published annually in the *Proceedings* of that Society, the identity of the fungi involved was not ascertained. *Aspergillus fumigatus* Fresen. is the usual cause of avian mycosis, and it has also been recorded as pathogenic to other animals and to man. The following case of a fatal and apparently uncomplicated mycosis in a bison due to the same fungus appears to be unique.

Case Report. The subject was a male American bison (*Bison bison*) aged about twelve years. He was known to have suffered from shortness of breath and cough each winter for several years. In the autumn of 1946 these symptoms were worse than usual, rapidly developed into respiratory distress, and the animal died in a few days. At necropsy next morning, a few old adhesions were found in the pleuræ and pericardium. All the air-passages, from the largest just below the vocal folds in the larynx, to the smallest that could be seen with the naked eye, appeared to be lined with a thick-piled, green-grey velvet, evidently a mycotic mycelium. The air-passages did not appear to be dilated. The intervening lung showed a moderate degree of fibrosis only, and this was confirmed on section. No other abnormality was found in any organ.

Isolations from the lining of the air-passages yielded pure cultures of *A. fumigatus*.

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July 18.

[1] Scott, H. H., Med. Res. Coun. Spec. Rep. Ser. No. 149 (1930).

Insecticidal Effect of Surface Deposits of D.D.T. on Mud

OBSERVATIONS in the field[1,2] have shown that mosquitoes become affected after making contact with D.D.T.-treated surfaces in rooms and may make their escape through open doors and windows. Kennedy[3] has shown in the laboratory that sub-lethal doses of D.D.T. excite mosquitoes, and that when activated they move preferentially to light. For residual spraying in houses to be successful in reducing the incidence of malaria, it is essential, therefore, that the surface deposit applied shall be lethal to mosquitoes after only a brief contact.

The types of surface most common in African houses are the mud wall and the thatch roof. Laboratory tests have been conducted to determine the efficacy of various D.D.T. formulations on mud. Sun-dried soil, passed through a 40-mesh sieve, was made into standard mud blocks 2 in. square by 1 in. deep in wooden frames and allowed to dry slowly at room temperature. Each formulation contained 5 per cent D.D.T. (*pp'*) and was applied at dosages ranging from 100 to 400 mgm. per sq. ft. with a Four Oaks 'Kent' Sprayer to 5 × 4 blocks. 24 hours later, biological toxicity tests were carried out with *Glossina palpalis* and *Aedes ægypti* as test insects. The outer layer from each set of four blocks was then scraped off and made up to 1 gm. in weight, this representing a layer of approximately 0·1 mm. in thickness. Chemical determinations of the insecticidal deposit in this layer and in the whole blocks were made, using the dehydrohalogenation method. This outer layer contains more than all the contact available insecticide.

Oil solutions were absorbed into the mud to a considerable extent, only 6–15 per cent of the insecticide appearing in the outer layer, and mortality of test insects was low. Even with dosages so high as 1,000 mgm. per sq. ft., the proportion in the outer layer was not increased and kills remained low.

The highest proportion of insecticide recovered from the outer layer (62 per cent) was from blocks treated with a water suspension of a dispersible powder, the suspended particles being filtered off at the surface. Kills of test insects were good; 100 per cent mortality of *G. palpalis* after only 15 sec. contact and up to 90 per cent of *A. ægypti* after ½ hr. contact. Some results are given in the table, where the amount of insecticide recovered from the outer layer is expressed as a percentage of that from the whole block.

Formulation	Mean percentage of D.D.T. in outer 0·1 mm.	Percentage kill *G. palpalis* after contact of 15 sec.	15 min.	Percentage kill *A. ægypti* after contact of 1 hr.
Solution of D.D.T. in :				
Diesoline	8	0	5	10
Kerosene	13	0	20	10
50 per cent kerosene and 50 per cent cotton seed oil	11	0	25	10
Cotton seed oil	10	0	15	10
Emulsion :				
T.P. 543	35	25	75	70
T.P. 543 + Resin	27	5	50	43
Dispersible powders :				
Geigy Neocid *BA*50	46	100	—	100
Hyg. Chem. Co. *N*210	62	100	—	100

76 per cent of a 'Gammexane' dispersible powder 530 was recovered from the outer layer a few hours after application, but the percentage fell to 20 per cent in 10 days.

Details of these tests will be published later. Field trials using dispersible powders for residual spraying in houses are in progress.

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June 25.

[1] Symes and Hadaway, *Bull. Ent. Res.*, **37**, 399 (1947).
[2] Gahan, Travis, Morton and Lindquist, *J. Econ. Ent.*, **38**, 231 (1945).
[3] Kennedy, *Bull. Ent. Res.*, **37**, 593 (1947).

Alloxan Diabetes and Glycogen Phosphorolysis in Rats

Laszt and Vogel have reported[1] that they found "that the rate of glycogen phosphorolysis in muscles of alloxan-diabetic rats was increased by 63 per cent after 15 minutes and by 69 per cent after 30 minutes incubation time. By adding insulin *in vitro*, the rate of glycogen phosphorylation is diminished."

The number of experiments and the quantity of insulin used in this work are not stated. Since this result would not only add to our understanding of the action of alloxan but also of the possible connexion of insulin with phosphorylation, we repeated these experiments on ten normal and eight alloxan-diabetic rats, but failed to confirm it.

The following are mean values of the percentage decrease of inorganic phosphate (method of Lohmann and of Verzár and Montigel) if muscle or liver are brought together with glycogen. The diabetic rats were poisoned with alloxan (Roche, new preparation) and suffered from diabetes for one to three months, with 5–7 gm. glucose daily in 60–110 c.c. of urine. Insulin 'Berna' was used, diluted 25–250 times.