg is tabulated under the defect highest in the list above.



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TABLE LV

TEST MATERIAL: Three Aroclors

Egg Candling Results Summary

White Leghorn Chickens

| Group | Number of Eggs For Each Type of Defect | | | | | | | | | Total Defective Eggs | Total Eggs | Percent Defective Eggs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Br | Mbr | Cr | Dy | Ny | Ck | Sf | Sp | Nas | | | |
| Control | 0 | 0 | 16 | 6 | 0 | 68 | 0 | 1 | 9 | 100 | 435 | 23 |
| 1242 1 ppm | 3 | 0 | 32 | 6 | 0 | 79 | 0 | 4 | 1 | 125 | 478 | 26 |
| 1242 10 ppm | 1 | 0 | 20 | 4 | 0 | 89 | 0 | 0 | 1 | 115 | 444 | 26 |
| 1242 100 ppm | 0 | 0 | 1 | 4 | 1 | 15 | 0 | 0 | 0 | 21 | 111 | 19 |
| 1254 1 ppm | 1 | 0 | 16 | 4 | 0 | 110 | 0 | 3 | 0 | 134 | 516 | 26 |
| 1254 10 ppm | 2 | 1 | 23 | 6 | 1 | 98 | 0 | 0 | 0 | 131 | 521 | 25 |
| 1254 100 ppm | 1 | 0 | 7 | 0 | 0 | 27 | 1 | 0 | 0 | 36 | 100 | 36 |
| 1260 1 ppm | 1 | 1 | 34 | 1 | 0 | 12 | 0 | 2 | 2 | 53 | 443 | 12 |
| 1260 10 ppm | 3 | 1 | 35 | 5 | 0 | 78 | 0 | 0 | 0 | 122 | 477 | 26 |
| 1260 100 ppm | 2 | 0 | 56 | 10 | 0 | 116 | 0 | 0 | 0 | 184 | 545 | 34 |



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2. Hatchability

The hatch data are presented in Table LVI.*

Examination of the unhatched eggs revealed the data presented in Table LVII.**

Data from the gross pathological examination of chicks at sacrifice after the 30-day observation period are presented in Tables LVIII through LXV.

* There was poor hatchability of eggs from hens fed Aroclor 1242 at 10 or 100 ppm or fed Aroclor 1254 at 100 ppm.

** In eggs from hens fed Aroclor 1242 at 10 or 100 ppm, there were a large number of embryos in the one to three cm size.



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TABLE LVI

TEST MATERIAL: Three Aroclors

Hatch Data

White Leghorn Chickens

| Group | Number of Eggs Set | Number of Chicks Hatched | Hatching Percent | Average Weight After Day 1 (grams) | Agerage Weight After Day 30 (grams) |
|---|---|---|---|---|---|
| Control | 161 | 105 | 65.2 | 39.1 | 248 |
| 1242 1 ppm | 110 | 73 | 66.4 | 36.7 | 281 |
| 1242 10 ppm | 161 | 28 | 17.4 | 34.6 | 232 |
| 1242 100 ppm | 44 | 0 | 0 | - | - |
| 1254 1 ppm | 105 | 68 | 64.8 | 34.2 | 251 |
| 1254 10 ppm | 120 | 78 | 65.0 | 32.6 | 260 |
| 1254 100 ppm | 38 | 0 | 0 | - | - |
| 1260 1 ppm | 127 | 88 | 69.3 | 39.0* | 295* |
| 1260 10 ppm | 135 | 94 | 69.6 | 34.2** | 282** |
| 1260 100 ppm | 120 | 74 | 61.7 | 35.9 | 264 |

* Does not include seven chicks which crossed into 1242 10 ppm at hatching.
** Includes seven chicks which crossed from 1242 1 ppm at hatching.

DSW 307777

TABLE LVII

TEST MATERIAL: Three Aroclors

Examination of Unhatched Eggs

White Leghorn Chickens

| Group | Total Unhatched | Broken Shell | Not Fertile | Number of Eggs Per Group: Embryo Decomposed | Embryo < 1 cm | Embryo 1-3 cm | Chick 1/2 Term | Chick 3/4 Term | Chick Full Term | Chick Partially Out of Shell |
|---|---|---|---|---|---|---|---|---|---|---|
| Control | 56 | 0 | 3 | 1 | 17 | 6 | 1 | 8 | 9 | 2 |
| 1242 1 ppm | 37 | 1 | 7 | 2 | 7 | 2 | 3 | 3 | 12 | 0 |
| 1242 10 ppm | 133 | 0 | 8 | 1 | 9 | 73 | 11 | 4 | 22 | 5 |
| 1242 100 ppm | 43 | 1 | 10 | 0 | 11 | 20 | 1 | 0 | 0 | 0 |
| 1254 1 ppm | 37 | 0 | 10 | 0 | 6 | 8 | 1 | 1 | 9 | 2 |
| 1254 10 ppm | 42 | 0 | 13 | 1 | 3 | 4 | 1 | 6 | 13 | 1 |
| 1254 100 ppm | 38 | 1 | 13 | 0 | 14 | 9 | 0 | 0 | 1 | 0 |
| 1260 1 ppm | 39 | 1 | 3 | 0 | 5 | 12 | 0 | 1 | 14 | 3 |
| 1260 10 ppm | 41 | 0 | 3 | 0 | 7 | 9 | 2 | 8 | 10 | 2 |
| 1260 100 ppm | 46 | 0 | 10 | 1 | 9 | 2 | 7 | 0 | 13 | 4 |



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TABLE LVIII

TEST MATERIAL: Three Aroclors

Control Gross Pathology 30-Day Chicks

White Leghorn Chickens

| Number of Animals | Results of Gross Pathological Examination |
|---|---|
| 93 | Normal |
| 2 | Possible fatty myocardiac growth |
| 1 | Deformed feet |
| 1 | Deformed leg |
| 1 | 2.5 cm round hepatic growth with greensheen |



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TABLE LIX

TEST MATERIALS: Three Aroclors

1242 1 ppm Gross Pathology 30-Day Chicks

White Leghorn Chickens

| Number of Animals | Results of Gross Pathological Examination |
|---|---|
| 70 | Normal |

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TABLE LX

TEST MATERIALS: Three Aroclors

1242 10 ppm Gross Pathology 30-Day Chicks

White Leghorn Chickens

| Number of Animals | Results of Gross Pathological Examination |
|---|---|
| 20 | Normal |

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TABLE LXI

TEST MATERIALS: Three Aroclors

1254 1 ppm Gross Pathology 30-Day Chicks

White Leghorn Chickens

| Number of Animals | Results of Gross Pathological Examination |
|---|---|
| 56 | Normal |
| 1 | Down on side. |
| 1 | Both feet curled inward |
| 1 | Only wings feathered |

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TABLE LXII

TEST MATERIALS: Three Aroclors

1254 10 ppm Gross Pathology 30-Day Chicks

White Leghorn Chickens

| Number of Animals | Results of Gross Patholgical Examination |
|---|---|
| 56 | Normal |
| 2 | Deformed feet |
| 1 | Unable to extend right leg |
| 1 | Dark left testicle |
| 1 | Possible fatty tumors on spleen |



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TABLE LXIII

TEST MATERIALS: Three Aroclors

1260 1 ppm Gross Pathology 30-Day Chicks

White Leghorn Chickens

| Number of Animals | Results of Gross Pathological Examination |
|---|---|
| 74 | Normal |
| 1 | Possible kidney tumors |

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TABLE LXIV

TEST MATERIALS: Three Aroclors

1260 10 ppm Gross Pathology 30-Day Chicks

White Leghorn Chickens

| Number of Animals | Results of Gross Pathological Examination |
|---|---|
| 90 | Normal |
| 1 | Feet curled in |
| 1 | Slight discoloration of left testicle |



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TABLE LXV

TEST MATERIALS: Three Aroclors

1260 100 ppm Gross Pathology 30-Day Chicks

White Leghorn Chickens

| Number of Animals | Results of Gross Pathological Examination |
|---|---|
| 60 | Normal |
| 2 | Feet curled under |
| 1 | Not eating. Still has chick down. |



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3. Physical Characteristics of Eggs

Data on the specific gravity of intact eggs are summarized in Table LXVI.*

Data on the average egg shell thickness (without membrane) at the equatorial circumference are presented in Table LXVII. Three measurements were determined for each egg.**

* There were no significant differences in specific gravity among eggs from treated or from control hens.

** The egg shells from hens fed Aroclor 1242 at 10 or 100 ppm or fed Aroclor 1254 at 100 ppm were not as thick as the shells of eggs from hens fed the control diet.

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TABLE LXVI

TEST MATERIALS: Three Aroclors

Egg Specific Gravity

White Leghorn Chickens

| Group | Normal Eggs Number | Normal Eggs Average Specific Gravity | Defective Eggs Number | Defective Eggs Average Specific Gravity | Total Eggs Number | Total Eggs Average Specific Gravity |
|---|---|---|---|---|---|---|
| Control | 81 | 1.070 | 83 | 1.079 | 167 | 1.074 |
| 1242 1 ppm | 88 | 1.074 | 99 | 1.072 | 187 | 1.073 |
| 1242 10 ppm | 89 | 1.070 | 94 | 1.069 | 183 | 1.070 |
| 1242 100 ppm | 160 | 1.064 | 19 | 1.065 | 35 | 1.065 |
| 1254 1 ppm | 95 | 1.071 | 117 | 1.068 | 212 | 1.070 |
| 1254 10 ppm | 109 | 1.070 | 112 | 1.070 | 221 | 1.070 |
| 1254 100 ppm | 12 | 1.065 | 29 | 1.064 | 41 | 1.064 |
| 1260 1 ppm | 85 | 1.070 | 115 | 1.070 | 200 | 1.070 |
| 1260 10 ppm | 93 | 1.070 | 80 | 1.069 | 173 | 1.070 |
| 1260 100 ppm | 96 | 1.070 | 135 | 1.068 | 231 | 1.068 |



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TABLE LXVII

TEST MATERIALS: Three Aroclors

Egg Shell Thickness

White Leghorn Chickens

| Group | Normal Eggs Number | Normal Eggs Average Thickness (1/1000 in.) | Defective Eggs Number | Defective Eggs Average Thickness (1/1000 in.) | Total Eggs Number | Total Eggs Average Thickness (1/1000 in.) |
|---|---|---|---|---|---|---|
| Control | 72 | 14.58 | 71 | 14.15 | 143 | 14.37 |
| 1242 1 ppm | 75 | 14.37 | 89 | 14.04 | 164 | 14.19 |
| 1242 10 ppm | 78 | 13.85 | 82 | 13.48 | 160 | 13.66 |
| 1242 100 ppm | 14 | 12.07 | 15 | 11.62 | 29 | 11.84 |
| 1254 1 ppm | 73 | 14.32 | 110 | 14.03 | 183 | 14.15 |
| 1254 10 ppm | 120 | 12.79 | 127 | 14.40 | 247 | 13.62 |
| 1254 100 ppm | 12 | 10.25 | 35 | 11.10 | 47 | 10.88 |
| 1260 1 ppm | 86 | 14.56 | 148 | 14.17 | 234 | 14.28 |
| 1260 10 ppm | 91 | 14.75 | 116 | 14.93 | 207 | 14.85 |
| 1260 100 ppm | 98 | 13.99 | 179 | 14.11 | 277 | 14.07 |



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4. Residue Studies

One fourth of all nondefective eggs during the test period were frozen and shipped to Monsanto for residue analysis. During the recovery period a minimum of ten eggs per group per week were quick frozen and shipped to Monsanto for analyses.



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