**RRES Press Release 26 Jan 2022 EU policies led to collapse of major biofuel crop in UK and Europe says report**

*Fractured decision making turned beetle into a serious crop pest and increased palm oil imports*

Contradictory EU policies first encouraged and then undermined the farming of a major biofuel in Europe, according to a new analysis.

Climate change polices initially rewarded the widespread planting of oilseed rape - the world’s most important vegetable oil after soybean - but subsequent pesticide laws have ultimately led to very large yield losses across the continent in recent years.

This collapse of oilseed rape farming  in the UK and Europe had led to a reliance on imported oils – including palm oil, the growing of which is often responsible for tropical deforestation, and oilseed rape from countries still using pesticides banned by the EU.

The [findings of the report](https://onlinelibrary.wiley.com/doi/full/10.1111/gcbb.12922) will be presented later today at a meeting of the British Crop Protection Council by lead author, Dr Patricia Ortega-Ramos from Rothamsted Research.

Speaking ahead of the meeting, she said the series of EU policy decisions essentially ‘created a serious crop pest’.

“This is a great example of how a better understanding of pests and joined up decision making are going to be vital if we are to reform farming.

“The EU’S 2009 Sustainable Use of Pesticides Directive was not well implemented, and as a result of that and subsequent decisions, the cabbage stem flea beetle has now become a serious pest. The area of oilseed rape being grown is now falling sharply, with huge financial consequences for farmers and major environmental consequences for all of us.

“It is imperative that smarter pest management become written into new EU and UK policies. We also need to help science develop the tools required by farmers to fight pests without the associated environmental costs, and to find ways to include and incentivise farmers to help develop and use these new methods.”

Published in the journal GCB-Bioenergy, the case study reviews why, in the early 2000s, the EU introduced a series of policies and market-based incentives to encourage the production of biofuels in order to meet their obligations to reduce greenhouse gas emissions.

After the EU implemented these pro-biofuel policies, the area of oilseed rape harvested increased by 78% between 2003 - 2010, achieving a record harvested area of 6.4 million hectares in 2010.

Oilseed rape is the second largest source of vegetable oil globally, and the most important biofuel feedstock in the European Union.

However, this huge increase in the area of oilseed rape grown across Europe, reduced both the variety of other crops grown and the amount of natural habitat on farms.

These led to population booms of the cabbage stem flea beetle and another pest, the pollen beetle, which both feed on the plant. To fight back, farmers increased their use of pesticides, especially neonicotinoids.

In attempt to curtail excessive pesticide use, the EU’s response was the 2009 Sustainable Use of Pesticides Directive - but uneven and often poor implementation by member states ultimately led the EU to ban outright the use of neonicotinoids four years later over concerns it was harming bee populations.

The ban led to increased use of another type of pesticide, pyrethroid, which inevitably led to pesticide resistance arising in the beetles.

With no way to control them, widespread crop failures and significant yield losses for farmers have become commonplace. Since 2018 the area of oilseed rape grown in Europe has collapsed to 2006 levels.

“It’s been reported that in the UK in 2014, three quarters of the national area of crop was affected by adult feeding damage causing about five percent crop loss nationally. Of this loss, 62% occurred in eastern regions, causing an estimated loss of £13M in this area alone.

“In 2020, the equivalent of four out of ten UK fields of oilseed rape did not make it to harvest due to beetle damage, with 14% being resown due to severe pest damage. Yields fell to their lowest level in over a decade and oilseed imports were necessary - ironically from countries outside the EU that still permit use of neonicotinoid pesticides.”

Loss of control of pests has made oilseed rape cultivation in certain countries such as UK, Germany and France very risky, and has been attributed as the major cause of the decline of the crop being grown.

As a direct result of this decline in the area of oilseed rape being grown, and in order to meet the EU transport targets, imports of palm oil used for biodiesel reached an all-time high in 2020.

Palm oil plantations are often cited as a major cause of deforestation in the tropics.

Dr Ortega-Ramos said: “It is clear now that the contradictory - even if well-intentioned - policy initiatives led to the development of a serious pest. Perhaps, if the EU’s sustainable pesticide plans had been put into law at the same time as the drive to meet the biofuel target, then the biofuel target would have been reached without relying on imports, and insecticide resistant beetle populations might not be so widespread.

“However, there was a lag in implementation and slow behavioural change in the use of insecticides over that timeframe which allowed the beetle to ‘escape’.”

Co-author Dr Sam Cook, who leads Rothamsted’s Integrated Pest Management research, said reliance on insecticides for crop protection is clearly unsustainable, and that a broad range of management options are required for farmers to be able to combat pest in a sustainable and efficient way.

“Integrated Pest Management offers a set of tools that can help suppress pest damage and discern when -and what- control methods are required, reducing unnecessary insecticide inputs and minimising environmental damage.”

Such methods for beetles include reduced tillage and companion planting as well as encouraging so- called ‘natural enemies’ – especially those species of wasp ‘parasitoids’ that naturally lay their eggs inside the beetles and kill them.

“However, there is a need for further research to produce the scientific advances necessary for the development and commercialization of tools and techniques needed to make this a reality,” says Dr Cook. “Also, to facilitate the successful adoption of IPM techniques, farmers need to be incentivized to adopt them.”

Publication

Ortega-Ramos, P. A., Cook, S. M., & Mauchline, A. L. (2022). How contradictory EU policies led to the development of a pest: The story of oilseed rape and the cabbage stem flea beetle. *GCB Bioenergy*, 00, 1– 9. <https://doi.org/10.1111/gcbb.12922>