

HISTORY OF PESTICIDE DEVELOPMENT SINCE SILENT SPRING

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► 1960s

ORGANOCHLORINES such as DDT, that accumulate in food chains, are in routine use.

DDT causes crashes in population of birds like golden eagles, peregrines and sparrow hawks. The evidence that something had gone terribly wrong was overwhelming.

Still chemical companies and the government said there was no definite proof, and refused to ban DDT.

FINALLY BANNED IN 1983 AFTER 30 YEARS OF MOUNTING EVIDENCE

► 1970s

ORGANOPHOSPHATES (originally developed as a nerve gas for military use) such as Chlorfenvinphos are in routine use.

The chemistry of warfare, designed to kill people, was now being applied to our countryside to kill insects.

They begin to appear in many official cause-for-concern priority lists because of their toxicity, especially to the aquatic environment.

CHLORFENVINPHOS BANNED FOR AGRICULTURE IN 2007 AFTER AROUND 60 YEARS OF USE

► 1980s

PYRETHROIDS such as Cypermethrin are in routine use.

When they were in use it was estimated that about 1.5 billion insects and other creatures in rivers, streams and ponds were being killed by Cypermethrin sheep dips every year.

In addition 400 million litres of waste Cypermethrin was sprayed onto fields every year, causing untold destruction to butterflies and bees.

CYPERMETHRIN IN SHEEP DIPS BANNED IN 2010 BUT CONTINUES IN OTHER PARTS OF AGRICULTURE

► 1990s

NEONICOTINOIDS such as Imidacloprid and Thiamethoxam are in routine use.

Scientists are now discovering that even very low doses of neonicotinoids, well below what European governments consider a 'safe' level of toxic chemical, can disrupt bee behaviour.

These are likely to be contributing to the collapse in numbers of honeybees, bumble bees and other pollinating insects.

STILL NO SIGN OF A BAN

► 2000s

ATRAZINE & ENDOSULFAN are endocrine disruptors. These substances can interfere with the body's hormones or chemical messengers.

Studies show that atrazine can cause reproductive and other organ abnormalities in vertebrates. A recent study showed it can act within the brain to disrupt the cascade of hormone signals needed to initiate ovulation.

AFTER 50 YEARS OF USE ATRAZINE BANNED IN 2004

Endosulfan is one of a number of endocrine disrupting pesticides that are oestrogenic (can give rise to more female characteristics).

AFTER 40 YEARS OF USE, ENDOSULFAN TO BE BANNED GLOBALLY IN 2012



A 30% INCREASE

in the area of the UK treated with pesticides over the last 15 years (including land sprayed more than once).

A 50% REDUCTION

in 2012 in farmland birds over the last 30 years is reported across the EU. This is blamed on policies encouraging the intensification of agriculture, including increased levels of pesticide use.



32% OF HONEYBEES

exposed to sub-lethal levels of the neonicotinoid thiamethoxam failed to return to their hives, doubling the natural loss rate of foraging worker bees, says a recent study.

85% REDUCTION

A new study showed that bumblebee colonies exposed to neonicotinoid pesticides had a significantly reduced growth rate and a huge 85% reduction in queen production.

