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TUNSTALL LABORATORY,
BROAD OAK ROAD,
SITTINGBOURNE,
KENT.

AR/SB

2nd November, 1967.

Dr. V.N. Hardy,
Monsanto Chemicals Ltd.,
Monsanto House,
10-18 Victoria Street,
London, S.W.1.

Dear Dr. Hardy,

Thank you for your letter of 1st November, 1967. I apologise for not having answered your letter sooner.

As you know, we have been for some time examining extracts of marine birds and their eggs in connection with the possible occurrence of Polychlorinated Biphenyls.

In one particular experiment we have extracted approximately 100 eggs of the Shag (*Phalacrocorax aristotelis*) and examined the resulting extract following liquid-solid chromatography on Silica Gel, by gas-liquid chromatography-mass analysis and by mass spectroscopy. Mass spectroscopy of a fraction from the Silica Gel column showed the presence of a compound of molecular weight 426 which contained 8 chlorine atoms, this is consistent with an octachloro biphenyl; gas-liquid chromatography-mass analysis indicated the presence of compounds of mass 324, 358, 392 and 426 respectively. These masses are consistent with pentachloro, hexachloro, heptachloro and octachloro biphenyls by being present.

In addition we have fed chickens for two months on a diet containing 100 ppm Arochlor 1254 after which we placed them on normal diet and collected the eggs for a further three months. Extracts of these eggs have been examined by gas-liquid chromatography and indicate that a substantial amount of Arochlor 1254 is excreted into the egg, the maximum concentration being 89 ppm. Examination of an egg taken three months after feeding was discontinued shows that these materials are very persistent and that the less chlorinated constituents are more readily metabolised.

I would say that our results are in broad agreement with that of the Government Laboratory and that we have no disagreement with them; however, I believe that they may have over-stressed the likely toxic effects of these materials but as you know there is only very limited evidence for us to go on.

We are continuing our studies on the chlorinated biphenyl and will let you have further information as soon as it is available.

Yours sincerely,

A. Richardson

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