



# USER GUIDE

## Velum Prime

### Suppression of root knot nematodes in carrots

Root knot nematodes have a wide host range (including clovers) and are endemic in most New Zealand soils.

They can be serious pest of carrots, resulting in significant economic impact to growers. Root knot nematodes feed on developing carrot roots causing forking; stunting and misshapen carrots which are unmarketable (see Image 1).

Velum Prime provides a new novel solution to manage root knot nematodes and increase the marketability of carrot crops.

#### Velum Prime provides a revolutionary solution:

- High intrinsic activity results in a low use rate
- Favourable toxicological and ecological profile
- Good safety profile for operators and the environment
- A new mode of action for nematode management



Image 1: Typical damage resulting from nematode infestation

Example: untreated + fluopyram treated juvenile stage 2 larvae (J2) of *Meloidogyne incognita*. In vitro assay, incubation with 20 ppm fluopyram for 2h



Image 2: Untreated control

Image 3: Treated with 20 ppm fluopyram

Velum Prime has a new mode of action, in that it acts through inhibition within the mitochondrial respiration chain. This results in a severe depletion of cellular energy production and treated nematodes are very quickly immobilised (see Images 2 & 3). Affected nematodes develop a needle like shape, remain in the soil and die.

The soluble concentrate formulation of Velum Prime is specifically formulated to allow for ideal distribution in the soil. Velum Prime is evenly distributed within the upper soil layers and is not moved deeper into the soil with water movement.



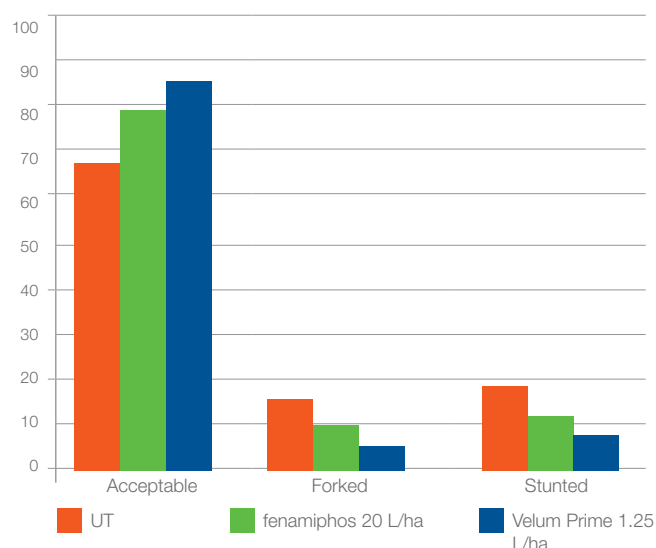
## Velum Prime: Use in Carrots at a Glance

<b>PEST</b>	Root Knot nematode
<b>RATE</b>	1.25 L/ha
<b>WATER RATE</b>	Apply in 200 L of water/ha
<b>TIMING</b>	Apply as a broadcast spray and immediately incorporate into the soil prior to planting. Make the application as close to planting as possible
<b>RESTRICTIONS</b>	The maximum application rate is set at 1.25 L product/ha, with a maximum of one application to the same area in any 365 day period
<b>WITHHOLDING PERIOD</b>	100 days. Do not use Velum Prime on carrot cultivars that will be harvested within 100 days of planting e.g. baby carrots
<b>PACK SIZE</b>	5 L plastic bottle. Agrecovery compatible

Trials in New Zealand have demonstrated that Velum Prime provides better or equal to reduction in unmarketable carrots than the currently available market standard.

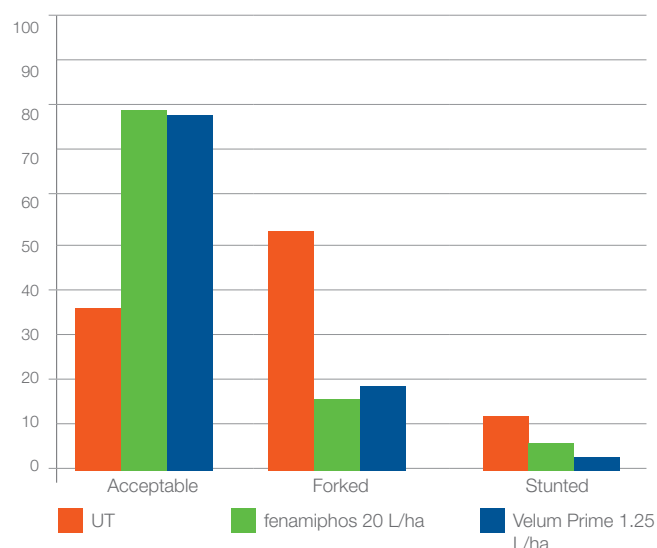
### Nematode Trial 1 – Carrots, Ohakune

% Carrots by grade



### Nematode Trial 2 – Carrots, Ohakune

% Carrots by grade



For more information on using Velum Prime go to [www.cropscience.bayer.co.nz](http://www.cropscience.bayer.co.nz) or contact your nearest Bayer Crop Science Territory Manager

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**Insist on Velum Prime from Bayer.**

[www.cropscience.bayer.co.nz](http://www.cropscience.bayer.co.nz)



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