

Apthena®
Aphid Management

BASF
We create chemistry

BYDV CONTROL IN WINTER CEREALS

Growing together, with
the **power of nature**

Introducing Apthena®

Apthena® is an attractant for beneficial insects to be used as a component of an IPM programme for the control of aphids.

Apthena® contains a kairomone for the attraction of beneficial insects such as ladybirds, hoverflies, lacewings, parasitoids and other generalist predators into the crop.

Apthena® provides 20 to 30 days of continuous release of the kairomone via microencapsulation technology.

The role of beneficials in managing BYDV

Aphid predators and parasitoids play an important role in BYDV control within an IPM approach in winter cereals.

A full IPM approach combines several layers:

- resistant or tolerant varieties
- regular aphid monitoring
- decision-support tools
- cultural measures (especially drilling date)
- targeted insecticide use when needed

Early drilling increases the time crops are exposed to migrating aphids and raises the chance of early infection, which causes the greatest yield loss. Cultural measures alone rarely keep virus levels below economic thresholds.

Final yield loss depends on how many plants are infected and when infection occurs - a result of aphid activity, virus prevalence and strain, crop growth stage, and secondary spread of the aphids in the crop.

Harnessing natural enemies and how Apthena® can support

Natural enemies (predators and parasitoids) help by suppressing aphid populations, especially reducing secondary spread within the crop, although they are unlikely to prevent initial virus introductions.

In cereals, the main winter natural enemies include *Aphidius* parasitoids and ground-dwelling predators (carabid beetles, rove beetles and spiders), which attack all aphid stages. Lab studies show *Aphidius* spp. and the carabid beetle *Harpalus rufipes* respond to **(E)- β -farnesene**, the active ingredient in Apthena®.

Apthena® is a biostimulant which can support these natural enemies and the biological control services they provide. Field evidence in peas and sugar beet shows Apthena® increased plants hosting beneficials by about 18% (peas) and reduced aphid presence (sugar beet).

Apthena[®] and IPM4/CIPM4:

No use of insecticides on arable and permanent crops

IPM4/CIPM4 cover the most land area in the SFI (excluding planning actions) with 885,000 hectares included by the 1st April 2025. Payments are £45 per ha per year.

Apthena[®] is not an insecticide, and as a beneficial attractant it is one of few products available that could be used to support the management of aphids in crops included in this scheme.

Recommendations for using Apthena[®] for BYDV control

The principal approach is to apply Apthena[®] around the time winged aphids begin migrating into the crop. Apthena[®] should help sustain predator and parasitoid activity and slow aphid population build-up.

Where thresholds are exceeded and an insecticide is felt necessary it may be considered to use Apthena[®] in tank-mix with appropriate insecticides in order to mitigate the need for a second insecticide application, especially if autumn conditions are mild allowing continued aphid migration and reproduction.

This may be more effective where selective insecticides are used or where growers are already utilising conservation control approaches or leaving unsprayed field refuges within crops. As aphids re-colonise the crop, the inclusion of Apthena[®] will help draw in the beneficials from the surrounding refuges.

Growers who already use practices that conserve and enhance natural enemies (flower strips, reduced broad spectrum insecticide use, overwinter habitat) are likely to see the greatest benefit when adding Apthena[®].

Overall, integrating cultural measures, monitoring, varietal choice, targeted chemistry and conservation of natural enemies gives the best chance to reduce BYDV risk.



How to use Apthena[®]

Formulation	Apthena [®] delivers EBF in a plastic free microencapsulated formulation
Release profile	Delivers continuous release over 20-30 days (as a passive dispenser)
Application method	Standard hydraulic sprayer
Application rate	0.3-0.5 l/ha, higher rate for larger leaf area and coverage
Water volume	100-300l/ha as standard for most cropping situations, but can use higher if needed
Application interval	Recommend 14 days and repeat applications as needed, no maximum limitation
Rainfast	Ideally 24 hours
Temperature	Apthena [®] is exerting its effects on beneficial insects, therefore they need to be active. Most beneficials are most active above 12°C

For more information, visit agricentre.basf.co.uk/apthena