Press Release | March 2025

REACT Project: Europe preps itself against invasive agricultural pests through research

Invasive fruit flies threaten European agriculture, while climate change favors their spread to more northerly regions. The EU-funded REACT project is developing a reactive approach based on the Sterile Insect Technique (SIT), which uses the release of sterilized insects to protect ecosystems. Journalists will be able to witness field trials in autumn 2025.

The Oriental fruit fly *Bactrocera dorsalis* has been repeatedly sighted in Europe and threatens harvests. REACT is developing an ecological response to regional invasions of the flies. A video series documents and explains the project work.

***Bactrocera dorsalis* detected in Belgium:**
https://www.youtube.com/watch?v=19niEVqkjII

Running from November 2022 to October 2026, REACT brings together scientists from 15 institutions from 12 countries on 3 continents to prevent the spread of the Oriental fruit fly (*Bactrocera dorsalis*) and the Peach fruit fly (*Bactrocera zonata*) in Europe.

To this end, Sterile Insect Technique (SIT) applications are being developed suitable for the smaller-scale structure of European agriculture. When SIT is used, male flies are sterilized and released, which then mate with the wild-type females of the pest flies without producing offspring. This reduces the population over time. This method only affects the target species - unlike the use of pesticides. It can, therefore, help to preserve biodiversity and reduce the use of pesticides.

The REACT project is coordinated by Marc Schetelig from the Institute of Insect Biotechnology at Justus-Liebig-University Giessen, Germany.

Schetelig: ***"Our project ranges from insect entomology to very specific questions: How does an invasion work, how can we find the insects early on, and how can we react quickly in affected areas?"***

Among the partnering research institutions in Europe, Africa and Israel, is the Royal Museum for Central Africa in Tervuren, Belgium, whose entomology department is responsible for important tasks in the genetics and taxonomy of flies.

The role of the RMCA in the REACT project:
https://www.youtube.com/watch?v=Pf3FIP8RCys

To test the effectiveness of sterilized fruit flies against invasive fly species, scientists in the REACT project are utilizing a different fruit fly species: the Mediterranean fruit fly (*Ceratitis capitata*). Researchers from the Universities of Thessaly and Patras are conducting an extensive local SIT test series in northern Greece.

Using MedFly to test SIT-Applications in Europe:
https://www.youtube.com/watch?v=e-t8l-VHaoo&t=56s

A research network beyond Europe

The French island of La Réunion and neighbouring Mauritius in the Indian Ocean also play a crucial role in Europe's defence against the invasive fly species. Both islands have already experienced invasions by the two fruit flies. The researchers involved are studying invasion dynamics on site.

Hélène Delatte from the French state research organisation CIRAD explains the conclusions that can be drawn on La Réunion for the European continent.

Delatte: ***"Just a small population of Oriental fruit flies that makes it to Europe is enough to stay and spread. We therefore need to be more careful in Europe, and we need to develop the ability to react quickly to the first individuals as soon as we find them."***

Understanding *Bactrocera dorsalis* invasion dynamics in La Réunion:
https://www.youtube.com/watch?v=WgkVYbwdfnQ&t=92s

Scientists in South Africa are making significant contributions to understanding pest flies. The oriental fruit fly has already spread to some regions of the country, while other areas remain unaffected. This creates a valuable comparative scenario for the researchers, offering insights into farmers' strategies and the socio-economic impacts of fly invasions.

The REACT project demonstrates that developing ecological methods for pest control amid climate change and global trade routes necessitates global collaboration and illustrates how this can be accomplished in a highly complex, multi-year research initiative.

Please note:

The REACT researchers are available for interviews. It is possible to use exclusive image and video material from the project work, including detailed interviews. In autumn 2025, a press trip will offer the opportunity to visit fly release sites in Northern Greece and meet with the project team.

Further information: **www.react-insect.eu**
Images: **https://oikoplus.faircloud.eu/s/dSj2Pjtdg5WKQRY**
Video footage: available upon request
Contact: Oikoplus GmbH, Vienna office@oikoplus.com