



European Research Alliance

ERA Pesticide Free

Towards a chemical pesticide free agriculture

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Every two weeks, this newsletter will be prepared by a different Alliance member.

Today we are happy to share a contribution from the [Swedish University of Agricultural Sciences](https://www.slu.se) (SLU).

Small RNAs - the future of plant protection?

Small RNAs are common in fungi, including fungi that can be used as biocontrol agents in agriculture, horticulture, and forestry. In a new review, SLU scientists highlights the diverse function of small RNAs and their potential to manage plant diseases and insect damage in agriculture.

Read the scientific article [“Small RNAs: A new paradigm in fungal-fungal interactions used for biocontrol”](#) in the journal Fungal Biology Reviews.



The photo shows septoria tritici blotch disease on wheat.

Photo: Magnus Karlsson

Common pesticides in agriculture harmed bumblebees in a large-scale experiment

Tightened regulations within the EU should have protected pollinators from pesticides used in agriculture. However, a major field study involving bumblebees placed in apple orchards and rapeseed crops across eight countries shows that the current risk assessment is still inadequate. The greater the amount and toxicity of the pesticides that were encountered by the bumblebees, the worse off the colonies were. They produced fewer new bumblebees.

The study, recently published in the journal Nature, involved researchers from Lund University and the Swedish University of Agricultural Sciences (SLU) in collaboration with seven other countries: Estonia, the UK, Ireland, Italy, Spain, Germany and Switzerland. In each of these countries, the researchers placed three colonies of buff-tailed bumblebees at 128 sites. These included oilseed rape and apple orchards in different climatic zones. The sites were also chosen based on different landscapes, ranging from heavily dominated agricultural areas to those with more natural environments such as pastures and forests.

A fascinating aspect of this study is its perspective from the bumblebees' point of view. The researchers analysed the pollen collected by the bumblebees to determine its source (flowers) and the pesticides it contained. On average, pollen from a single colony contained eight different pesticides targeting weeds, insects and fungi. Of these, insecticides posed by far the greatest risk to bumblebees, even though the most commonly used pesticides were fungicides or herbicides. The researchers used databases to estimate the combined risk of all the pesticides to which bumblebees were exposed at each site.

The study is part of an EU project called [POSHBEE](#), coordinated in Sweden by Joachim de Miranda at SLU. It focuses on different aspects of honeybee and wild bee health, such as diseases, pesticides and nutrition.

Read the study: [Pesticide use negatively affects bumble bees across European landscapes, Nature, Nicholson et al.](#)



Bumblebee colonies in an oilseed rape field. Photo: Maj Rundlöf

Welcome to the 14th Conference of the European Foundation for Plant Pathology 3-5 June 2025 in Uppsala, Sweden



The importance of plant pathology for food security has never been greater give for instance the growing global demand for food and climate change. We need to work together to meet these challenges. The European Foundation for Plant Pathology (EFPP) brings together plant pathologists in Europe and is a forum to promote research exchange and collaboration between plant pathologists across Europe and beyond.

The Swedish Society of Plant Pathology welcomes you to the 14th EFPP Conference in Uppsala in early June 2025 with the theme "Plant Pathology in 2050 - visions for the future". Intensive work is underway for the preparation of an exciting scientific programme for the conference, with satellite meetings, field trips and social events.

For more information and updates, please visit the website <https://www.efpp2025.com>

This is the newsletter of the European Research Alliance Towards a chemical pesticide free agriculture

Visit the Alliance's website: <https://www.era-pesticidefree.eu/>

This issue has been prepared by [SLU](https://www.slu.se) as a member of this Alliance.

If you would like more information about this issue, feel free to [contact them](#).

