Aphids in cereals and oilseed rape

Aphids can cause significant yield reduction, through direct feeding damage and diseases introduced by virus transmission. They also excrete honeydew during feeding, which sticks to the crop and provides an ideal environment for fungi, such as sooty moulds, to develop.

Earlier-sown winter crops tend to be at high risk from virus spread, because they are available for colonisation for longer than late-sown crops. Late-sown spring crops also tend to be at a higher risk, because they are at vulnerable growth stages during aphid flight for longer than early sown crops. Risk is heightened in all crops by mild conditions in autumn and winter, which encourage aphid flight, population development and movement within the crop.

All cereals, particularly wheat, are at risk from aphid feeding damage in the summer. Winter barley may be less affected due to its earlier maturation. Impact is greater in drought-affected crops or crops damaged by other pests and diseases. Dry settled weather during early grain filling also increases the risk.

**BYDV**

BYDV (Barley/Cereal yellow dwarf viruses) is mainly transmitted by the bird cherry–oat aphid and the grain aphid. Infections cause leaf yellowing and stunting. Initially, symptoms are confined to single plants scattered randomly in a field but later develop into distinct circular patches, sometimes merging into extensive infection as secondary spread occurs.

**TuYV**

TuYV (Turnip yellows virus) in oilseed rape is mainly transmitted by the peach–potato aphid. Infection, which doesn't usually show until late spring/early summer, appears as purple tingeing of leaf edges and pods. It is easily mistaken for frost damage, nutrient deficiency or other stresses.

**Cultural control**

The [AHDB Recommended Lists](https://ahdb.org.uk) provide information on the known virus resistance status of varieties.

Green plant material can act a ‘green bridge’ (e.g. grass weeds, volunteer crops and grass leys) and allow aphids to colonise new crops. This is more likely to happen following damp summers, which encourage green growth, and impacts more on early sown crops.

Cultivation helps bury plant material but, especially where aphid numbers are high and soils are warm and moist, aphids can survive below the ground, feed on new crop roots and transmit virus.
If conditions allow:

Leave at least five weeks between ploughing and sowing the new crop. BYDV spread can be reduced by up to half for each week sowing is delayed.

Consider applying a desiccant herbicide, if the cultivation to sowing interval is less than five weeks.

Minimum tillage increases the risk of ‘green bridge’ transfer but can result in more predators being present.

Measures to increase natural enemies of crop pests, such as grass strips, can provide refuges for cereal aphids. Wildflower strips with diverse grass mixture are less likely to harbour pests.

Natural enemies

Ground beetles, soldier beetles, rove beetles and spiders may attack aphids in the autumn and winter and parasitoids can be active in mild weather. The parasitoid *Diaeretiella rapae* normally provides good control against the mealy cabbage aphid.

In the summer, parasitic wasps, hoverflies, lacewings and ladybirds are attracted to aphid infestations and can provide control of potentially damaging populations.

Some fungal diseases are also specific to aphids and can provide some control, especially in damp conditions.

Monitoring

Crop monitoring is advised, especially during periods conducive to aphid activity. The AHDB *Encyclopaedia of pests and natural enemies in field crops* has detailed information on key aphid pests, including importance, risk factors, life cycle, monitoring and control. Bird cherry–oat aphid (page 43). Grain aphid (page 53). Mealy cabbage aphid (page 59). Peach–potato aphid (page 65). Rose–grain aphid (page 71). For regional information on aphid numbers at key times of the year, people can also sign up to receive AHDB Aphid News: [ahdb.org.uk/aphid-news](http://ahdb.org.uk/aphid-news)

Control

Due to the shifting availability and efficacy of crop protection products, the Insecticide Resistance Action Group (IRAG) publishes guidelines to help people combine chemical and non-chemical control options. Insecticide resistance is currently an issue in both peach-potato aphids and grain aphid populations in the UK. The AHDB BYDV management tool should also be used to time sprays.