



Bees - or not bees?

That is the question we face as a society - a stark choice between two futures for the bee.

Firstly, we can maintain business as usual. We, or rather politicians, can decide to bow to the commercial interests of the pesticide manufacturers and the short term profits of agri-businesses. We can maintain industrialised agriculture across the USA and Europe and continue to drown its vast monoculture fields in chemical pesticides. The consequence will be the continued decline of wildlife across our once "green and pleasant land" and the inevitable decline to extinction of that most vital component of Nature's ecosystem - the bee.

"Many wild bees...have been declining in abundance, occurrence and diversity at local and regional scales in Northern Europe and North America."¹

Bees are threatened by a range of factors including: intensive agriculture, pesticides, land-use changes, environmental pollution, invasive species, pathogens and climate change.¹ Fundamentally bees are being exterminated by the activities of industrial civilization.

The US Department of Agriculture (USDA) reported that there were 2.59 million (8%) fewer commercial honey bee colonies in January 2016 than in the previous year.² Other recent studies in USA have concluded that of some 1437 bee species evaluated 749 are declining.

More seriously 347 species, which play a vital role in plant pollination, are imperilled and at risk of extinction.³

"It's a quiet, but staggering crisis... that illuminates the unacceptably high cost of our careless addiction to pesticides and monoculture farming"³



So one day, perhaps soon, we may find ourselves without the support of the humble bee and her pollination of our agricultural production and wild plants. The extinction of the bee poses *"potential risks to major world crops."* Some 75% of *"leading types of global food crops"* and *"90% of wild flowering plants...rely to some extent on animal pollination."*¹

The consequences of bee extinction would be seen rapidly with reduced food production and an inevitable rise in food costs and human suffering.

“We don’t have to do anything to bring about this future...just continue what we are doing now”⁴



There is an alternative. A future where society decides to take action to halt the decline in bee populations and force politicians to take the bold step to ban the pesticides that have been shown to be detrimental to both wild bees and commercial colonies. In 2016 European Food Safety Authority (EFSA) published a risk assessment and concluded “*high and acute risks for bees*” from most pesticides particularly Imidacloprid and Clothianidin made by Bayer.⁵

“Pesticides, particularly insecticides, have been demonstrated to have a broad range of lethal and sub lethal effects on pollinators.”¹

There is hope. In May 2013 the European Union demonstrated courage in the face of commercial pressure and imposed a temporary ban on the class of pesticides called neonicotinoids.

On 25th April 2017 the UK Minister of State for Agriculture, Fisheries and Food, George Eustice, announced a decision to reject applications by the National Farmers Union (NFU) for permission to use two banned neonicotinoids on oilseed rape crops in England.⁷ Thus, for one year at least, the UK Government has decided to keep bee-killing pesticides out of English fields.

The permanent removal of these toxic chemicals from the landscape, combined with wide-spread changes to agricultural practices to provide improved habitat and foraging, could witness the revival of natural and commercial pollinators.

Sorry did I forget to mention a third scenario?

Where the widespread use of pesticides is allowed to continue unchecked. Bees become extinct and one of Nature’s key species in plant reproduction is lost forever. Of course scientists already have a solution - “**RoboBees!**” Mankind can spend years in research and billions of dollars of investment to develop a range of robot pollinators:

“Swarms of autonomous robot bees could be enlisted to help fertilize crops and wild flowers.”⁸

"An insect sized drone that can pollinate flowers"⁸ is not science fiction - prototypes have already been developed by the National Institute of Advanced Industrial Science and Technology in Tokyo.⁸



What madness!

Bees are in real danger of extinction. Millions of colonies are being lost each year as chemical companies and agri-business spread toxic pesticides over our fields. Huge investments in hi-tech solutions like "RoboBees" are not the answer. The solution is quite simple - the European Union, the UK and US Governments should ban the use of insecticides, particularly neonicotinoids, permanently.

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