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PESTICIDES AND THE PROTECTION OF CHIROPTERA

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Introduction

The long remanence of the organochlorurate pesticides and their concentration in the links of a trophic chain have a baleful influence on organisms. The dramatic declin of the European Chiroptera population have determined some authors [1-5] to postulate that these pesticides are responsible for the diminution of the number of Chiroptera. In this situation I have supposed that DDT used at us in the control of the pests may be incriminated as one of the number of Chiroptera in the fauna of Romania.

Materials and Methods

To carry into efect the researches we have collected a numer of 12 individuals of Chiroptera belonging to the species *Myotis myotis* Bork. We have aimed at making evident the DDT (p. p'dichlordiphenyltrichlorethane) and its metabolit DDE (1, 1p dichlordiphenyil 2,2 dichlorethene), existing in the liver and in the fat body of these animals.

The material was collected in August and September as well as in May of the next year. The collecting was made from a summer colony found in the garret of a school in Dărmăneşti-Suceava [6].

We mention that in these months (July, August 1974) in this county current treatements with pesticides were used, from which we have taken into study only DDT.

To determine DDT and its metabolit DDE, the Sehecter-Haller method was used, the content of those two components was calculated according to a formula used in the concomitant spectrophotometry of two substances with different wave length.

Results and Discussion

TABLE I

The quantity of DDT and DDE (mg./kg.body) found in the body of bats (*Myotis myotis* Bork.)

	DDT	DDE	TOTAL
August - 1974 -			
Liver	4.17	7.28	11.45
Fat tyssue	8.16	11.68	19.84
TOTAL	12.33	18.96	31.29
September - 1974 -			
Liver	8.34	18.81	27.15
Fat tyssue	10.13	26.42	37.25
TOTAL	18.47	45.23	64.40
May, after hibernation - 1975 -			
Liver	1.64	3.66	6.30
Fat tyssue	7.11	18.41	25.52
TOTAL	8.75	22.07	31.82

The investigations made in August showed the presence of DDT and its metabolit DDE both in the liver and especially in the fat tyssue. In this period the total impregnation of the organismus was of 31.29 mg./kg.body.

The repetition of the investigations in the middle of September showed that both DDT and DDE cumulated in the organisms in this period was twice (64.40 mg/kg.body) in comparison with the data obtained in August.

The researches carried out on the same colony after the winter repose showed that both in the liver but especially in the fat tyssue DDt and DDE are present. The total impregnation, even if it is lower than in September, remains equally to that found in August, the previous year.

Taking into account the long-term remanence of this product as well as its concentration in different links of a trophic chain it is necessary that DDT should be replaced with an other chimical product in order to be avoided the nocive effects of the DDT use on the basis of the argument that the bats are most useful animals to man.

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