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Invasive oriental fruit fly detected in Belgium

Multiple detections of *Bactrocera dorsalis* in Belgium highlight the risk of exotic fruit fly invasions in Europe. The REACT project is working on novel strategies to protect agriculture from invasive pest.

The EU funded REACT project aims at developing novel strategies to protect European agriculture from invasive fruit fly species. At focus are two invasive pest species: *Bactrocera dorsalis* and *Bactrocera zonata*. *Bactrocera dorsalis* native to Asia, has rapidly invaded the entire continent of Africa in the beginning of the century.

Recently, flies of the species *Bactrocera dorsalis* (oriental fruit fly) were found in Belgium. In August 2023, an adult male was caught in a trap as part of an annual survey in an outdoor public market in the city center of Antwerp. Most likely, it escaped from a batch of imported exotic fruits. In September 2023, three adult males were caught: one in a public market in an urban area in the municipality of Anderlecht in the province of Brussels, one in an outdoor public market in a semi-urban area in the municipality of Courcelles in the Hainaut province, and one in Antwerp, only 5 km away from the first finding.

Experts of the Royal Museum for Central Africa in Tervuren, Belgium, a partner of the REACT consortium, were informed by the authorities. Marc De Meyer, entomologist at the Royal Museum for Central Africa, confirmed the morphological identification of these specimens. Furthermore, by matching the genetic material of these flies to reference datasets, they concluded that it is unlikely that the flies share the same origin, suggesting independent introductions.

For fruit fly control, it is important to track the ways in which these agricultural pests spread. Sam Vanbergen, another RMCA expert: **"It is important to know where these flies came from, because we can then identify regions that are at particularly high risk of exporting these pests to Europe. If we can genetically characterize the geographic origin of the flies we can better define a strategy to combat the introduction and spread of the fruit flies"**. Analyses by the experts show that the insect species has spread from Asia across the African continent.

REACT unites 15 partner organisations from 8 countries and 3 continents. 17 research groups are collaborating to control the spread of pest insects using ecological methods. The long-term goal is to adapt Sterile Insect Techniques (SIT) for typical European agricultural structures - i.e. for the management of small cultivated areas. As an environmentally friendly alternative, SIT is intended to make its contribution to reducing the use of pesticides in Europe.

Further information:

Project Website: <https://react-insect.eu>

Project Executive Summary: <https://react-insect.eu/wp-content/uploads/2023/05/Project-One-Pager.pdf>

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