ESTIMATION OF MALATHION RESIDUES ON APPLE FRUIT BY SPECTROPHOTOMETERY

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Summary

During August 1977. 108 apple trees in Evin - Tehran were sprayed with Malathion E.C. 57% (4.5 liter 2‰ solution for each).

Nine samplings were made after spraying, the first after one hour eight others at one day intervals.

The method of Norris et al in Zweig 1958 was used. This involves extraction of fruit with carbon tetrachloride, Treatment of the extract with alkali and reaction of the resuotant dimethyl phosphoro dithioate with copper sulphate to form a yellow coloured complex which is determined spectrophotometrically.

Results are then obtained from a standard curve, which is prepared by carrying knoun amounts of pure insecticide (0–0.25– 0.5–0.75– 1.0– 1.25– 1.50– 1.75– 2.0– 2.25– 2.5 mg.) through the same procedure.

Recovery of malathion from laboratory treated apples using this method was %95·

The residues found are tabulated below.

Numbers of Samples after spraying in hour and days	1 hour	1 day	2 days	3 days	4 days	5 days	6 days	7 days	8 days
PP m of Malathion founded on apple	29	12.3	7.5	5.7	4.8	2.6	1.5	0.2	les than 0.1

In regard to the permited residue of malathion on apple fruit (8. p.p.m) the apples can be harvested three days after spraying.

References

ZWEIG, G., 1964: Analytical Methods for Pesticdes, Plant Growth Regulators, and Food additives.- Vol. II

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