

# Pear gall midge (*Contarinia pyrivora*), too small to see

## Problem

Pear gall midge is a small midge of ca. 4 mm (Picture A). It causes deformation and loss of fruits in all pear varieties. There is a difference in varieties depending on tree development. In Italy late flowering varieties are more sensitive (e.g., Williams Kaiser). The flight of midges is very early in season (Picture B) and often not noticed. It is an increasing pest of pears. The population builds up over years and the harvest can be greatly reduced.

## Solution

Pheromone-baited traps can be used to monitor emergence of the pest to time control measures more precisely. Mass trapping of pear gall midge proved ineffective.

## Benefits

Proper timing of control methods provides better effectiveness.

## Applicability box

### Theme

Crop production, Pest and disease control, Temperate fruits

### Keywords

Pest control, pear, pear gall midge

### Context

Europe and North America

### Application time

March, April

### Period of impact

One year, effected over years

### Equipment

Pheromone lures and transparent traps

## Practical recommendation

### Pest monitoring

- In the UK, the Netherlands, Belgium and Italy pheromone blends of the pear gall midge were tested (2018 and 2022). The right pheromone blend is identified and was consistent in all trials.
- The use of lures with a specific pheromone in traps is a sensitive and accurate means of monitoring the short and often intense emergence period of adult midges.
- Transparent traps are most successful at catching midges for monitoring.
- Hang the monitoring traps early March in the orchard.

### Preventive measures

- Removal of young, infested fruits in May (Pictures C and D), before the fruits and larvae fall on the soil.

### Direct measures

- Pyrethrine (when allowed in your country).
- Spinosad (when allowed in your country) – however, this has negative side effects on beneficial insects.
- Mineral oil (not very effective).

### Mass trapping

- Mass trapping with 100 pheromone traps/ha showed no reduction in damage in trials carried out in the Netherlands (2021-2022) and Italy (2022) (Figure 2).
- The pheromone could possibly also be used for mating disruption during the short period of adult emergence. This could be researched in the future.



Picture A. Adults emerge from the soil in spring, mate and lay eggs in unopened blossom, Picture B and C. The larvae destroy the developing fruitlets. Photo's 1, 3 J. Cross, NIAB. Photo 2. G. Brouwer, Delphy.

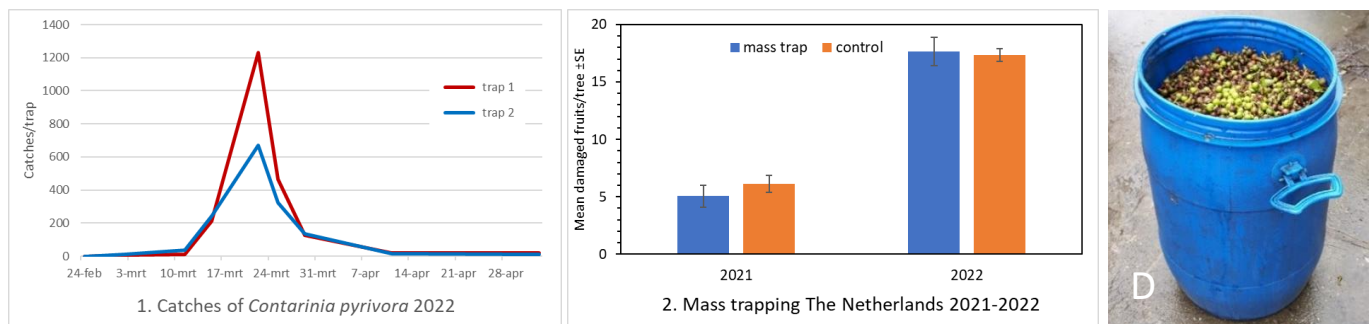


Figure 1. Catches of male *Contarinia pyrivora* in monitoring traps in two orchards in The Netherlands in 2022. In 2021, observations and catches started on the 19<sup>th</sup> of March, the peak was on April 1<sup>st</sup> on a warm, sunny day. In 2022, the flight started on the 2<sup>nd</sup> of March and the peak was on the 24<sup>th</sup> of March on a warm, sunny day. This date was the same all over Europe (The Netherlands, Belgium, Italy, Germany). Figure 2. No effect of mass trapping in 2021 and 2022 in the Netherlands. Picture D. Removal of infested fruits by hand is often the only effective control method available. Graphs: S. Kemp, Delphy. Photo: G. Brouwer, Delphy.

## Further information

### Further reading

- Hall and other. 2022. Further Investigations of the Sex Pheromone of Female Pear Gall Midge, *Contarinia pyrivora* (Riley) (Diptera: Cecidomyiidae). PheroFruits2022 IOBC meeting in Girona (S) 25-29 September.

### Weblinks

- Check the [Organic Farm Knowledge platform](https://www.organicfarmknowledge.org/) for more practical recommendations.

## About this practice abstract

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