

SYSTEMIC PESTICIDES : A HISTORICAL PERSPECTIVE

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In July 2009, a group of entomologists and ornithologists met at Notre Dame de Londres, a small village in the French Department of Hérault, as a result of an international enquiry amongst entomologists on the catastrophic decline of insects (and arthropods in general) all over Europe. They noted that after a perceptible and gradual decline of insects from the 1950's onwards, a much steeper decline of insect populations had started in the decade 1990 – 2000. This first began in Western Europe, followed by eastern and southern Europe, and is best documented in the decline of butterflies and the global disorders amongst honey bees. They concluded that these phenomena reflected the now general collapse of Europe's entomofauna. On the basis of existing studies and overwhelming circumstantial evidence, they came to the hypothesis that the new generation of pesticides, the persistent, systemic and neurotoxic neonicotinoids and fipronil, invented and introduced in the early 1990's, are likely responsible at least in part for these declines. They, therefore, issued the Appeal of Notre Dame de Londres under the heading "No Silent Spring Again" referring to Rachel Carson's book "Silent Spring" then published almost half a century ago.

In response, an international Task Force on Systemic Pesticides was set up at the end of 2009. Over the years, membership grew and today counts 24 nationalities in five continents. In undertaking the Worldwide Integrated Assessment (WIA), over the course of four years, the TFSP has examined over 1,100 scientific peer-reviewed papers published over the last two decades. The WIA was almost simultaneously launched in Manila, Brussels, Ottawa and Tokyo in June 2014., and published in a special issue of the peer-reviewed Springer journal "Environmental Science and Pollution Research" in January 2015. That same year its conclusions were confirmed by the *easac* Report "Ecosystem services, agriculture and neonicotinoids".

The update, WIA 2, having examined over 700 peer-reviewed papers published in its wake, will appear in early 2019. The TFSP's scientific assessment indicates that the current large-scale prophylactic use of systemic insecticides that have been documented in the environment are sufficient to cause adverse impacts on a wide range of non-target organisms in terrestrial, aquatic, wetland, marine and benthic habitats. There is also a growing body of evidence that these effects pose risks to ecosystem functioning such as for example pollination and nutrient cycling as well as to human health.