

Addendum

The growing incidence of prostate cancer in the French Caribbean islands, Martinique and Guadeloupe: A possible causal role of pesticides

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In a recent paper published in the journal (1), we reported results of an ecological multifactorial study showing that the growing incidence of prostate cancer in Martinique and Guadeloupe is probably caused by environmental factors, and have hypothesized in a second paper that among factors,



Figure 1. Distribution of standardized incidence ratio (SIR) of prostate cancer (grey and black) 0.85-0.95; 0.95-1.05; (dark grey and black) >1.15 according to AMREC.

spray of organochlorine pesticides might be causally involved (2). Table I indicates the different carcinogenic, mutagenic and/or reprotoxic (CMR) or presumed CMR pesticides used since 1955 in the two islands. Unlike that indicated in our first paper (1), aldrin and dieldrin are not rated as 2B carcinogens but instead as group 3 in the IARC classification. Moreover, although our paper clearly showed an excess of prostate cancer in the South East part of Martinique (Fig. 1), unfortunately in the text, this area was mentioned as corresponding to the South-West of the island. These two necessary precisions do not change the basic conclusions of our paper, and the importance of its scientific message, since it clearly establishes for the first time that prostate cancer may be an environmental disease.

References

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2. Landau-Ossondo M, Rabia N, Jos-Pelage J, Marquet LM, Isidore Y, Saint-Aimé C, Martin M, Irigaray P and Belpomme D: Why pesticides could be a common cause of prostate and breast cancers in the French Caribbean Island, Martinique. An overview on key mechanisms of pesticide-induced cancer. *Biomed Pharmacother* (In press).

Table I. CMR and presumed CMR pesticides used since 1955 in Martinique and Guadeloupe.

	On the market	Maximum of use	Withdrawal from the market for agricultural use	Continuation of use	IARC classification
Technical DDT	1939	1960-1990	1972		2B
Technical HCH	1940 ^a	1950-1960	1988	1998	2B
Lindane	1940 ^a	1950-1960	1992		2B
Aldrin/dieldrin	1950 ^a	1960	1972	1992	3
Chlordecone	1972	1980	1990	1993	2B
Chlordanes	1960 ^a				2B
Perchlordecone (mirex)	1977 ^a	1980	1990		2B
Simazine	1991 ^a		2001		3 ^b

^aOfficial data not available. ^bSimazine, a non-organochlorinated molecule, is associated with an increased risk of prostate cancer. Technical DDT is a mixture of the isomers p,p'-DDT (85%), o,p'-DDT (15%) and o,o'-DDT (<1%) and technical HCH, a mixture of the isomers α , β and γ . Chlordanes include trans-chlordane, cis-chlordane, trans-nonachlor, cis-nonachlor and heptachlor.