

## Maximising the effect on docks

Cardinal™ will deliver 'susceptible' levels of control. This means a control level of between 85% and 100% when assessed at the end of the season on docks present at time of spraying.

For an optimal effect, leaf area, leaf health and active growth are key.

The following factors can limit the actual level of control achieved:

- Disease and pests – ramularia and dock beetles.
- Cold temperatures (below 6°C) and overly dry conditions: active growth is unlikely. Wait for weather to change and positive signs of active growth emerge.

- Spraying too soon after cutting – leaves are too small relative to the size of roots.
- Spraying docks that have started to flower or docks with many older leaves that lack active growth.
- Too many docks may shade some, preventing targeting of spray. Shading by an excessive amount of grass will also have an effect.

Topping and spraying dock re-growth once it reaches optimal size improves the levels of control if these factors are present.

This practice ensures all plants are at a similar size with leaves that are free from disease and dock beetle damage.

## Stress factors affecting optimal dock control

### Biotic stress

Damage done by other living organisms



Dock beetle



Ramularia



Plant competition



Livestock trampling

### Abiotic stress

Caused by non-living factors



Drought



Too hot/too cold



Water logging



Compaction

## Drift reducing technology must be used

Air inclusion nozzles are the most likely solution for this. They reduce drift by creating larger droplets containing small bubbles of air. This coarser droplet enables the spray to travel accurately from nozzle to target. On impact, the droplet bursts leaving small droplets across the leaf surface. This leads to less drift and more deposit of product on to the target leaf.

Travelling speed and water volume will determine the exact type of nozzle to use:

- Cardinal must be applied in **200 litres water/hectare**.
- Optimal travelling speed when spraying grassland is typically **in the range of 8 to 10kph** depending on field conditions.

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The table below provides a list of nozzles which are options based on the parameters described overleaf:

Billericay Farm Services (BFS)	Hardi	Lechler	Teejet
Air Bubblejet 03	Minidrift MD 03	IDKN 120-03	AIXR 110 4
Air Bubblejet 04	Minidrift MD 04	IDKT 120-025	AITTJ 60 110 03
Air Bubblejet 05	Minidrift Duo 04	IDKT 120-03	AITTJ 60 110 04
BFS PulZar 04	Minidrift Duo 05	IDKT 120-04	
BFS PulZar 05		IDKT 120-05	

## Guidance on thistle control

Cardinal will not control thistles. If the weed spectrum you want to control is wide and includes thistles **and** the field is a grazing pasture then use Forefront T. To find out more, go to: [www.corteva.co.uk/products-and-solutions/crop-protection/forefront-t](http://www.corteva.co.uk/products-and-solutions/crop-protection/forefront-t)

If the weed spectrum is mainly thistles **and** the field is a grazing pasture then use Thistlex. Read more here: [www.corteva.co.uk/products-and-solutions/crop-protection/thistlex](http://www.corteva.co.uk/products-and-solutions/crop-protection/thistlex)



Creeping thistle



Spear thistle

## Guidance on chickweed control

Cardinal will give control of both common and mouse-eared chickweed.



Common chickweed



Mouse-eared chickweed