Ministry of Technology
LABORATORY OF THE GOVERNMENT CHEMIST
Cornwall House, Stamford Street, LONDON S.E.1
Telephone: WATerloo 7900, ext. 507

Please address any reply to THE GOVERNMENT CHEMIST *and quote:*
Your reference:

RECD 27 FEB 1967

23rd February, 1967.

Dear Dr. Hardy,

With reference to your letter of 20th February to the Government Chemist and our discussion on the telephone the following day, I can confirm that we are very interested in this Laboratory in the suggestion by Jensen of the University of Stockholm that chlorinated biphenyl compounds occur in wildlife.

As you are aware, we have for some years been examining selected foods, human tissue, wildlife, etc. for organochlorine pesticide residues. The work on food and human tissue has been carried out on a systematic basis for the Scientific Sub-committee on Poisonous Substances used in Agriculture and Food Storage, while the wildlife work is for the Nature Conservancy. We have found that wildlife, in particular, often contains a number of compounds which produce a series of peaks on gas chromatograms when using electron-capture detectors. These peaks do not correspond to pesticides or their known breakdown products or metabolites but they sometimes interfere with the determination of the pesticides. We have spent some time attempting to identify these unknown compounds which occur at quite low levels, probably parts per million at most. Their close similarity has prevented us from isolating individual compounds but, collectively, we know they have a high chlorine content - about 50% - similar to the organochlorine pesticides. This led us to think that they might be derivatives of such pesticides as DDT or dieldrin because we never seemed to find them without one of these also being present in substantial amounts. We also considered that they might be compounds of the pesticides with sterol or protein material or be polymers or inter-condensation products of the pesticides, or their metabolites.

Experimental work failed to confirm any of these hypotheses and being short of staff we abandoned the work until we obtained a positive lead.

Jensen's announcement caused us to examine a sample of Arcolor Resin which we found in another section of the Laboratory. We find it gives peaks on the gas chromatograph fairly close to those which are given by avian liver and we are now carrying out further work which looks promising but which it would be foolish to prejudge. Even if we find Arcolor compounds to be responsible it will raise a number of important questions such as how does it get there and why mainly bird life, and some marine life like seals, and so seldom in man or his foods such as milk, butter, etc.

We shall be pleased to examine any further samples of Arcolor which you send us and let you know the results.

I enclose a reprint of the section of the 1965 Annual Report of this Laboratory which may be of interest to you.

MONS 090515

Yours sincerely,

J.O'G. Tatton

J.O'G. Tatton

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