

## Persistence of carbofuran in two Malaysian soils

### ABSTRACT

Persistence of carbofuran in two Malaysian soils namely the Bagan Datoh and Labu soils was studied under laboratory conditions at a constant temperature of 30°C. Air-dried soil was sieved and then spiked with 10 µg g<sup>-1</sup> of carbofuran at three different moisture levels, namely 100%, 90% and 60% field capacity. It was observed that the half-lives of carbofuran in the Labu soil samples (which are low in organic matter content) at 100%, 90% and 60% field capacity were 57.28, 38.51 and 115.52 days respectively. However the corresponding half-lives of carbofuran in the Bagan Datoh samples (which are high in organic matter content) at 100%, 90% and 60% field capacity were 192.54, 141.46 and 203.87 days respectively. The half-life recording of carbofuran in autoclaved Bagan Datoh and Labu soil samples were 147.5 days and 301.37 days respectively at 100% field capacity and at a constant temperature of 30°C. The degradation of carbofuran followed a first order kinetic reaction. The results of this study showed that soil moisture content, micro-organisms and the organic matter content (OM) affected the degradation of carbofuran in both soils studied.

**Keyword:** Carbofuran; Insecticide; Dissipation; Half-life; Soils; Water content; pH