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**ANALYSIS OF PESTICIDE RESIDUES  
IN CHILLI (Capsicum annum)**

**A PROJECT REPORT PRESENTED**

**BY**

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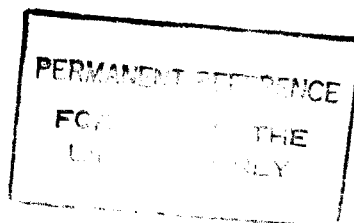
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## ABSTRACT

The control of food safety and quality is an integral part of national programmes for development. While pesticides use results in a substantial increase in yields of food stuffs, they can also be the source for many problems associated with pesticide residues in food. Therefore pesticide residue analysis in food has become significant in the field of analytical chemistry.

Most countries have specified by law or regulation that which pesticides should be used on their foods and their recommended maximum residue limits (MRL's). In this research project a gas chromatographic technique was developed for the detection and quantification of Endosulfan I, II and Chlorpyrifos. Correlation Coefficient for the calibration curve for Endosulfan I;  $r^2 = 0.9981$ , Endosulfan II;  $r^2 = 0.9973$ , Chlorpyrifos;  $r^2 = 0.9926$  were obtained.

Recovery studies were carried out in chilli samples at three fortification levels . i.e. 0.1 mg/kg , 0.2 mg/kg, and 0.4 mg/kg. Analytical methodology was satisfactory with satisfactory recoveries. i.e. 83% for Chlorpyrifos, 81% for Endosulfan I and 87% for Endosulfan II.

Endosulfan and Chlorpyrifos were sprayed into two separate chili fields. Chilies were harvested 2 days, 5 days, 7 days and 14 days after the final insecticide application and were analyzed for the residue levels. According to the results it was observed that higher residue levels than MRL for each pesticide are present till seven days. But the residue level decreases to a value less than MRL after 14 days.

Market samples collected from different areas were also analyzed to ascertain the residue levels. Analytical results showed that levels lower than the MRL for Endosulfan and Chlorpyrifos are present in market samples of chilli which were analyzed.

