

## A Comparison of the Interaction of Azinphosmethyl with Two Different Smectites

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The transport of agricultural chemicals through soils and into groundwater is of international concern. Data released in 1990 from EPA indicate that 446 000 of nation's rural domestic wells may contain at least one pesticide (1). Many of them are non-ionic and only sparingly soluble in water, such as Azinphosmethyl (o,o-dimethyl s-[4-oxo-1,2,3 benzotriazin-3(4H)) methyl ] phosphorodithioate)(2), this compound is a nonsystemic and highly toxic organophosphorous insecticide mainly used in Spain (3). Furthermore, it has been used extensively in USA during the last two decades because of its effectiveness in controlling the Sugarcane borer *Diatraea Saccharalis* F (4). The present study was designed to improve the knowledge of Azinphosmethyl behaviour in clay Minerals, by integrating equilibrium and mobility experiments as related to mineral characteristics. Soil columns were used for the mobility experiments and simultaneously, the sorption of Azinphosmethyl was determined by the batch procedure. Two different smectites (Spanish

and USA bentonites) were used at different experimental conditions. The equilibrium concentration and column percolates were determined by UV-spectrophotometry and HPLC.

First results showed a great difference in the fate of Azinphosmethyl in the two studied smectites. High sorptions and low mobilities have been obtained for the USA smectite and these results will be correlated with the mineral characteristics.

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