



## Technical Update 02

### Pea midge

January 2023

Attacks by this pest may result in loss of yield and can be very serious where populations have built up in intensive pea growing areas. Vining peas can be more susceptible than combining peas and yields may be substantially reduced.

#### DESCRIPTION AND LIFE HISTORY



The adult, a small gnat-like insect, has a yellow-grey coloured body about 2mm in length, and six long legs. The head is dark with a pair of very fine antennae. The wings are semi-transparent and slightly longer than the body and when the midge is at rest, they are folded together along the insect's back.

Midges begin to emerge from previously infested fields during the first half of June, and after mating the females fly to those pea crops where buds and flowers are present. Batches of 20 or more eggs are laid on the young leaves surrounding the rudimentary buds, and on the buds themselves. After 4 days the eggs hatch and the larvae enter the developing buds where they live and feed at the base of the ovaries. The buds become swollen and gouty and do not produce pods, thereby resulting in loss of yield. Larvae may also feed in the clustered leaves of the growing point and the top of the plant remains shortened and develops a "cabbage" or "nettle-head" appearance. In wet periods, the damaged tissue may also provide a site for infection by fungi such as *Botrytis* spp. After about 10 days, the larvae are mature and fall to the soil where some pupate and give rise to a second generation of adults 11 - 14 days later. Larvae produced by these adults, and those which do not pupate from the first generation, remain in the soil over winter. The majority emerge in the following two seasons.

#### CULTURAL CONTROL

There is little evidence of differences in susceptibility between varieties of peas although often it is the later sown crops which are affected. The prime sources of pea midge are those fields which carried heavily infested crops in the two previous seasons. Sowing peas in areas adjoining such infested fields should be avoided where possible. Crops in which most of the flowering is over and where pods have set will not themselves suffer yield loss, but if attacked would contribute to the increase in the general level of midge population in the area. Large scale rotational practice involving neighbouring farms could be considered.

#### CHEMICAL CONTROL

In areas of high incidence of attack, spraying of vining peas is recommended as soon as the first midges are seen in the crop. Vining pea crops from the Humber, northwards, may not suffer damaging attacks until late June and this means that in most areas, early crops need not be sprayed, but mid and late-season crops should be treated as they reach the susceptible stage.



**SUSCEPTIBLE CROPS** are those at the early green bud stage, which will show their first white flowers in a weeks' time.

- The risk of midge damage can be anticipated using the Pea Midge Monitoring system. The system was developed jointly by PGRO and the Swedish Agricultural University funded by SAU, PGRO and AHDB Horticulture. It comprises 4 sticky traps complete with pheromone lures. By monitoring catches of newly emerged midge in the overwintering site - in last year's pea field - the peak activity of pests can be determined. This will provide advance warning of infestation in the nearby pea crops. The trap system is available from Koppert UK.
- Traps should be placed in last year's pea field 10 m apart by the third week of May.
- An estimate of male midge numbers caught on the sticky base of the trap is made 2-3 times per week.
- When a peak catch of more than 500 midges are recorded on one trap, susceptible pea crops in the near vicinity should be examined for midge.
- Because female midges fly to pea crops in the afternoon, examination of crops should take place as late in the day as possible.
- A spray should be applied to those crops at the early green bud stage as soon as midges are found in the crop. In areas of severe attack, a second spray should be made 7 days later.
- Where midge catches are low, no treatment to peas is worthwhile.

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