PROGRESS REPORT
ORGANIC CHEMICALS DIVISION
TECHNOLOGY DEPARTMENT

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W. M. Mees W. J. Litschgi J. D. Hinchen E. S. Tucker	~~January~~ February 1972	NO	6	2-29-72 1-31-72

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St. Louis - South Second Street	2-21-760.01-13480, 85010, 85050

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PROJECT TITLE

ENVIRONMENTAL ANALYTICAL PROGRAM - TOXICOLOGY SUPPORT STUDIES

PROJECT OBJECTIVE

Determination of the type and level of polychlorinated biphenyls (PCB's) retained in the tissues of laboratory animals fed Aroclor 1242, Aroclor 1254, Aroclor 1260, Aroclor 1016, and Aroclor 1221 for correlation with toxicological effects.

SUMMARY

The PCB residue levels found in selected chicken tissues and eggs from the "Toxicity, Reproduction, and Residue Study of Aroclor in White Leghorn Chickens" (IBT J7300) were subjected to a multiple regression analysis. The statistical analysis was used to develop an equation for predicting the PCB residues in the remaining tissues. From the predicted PCB residues the following conclusions were drawn.

The average PCB lipid storage level found in the tissues (male and female), for each product after six months exposure are shown in the following table.

PCB Lipid Storage Level (PPM)

Feed Level	1 PPM	10 PPM	100 PPM
Aroclor 1242	28	196	2356
Aroclor 1254	53	317	4080
Aroclor 1260	65	417	5176

Tissue and sex differences were also apparent in the data; the following patterns were observed:

1) At low exposure, muscle>fat>liver.
2) At high exposure, muscle>liver>fat.
3) All cases, male>female.