

## Pesticides: their true costs are wildly underestimated

Two scientists from the French National Institute for Agricultural Research (INRA) reviewed 61 studies in order to evaluate the various costs generated by the use of pesticides (1).

They distinguished 4 types of costs associated with pesticide use: regulatory costs (related to information campaigns, monitoring, decontamination), human health costs (expenditure due to the acute and chronic effects of pesticides on human health), environmental costs (impact on animals, plants, soil), and defensive expenditures (the extra cost of purchasing bottled water, in order to avoid pesticide exposure).

Some costs are “internal” i.e. passed on to consumers in the price of the product, while “external” costs are those paid for by a third party, such as the treatment of diseases caused by the product. Some costs are “hidden”, i.e. unknown or overlooked (1).

**Underestimated costs.** This evaluation of the generally ignored external costs and hidden costs of pesticide use shows that, when they are taken into account, pesticides are very expensive. For example, the health costs of pesticide use in the United States in 2005 have been estimated at US\$1.5 billion, but this estimate increases tenfold to \$15 billion when the health costs of chronic exposure are taken into account (1).

Many environmental costs have almost never been evaluated. One study estimated the environmental costs of pesticides in the US at \$8 billion in 1992 (1).

The annual regulatory costs for pesticide use reached \$4 billion in the US in the 2000s. And if all the regulatory requirements had been respected, they would have reached \$22 billion (1). As regards the cost of avoiding pesticides, the authors estimate that worldwide, in 2012, the extra cost of purchasing organic food alone amounted to \$6.4 billion.

Although certain evaluations maintain that the benefits of pesticides are 5 times greater than the costs, these scientists consider that when hidden and external costs are taken into account, the costs exceed the benefits (1).

**An illuminating approach.** This study draws attention to costs that the authors of many cost-benefit analyses ignore.

The cost-benefit balance of a good many other human activities would undoubtedly be different if these costs were taken into account, especially environmental and human health costs. The field of healthcare is no exception, where iatrogenesis for example is a little evaluated external cost, paid by society rather than by healthcare providers or drug manufacturers.

**Prescrire**

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Selected references from Prescrire's literature search.

1- Bourguet D and Guillemaud T "The hidden and external costs of pesticide use" *Sust Agr Reviews* 2016; **19**: 35-120.