Abstract
Agricultural activity in the state of Sonora is well known as one of the most developed in the country. It is high-tech and highly productive, and brings in a large amount of foreign currency. To continue supplying the national and international markets' high demand for produce, intensive cultivation has been necessary, and heavy use of agrochemicals has resulted in soil pollution. Organochlorine pesticides (OCPs) were used from 1950 to 1991, mainly on cotton crops. In industrialized countries these pesticides were banned or restricted in 1970 and they have been banned in Mexico since 1991. These agrochemicals are harmful to human health as well as to the environment due to their toxicity and volatility, and because they accumulate and persist in the soil. For this reason, countries participating in the Stockholm Convention agreed to reduce or eliminate their use. The objective of this work was to verify the presence of OCPs in the main agricultural areas (North and Central) of the state of Sonora. Using the matrix solid phase dispersion method and gas chromatography, 17 OCPs were extracted from 45 sampled fields. Five soil samples were collected (from surface layer and at a depth of 60 cm) from each field. Crop managers were interviewed to obtain historical information on crops and application of OCPs. All (100%) of respondents reported having used OCPs. OCP recovery percentages were 78 to 116% with a CV < 20%. Fifteen pesticides in agricultural fields of rural development districts were found in the range of not detected (nd) to 45.75 g kg⁻¹. In Caborca: 1.22-9.62, Hermosillo: nd-7.49, Magdalena: 0.73-24.40, Ures: nd-18.78, and Guaymas: 1.43-45.75. Those found most frequently were DDE, endosulfan, -chlordane, heptachlor and endrin epoxy. Positive correlations between organic matter and OCPs suggest that organic matter favors OCP accumulation in agricultural soils. The results indicate that agricultural areas in Sonora are contaminated and are a risk to human, wildlife and ecosystem health.

Keywords
Sonora, toxicity, soil degradation.