SCHOOL OF AGRICULTURAL SCIENCES
CITRUS RESEARCH CENTER AND
AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF ENTOMOLOGY

RIVERSIDE, CALIFORNIA 92502

December 3, 1968

Dr. W. [illegible] Richa

Dr. Cummings Paton
Organic Division Development
Monsanto Company
800 North Lindbergh Boulevard
St. Louis, Missouri 63166

Dear Dr. Paton:

I wonder if it would be possible to obtain from you 100-gram research samples each of the following Monsanto Aroclor plasticizers of your highest available commercial grade of purity: Monsanto numbers 1221, 1232, 1242, 1248, 1254, 1260, 1262, 1268, 2565, 4465, and 5460. Thank you in advance for your courtesy.

Sincerely yours,

Francis A. Gunther

Francis A. Gunther
Professor of Entomology

FG:bk

Pto- Forward a copy to L.A. Hoffman

NEV 031160

780698

W. R. Richard - Research Center

December 9, 1968

AROCLOR TESTING

TO : E. Wheeler - EWHEE

cc. E. Tucker JFQ
R. Keller - JFQ
W. Johnson WJOHN
K. Wells KWELL
P. Benimmus/J. Bryant PBENI
R. Munch JFQ

The issues on Aroclor toxicity testing are complicated. I know you plan to issue written program objectives. My understanding after last meeting 12/6/68 is as follows:

1. Determine whether Jensen and Co. really have Aroclor or not in tissue of birds:

   (a) by putting Aroclor through rats and chickens and seeing if we get the same or different peaks than found in Jensen paper. (Use mass spectrograph for check.)

   (b) by getting hold of tissues from nature which others say is Aroclor but which could be many other compounds. Use mass spectrograph to check vs. known Aroclor results.

2. Determine a tolerance level for Aroclor in feeding studies. Run a material balance on Aroclor to find out where it ends up.

3. Determine whether Aroclor is an enzyme inducer which affects steroids and Ca metabolism. (I really don't know what I am saying here but you can clarify.)

4. Keep track of what Govt. research labs are doing in way of testing, plus interpret their results for Monsanto.

5. Keep track of what Govt. research labs are finding in the way of geographical location of so-called PCB peaks, and in what species of animals. What does this mean in the way of product control by Monsanto. Check with Johnson of Callandras Laboratories.

6. Contact Rager in Germany to see if they have taken any action. Keep track of Japan incident through HMK.

Bill R

W. R. Richard

NEV 031161

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E. P. Wheeler - Medical

December 9, 1969

Aroclors - Effects of Oxi
Discussion with Dr. Calandra

W. R. Richard
WRICH

R. A. Wells - RWELL
R. E. Keller - REKEL
N. T. Johnson - NJOHN
C. Paton - CPATO
P. B. Hodges - PHODG
R. E. Kelly, M.D. - RKELL

I believe the following summarizes briefly our discussions Friday:

1) Dr. Calandra is to dose several chickens with the Aroclo to make available sample tissues for analysis by Scott Tucke The doses to be used will approach the lethal dose levels. Appropriate tissues and organs will be frozen and forwarded to St. Louis for analysis. This is intended to yield some gross indication of retention sites and levels in fowl.*

2. Dr. Calandra is to begin 30-day "range finding" toxicity studies with rats on each of the four Aroclors which have been sent to him. The purpose is to establish levels which will be appropriate for chronic two-year studies. Additiona analysis of excreta and appropriate organs and tissues will provide some information as to metabolic pathways, retention and/or accumulation and balances (as indicated by chemical analysis using "cold" material).

3) It is anticipated that the long range (two-year studies) could be initiated soon after completion of the 30-day studi within the next 60 to 90 days. This is not a commitment, however, to begin the two-year studies at that time.

4) The actual preparation of "hot" material is to be held i abeyance but exploration as to the availability and cost of tagged material is to be continued and firmed up.

5) The advisability of determing the character and possibil of isolating the "major fraction" in each of the Aroclors to be studied is to be explored.

6) It would be helpful for Scott Tucker to obtain appropri animal organs and tissues to become familiar with the extra and analytical techniques using actual specimens. (I have already arranged with Fred Younger of Younger Laboratories f appropriate specimens from rats with no known exposure to chlorinated compounds. We will have these by Dec. 12. Secc I have asked Fred to provide us some specimens from some ra which he is presently dosing with one of the Aroclors in a fattening oil. These should be available in about two we

*Equally important, it will provide Scott an opportunity to look for the G. C. peaks reported in the literature.

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7) Analytical work should be initiated to determine the decomposition products when representative materials (paper) containing Arcclor are burned.

8) There should be follow-up with the fish and wildlife people at Patuxent with a request for duplicate samples of some of the tissues in which they have identified PCBs so that Scott can attempt to confirm their results.

9) There should be further discussions initiated with Risebrough and others around the country whom we have not yet contacted but who we believe to be actively engaged in research projects looking for the PCBs.

10) It was deemed advisable to arrange more formally for the correlation and analysis of all of the publications and bits of information which are available. This would include possibly statistical analysis by someone with appropriate biological and biochemical background as well as statistical analysis capability.

11) It was the consensus that the group should schedule monthly meetings to review progress. The first such meeting was tentatively scheduled for January 15 at Dr. Calandra's Laboratories in Chicago.

Elmer P. Wheeler

cs

NEV 031163

W. R. Richard - Research Center

December 19, 1968

WILDLIFE - AROCLOR

cc: E. Wheeler EWHEE
W. K. Johnson WJOHN
K. Wells KWELL
R. Davis RDAVI
P. Benignus/J. Bryant PBENI
W. Kuhn WKUHN

TO: E. Scott Tucker - Res. 2

S. Second Street

I have asked Jim Sullivan to order 5 gal. each of the chlorinated naphthalene series containing from 1 to 8 chlorine atoms. Some of the chlorinated naphthalenes could be fed to chickens and the tissue extracted to see if these compounds elute in the GLC at the same positions as Aroclor.

I understand you plan to run DDT, Aroclor, Toxaphene and Cl naphthalene. Are there any other likely candidates of a similar chemical nature?

Bill Richard

W. R. Richard

ms

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] of [illegible] [illegible] have Jim send me [illegible] of [illegible]. I will check these, as is, versus the [illegible] on the GC equipment.

I [illegible] that [illegible] to the [illegible]. The metabolic products are well known and I think it can be ruled out [illegible] on this basis.

[illegible] be [illegible] for it unless someone has more questions.

A. S. Tucker

jo

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[illegible] 30, 19[illegible]

[illegible], Inc.

[illegible]

[illegible]:

[illegible] of two of the proposed [illegible]:

[illegible] - [illegible] - Gross Toxicity

[illegible]

[illegible] to be consistent with our [illegible] Food and I would appreciate [illegible] how you obtaining what you plan to do with [illegible] cost.

[illegible] - [illegible] - 30 Day Rat Tissue Study

[illegible]

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cc: W. K. Ellison
W. K. Johnson
G. Price
W. K. Sullivan
K. H. Beard/J. H. Lamb

NEV 031167

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