

# Armcarb® - a new bio-fungicide for use in grapevines, fruit and vegetables in Europe

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## What is Armcarb®?

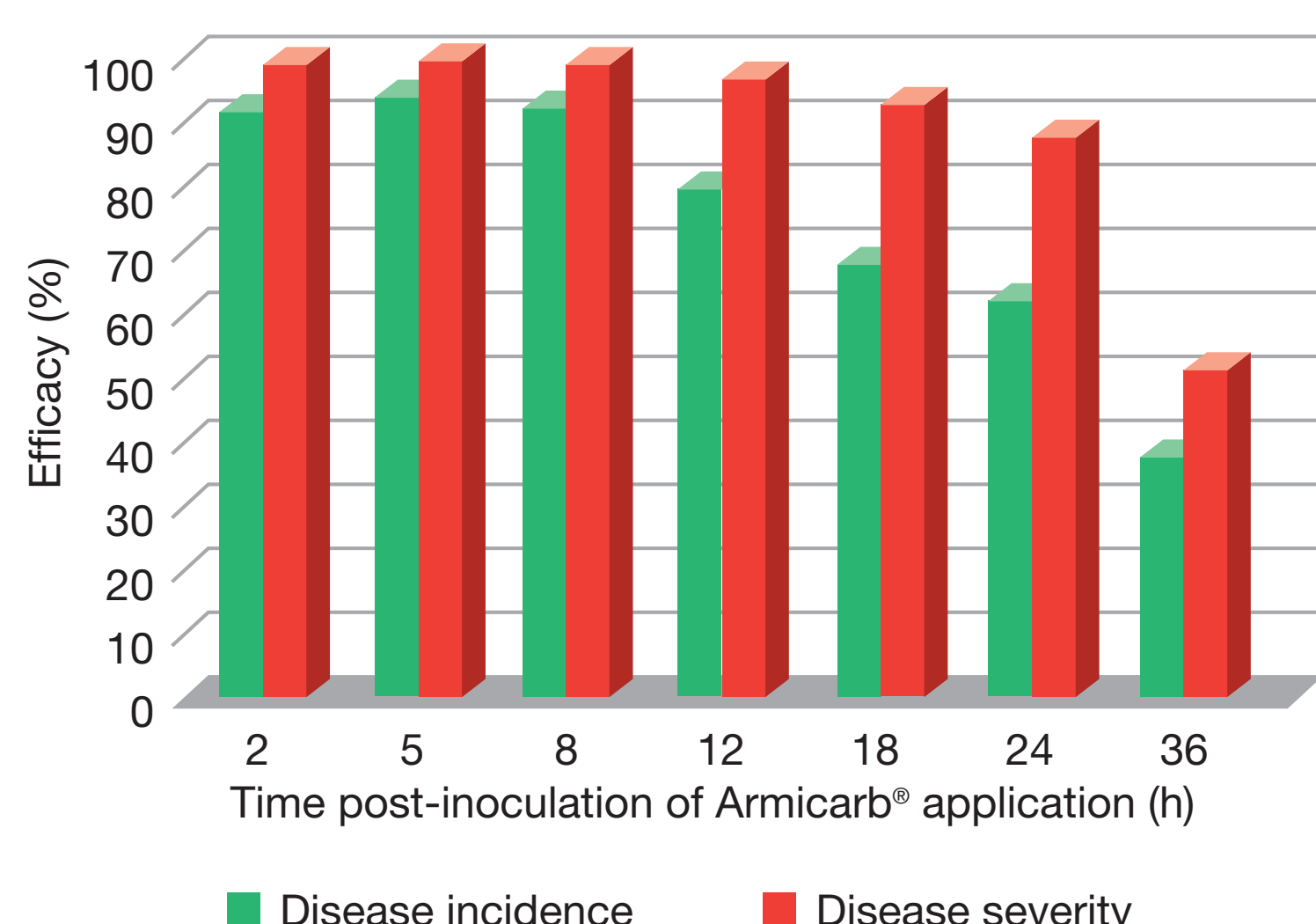
Armcarb® is a bio-fungicide being developed in Europe by Agronaturalis Ltd. for use in a wide range of crops; grapevines, hops, pome fruit, soft fruit, stone fruit, vegetables and ornamentals. Armcarb® is a specially optimised formulation of potassium bicarbonate, the result of extensive testing by researchers at Cornell University, USA, for use as an agricultural fungicide.

## What makes Armcarb® special?

The proprietary wetting system ensures a complete and thorough coverage of plant surfaces, whilst at the same time limiting wash-off of the highly water-soluble active substance by rain. It is this critical balance of 'sticking' and 'spreading' by the formulation that delivers a level of field performance, outdoors as well as in protected conditions, equivalent to conventional fungicide standards.

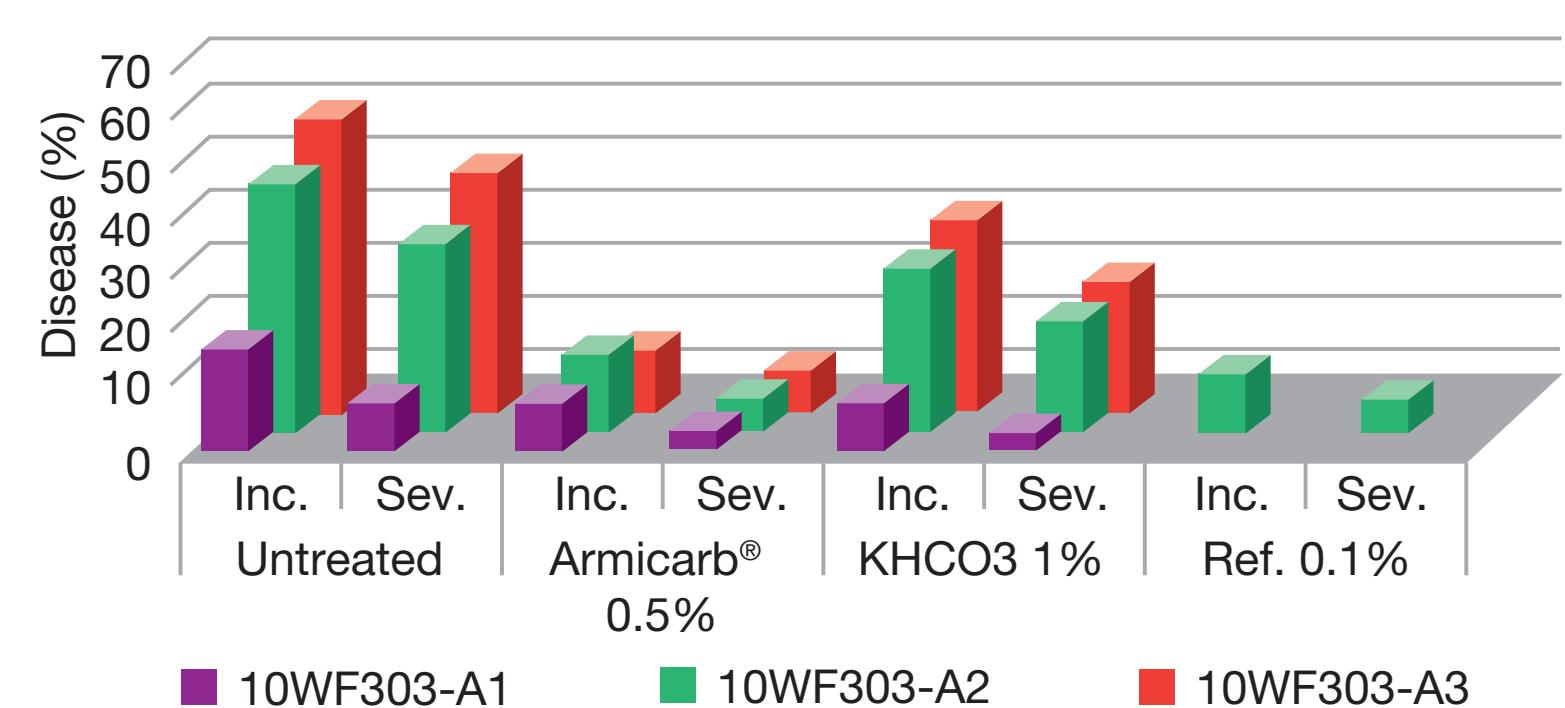
## Results with timed post-infection applications of Armcarb® against apple scab

A high level of control of *Venturia inaequalis* (>90 %) was obtained with Armcarb® applications made up to 8 hours post-infection on apple seedlings. Disease severity was well controlled for at least 12 hours, while disease incidence started to increase beyond 8 hours. The results suggest that there may be some flexibility in application timing with respect to weather conditions in the field, and fit with Armcarb®'s mode of action as a fast-acting contact fungicide causing collapse of spores and fungal mycelium on the plant surface.



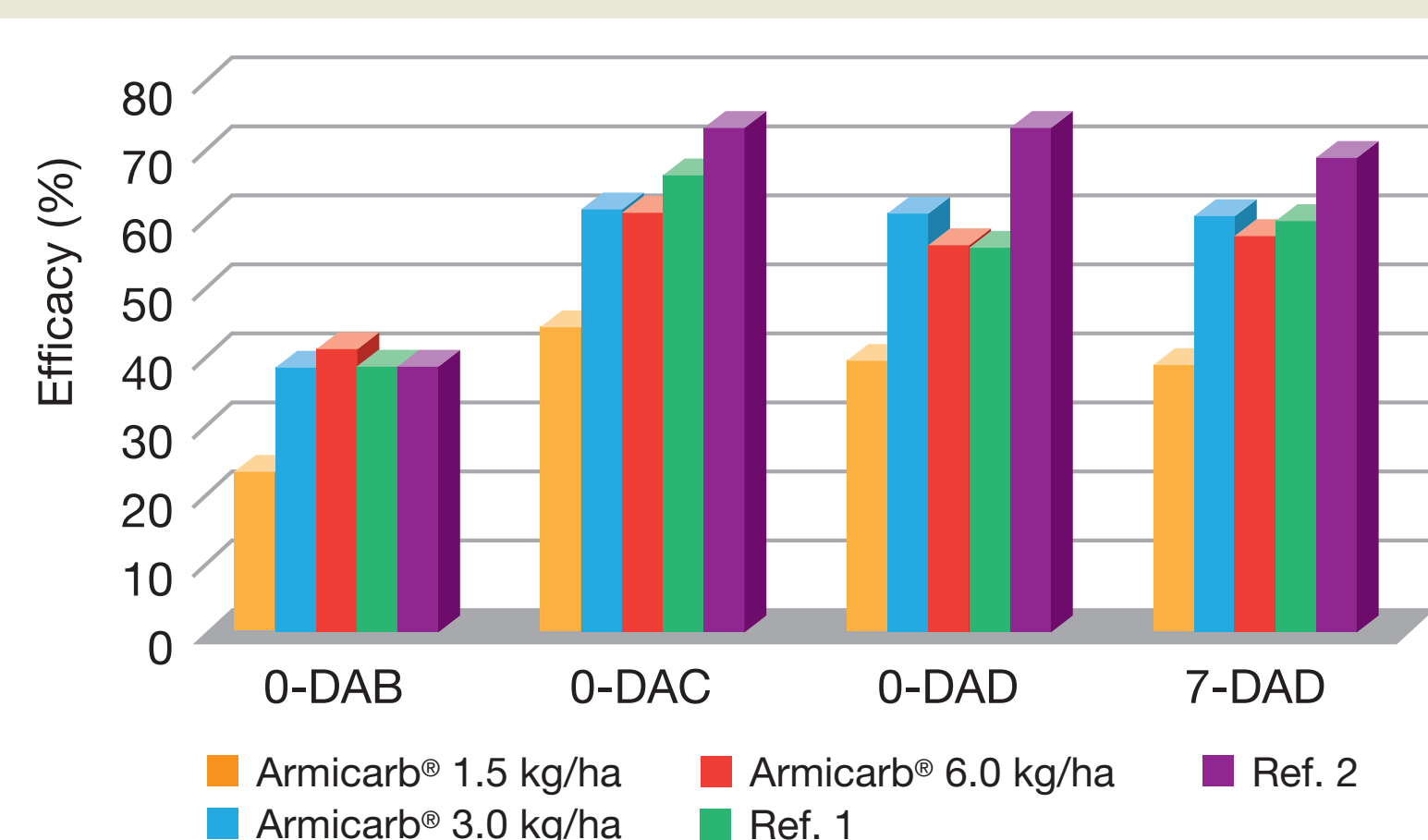
## Efficacy of Armcarb® against *Botrytis cinerea* in grapevines

In 3 trials conducted in Austria in 2010, Armcarb® gave very good levels of disease control, comparable to the conventional fungicide standard. Armcarb® performed well, independent of disease pressure, whereas unformulated potassium bicarbonate, applied at 2.3 times the active substance rate, was significantly less effective under medium to high disease pressure conditions.



## Powdery mildew control in glasshouse peppers and tomatoes

In 4 trials against *Leveillula taurica* in glasshouse peppers and tomatoes in Spain in 2011, the efficacy reached with Armcarb® was on the level of the triazole reference fungicide.



## Conclusions

Armcarb® provides good levels of control of many economically important fungal diseases, including apple scab, *Botrytis cinerea* in grapes, and powdery mildew in soft fruit and vegetables. With its exemption from EU MRLs, and authorisation for use in organic production by the European Commission, Armcarb® will be especially suitable for use in programmes with conventional fungicides, as well as in organic fruit, wine and vegetable production.