

Unique profile for smart solutions



o·b·e·r·o·n[®]

**The new
insecticide/acaricide
for foliar application**



Spider mites and whiteflies are among the most serious sucking pests and cause severe damage in many different agricultural and horticultural cropping systems world-wide. E.g., they directly weaken the host plants by extracting the sap.

One reason why these pests are so hard to control is the extreme rapidity with which they develop and reproduce. Spider mites and whiteflies also have the ability to rapidly develop resistance to insecticides when applied indiscriminately. Therefore new solutions are highly welcome in the market, especially, active substances with new modes of action which can easily be included in resistance management programs to control spider mites and whiteflies more efficiently.

Oberon® is the latest insecticidal innovation from Bayer CropScience and will soon offer growers a new, superior insect and mite control tool which fulfills the farmers' requirements in an ideal manner.

What is Oberon?

Belonging to a new chemical class named tetrionic acids, Oberon is a new insecticide/acaricide for foliar application in annual crops against all important whitefly, mite and psyllid species. Oberon

is active against all mite development stages including eggs (however mite juvenile stages are often more susceptible than adults). Oberon is also highly effective against whitefly and psyllid nymphs, with a significant effect on the otherwise difficult to control pupal stage.

For growers, the smart performance of Oberon can provide many benefits:

- High level of residual activity
- Speed of activity faster than insect growth regulators
- Activity against all stages of pest development

Mode of action comparisons

Characteristics	Insect growth regulators	Oberon (LBI)	Classical chemistry
Life stages affected	Immatures	Egg/immatures/adult females	All
Speed of activity	Slow	Intermediate	Fast
Resistance potential	Intermediate to high	Low to intermediate	Intermediate
IPM compatibility	Often excellent	Excellent	Often poor

- A new mode of action that controls resistant strains of mites and whiteflies
- Minimal risk to many beneficial insect species, making it an ideal addition to Integrated Pest Management (IPM) programs

Because of its excellent residual activity combined with a novel mode of action that helps to control resistant whitefly and mite strains, Oberon will be an important addition to many pest management programs.

Mode of action

The mode of action of Oberon has been characterized as lipid biosynthesis inhibition (LBI). The biological activity of tetrionic acids correlates with inhibition of lipogenesis especially triglycerides and free fatty acids. This new mode of action and the lack of cross resistance to commercial products make spiromesifen a valuable tool for mite and whitefly resistance management.

Pest spectrum and target crops

Oberon has been developed worldwide on vegetables, fruits, cotton, corn, beans, tea and some ornamentals. Plant compatibility in these crops is very good. It provides good to excellent efficacy against whiteflies (*Bemisia* spp., *Trialeurodes* spp.). In addition to whiteflies spiromesifen is highly efficacious against mites including spider mites such as *Tetranychus* spp., red spider mites (*Panonychus* spp.) and Banks grass mite (*Oligonychus pratensis*), Tarsonemid mites like broad mite (*Polyphagotarsonemus latus*) and Eriophyd mites like *Aculops lycopersici*.

In recent trials carried out in the USA and Central America, Oberon provided excellent efficacy against tomato and pepper psyllid (*Paratrioza* spp). Oberon at 150 g a.s./ha also provides side effects (suppression) against some species of thrips such as *Caliothrips phaseoli* in drybeans, *Scirtothrips dorsalis* in tea and *Thrips palmi* and *Thrips tabaci* in vegetables. Oberon offers a reliable high level of performance equal to or better than the efficacy and residual control provided by current standards.

Resistance management

Oberon is expected to become an important tool for managing whitefly resistance to insecticides. Cross resistance to existing whitefly, psyllid or spider mite agents of other chemical classes has not been detected.

Furthermore, Oberon is effective against whiteflies resistant to pyrethroids, organophosphates, carbamates, cyclodienes and neonicotinoids. Field simulation studies revealed that Oberon is also a valuable tool to control pyriproxifen resistant whiteflies.

Recommendation for use

For all crops, apply specific dosage of Oberon as recommended in the label. Under these preconditions spiromesifen provides excellent activity against

- eggs and nymphs of whiteflies and mites including *Bemisia tabaci*, *Bemisia argentifolii* and *Trialeurodes vaporariorum* (100-280 g a.s./ha),
- spider mites *Tetranychus* spp. at 70-150 g a.s./ha (early season) and 150-280 g a.s./ha (late season)
- broad mite (*Polyphagotarsonemus latus*), banks grass mite (*Oligonychus pratensis*) and tea spider mite (*Oligonychus coffeae*) at 100-150g a.s./ha
- red mites (*Panonychus* spp.) and tomato russet mite (*Aculops lycopersici*) at 100 g a.s./ha.

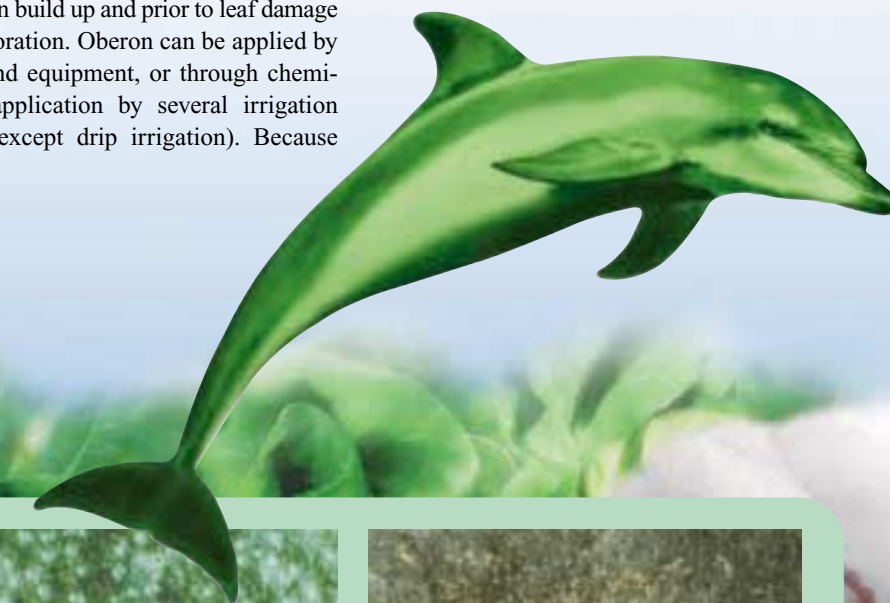
For best results whiteflies and mites should be treated at the beginning of the population build up and prior to leaf damage or discoloration. Oberon can be applied by air, ground equipment, or through chemigation (application by several irrigation systems except drip irrigation). Because

whitefly nymphs do not move once they have settled on the plant, it is very difficult to assess the nymph mortality in the first few days after the application. Therefore, performance evaluations should be made four to 10 days after treatment. Full performance of Oberon is usually reached in the same interval after application.

IPM compatibility

Oberon is an IPM friendly compound because of its selective activity against mites, psyllids and whiteflies. Its minimal risk to pollinators and other beneficial arthropods, along with its unique mode of action compared to other products on the market for mite and whitefly control, make Oberon an excellent new tool for Integrated Pest Management.

These favorable product features are symbolized by the flying green dolphin – a being with a smart, friendly and intelligent image. All attributes suit ideally to the personality of Oberon which opens a new dimension in the spider mite and whitefly control in a wide range of different crops. ■



Cotton whitefly (*Bemisia tabaci*)



Greenhouse whitefly (*Trialeurodes vaporariorum*)



Red mite (*Panonychus* sp.)



Spider mite (*Tetranychus* sp.)



Red coffee mite (*Oligonychus coffeae*)