

Housefly Control

(a) *Trials with D.D.T. for the Control of Adult Flies.*—The D.D.T. powder was dissolved in acetone and kerosene was used as the carrier. A 5 per cent. solution proved to be highly satisfactory, and a single spraying of rooms was effective for a period of three months or more. The addition of pyrethrum gave a remarkably quick “knock-down” effect. Solutions of D.D.T. in kerosene at less than 5 per cent. were not very satisfactory, and a 1 per cent. solution was quite unsatisfactory.

(b) *Trials with 666 (Gammaxane) for the Control of Adult Flies.*—The 666 powder was dissolved in acetone and kerosene was used as the carrier. A 2.5 per cent. solution was effective and rapid in action, but a single spraying remained effective for a day or two only. The offensive odour of the 666 spray, unless masked by the addition of some chemical, renders it unsatisfactory for use in the treatment of dwellinghouses.

(c) *Trials with 666 Spray and 666 Dust for the Control of Housefly Maggots in Horse-dung.*—(1) Eighteen cubic feet of horse-dung was treated with a 2.5 per cent. solution of 666 in kerosene. The outer 4 in. only was sprayed. The quantity of spray used was 350 ml. The heap became heavily infested with maggots, which were able to complete their feeding, pupate, and emerge as adults.

(2) A 4 per cent. 666 dust was used to treat two heaps of horse-dung, each approximately 18 cubic feet in volume. In one case the heap was turned and thoroughly dusted throughout, while in the other case the heap was dusted on the outer surface only. In both cases the heaps became heavily infested with maggots, which were able to complete their feeding, pupate, and emerge as adults.

The control of maggots in horse-dung by spraying with a 4 per cent. aqueous solution of borax proved quite effective. The spreading of horse-dung in a thin layer on the ground so that it dried out rapidly prevented it becoming infested with maggots, whereas the spraying or dusting with 666 proved quite unsatisfactory.

Sheep-dipping Trials

D.D.T.—D.D.T., extended on to talc particles and used in water suspensions, is being tested as a sheep-dipping material for control of keds, body lice, and blowfly strike on sheep. Small-scale trials with keds and lice have given excellent results. A large field trial for prevention of blowfly strike is still in progress. Similar trials are in progress using D.D.T. extended on to sulphur and talc by jet pulverization.

Lameness in Sheep following Derris Dipping.—The problem of lameness in ewes following derris dipping is receiving attention. Full particulars of conditions of dipping and source and quality of derris used are being recorded. Attempts are being made to induce the type of lameness which has resulted only from dippings where derris or the pure ground root of other rotenone-bearing plants have been used.

MICROBIOLOGY

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Pre-emergence Decay: Peas

Blue Prussion and William Massey varieties treated with dusts at 2 oz. per bushel were grown in unsterilized soil maintained at the levels of 50, 70, and 90 per cent. of saturation capacity, one series within temperature range of 56–116° F., the other within 34–69° F. The statistical analysis showed that the seeds dusted with Agrosan, copper carbonate, Spergon, and cuprous oxide germinated significantly better than undusted seed. Cuprous oxide dust gave a result significantly better than any of the other dusts used. The interaction analysis revealed (1) the relative effect of dust treatments was the same at each moisture level; (2) the effects of the dusts and moisture levels were not altered significantly by the varieties; (3) the temperature levels did not lead to any significant differences as between the dust treatments. It was shown, also, that no dust treatment had any effect in protecting plants from natural soil infection after emergence.