

mainly from repeated spraying over certain areas resulting in a gradual build-up of residue. Thus this is a continuing study. It is a question of obtaining information, of evaluating it, and then translating it into terms of practice.

There is no doubt that it is very much in the interest of wildlife as a whole and of humans who enjoy wildlife in the wilderness that there are often cases where forest protection should be undertaken with insecticides to prevent the wholesale destruction of the forest, its drying out and its later devastation by fire. Indeed, much of insect protection is really fire protection. Therefore, it is a question of balance. We could be committed one way and say "away with all these chemicals which get into the streams, rivers and estuaries"; but on the other hand we would at the same time be destroying the weapon to the hand of forest protection and indeed of conservation which insecticides provide. That is, it appears that in order to prevent cutting off our nose to spite our face we must obtain evaluation and balance. It is in my opinion a characteristic of this country that the setting up of the Interdepartmental Committee to deal with these matters, far from creating a monolithic conspiracy of government officers to protect each other, is in fact an honest attempt to come to agreement among themselves in an area where, of course, from their own interest one department is committed one way and another department the other, to come to a balanced and responsible decision for the benefit of the public.

I think probably it is just to say that in this respect technical colleagues are in a better position to come to a balanced decision on points such as these than the general public. This is not to say they must not always be conscious of the intangibles which can be put forward by the general public. For example, in many parts of Canada black flies are an infernal nuisance, particularly to fishermen. It is perfectly possible to abate the black fly nuisance. In 1948, for example, we destroyed nearly all the black flies in the South Saskatchewan river for a hundred miles downstream without killing a single fish, even those which were exposed under the spray, by a very careful manipulation of dosage of D.D.T. Indeed, this can be done and has been done in resort areas in New York state. You can exterminate black flies and the fish populations remain the same but, after several years, the fish you catch will have D.D.T. in their body fat to an amount in excess of the 7 parts per million tolerance limit, and even as high as 200 parts per million.

One would suggest, of course, that game fish, fish in the pan, are not ever a large part of human diet; but one could also suggest that this would become almost an aesthetic point. The general public would like to feel when they go to the wilderness that they are not catching nice fish in the pan which have anything so mundane, so trade-like, as D.D.T. So there are these intangibles which the experts must always be reminded about, and always are.

This matter of the effect on wildlife in a country in which the tourist trade is so important and on a continent where wilderness areas are constantly contracting, is thus worthy of great thought and imaginative sympathy. But in order to have the food for thought, one must have experimental data—and again experimental data cost money. It is my feeling that here again, if it were possible to undertake a considerable program of research on this matter in Canada, the results of which would come before the Interdepartmental Committee and thus would not become the property, shall we say, of any one department with an exclusive point of view one way or the other, it would be possible for a balanced picture to be obtained.

Finally, Mr. Chairman, I feel it is exceptionally important that the general public also be given a true picture on insecticides. As you know, in my opinion they have not been given it yet.

The CHAIRMAN: Thank you very much, Professor Brown.