

LETTUCE PORTFOLIO UPDATE

DISEASE CONTROL IN LETTUCE

Downy mildew (*Bremia Lactucae*)

The most widespread and damaging disease of salads across the UK. Disease presence can reduce marketability and also increase harvesting costs.

Disease facts

Downy mildew is an aggressive disease, foliar symptoms can increase very quickly in ideal conditions. Temperatures between 10°C and 17°C with relatively high humidity are optimal for infection. Effective control of this disease requires an integrated approach using well timed fungicide applications along with cultural techniques.

Cultural control methods include

- The use of resistant/tolerant varieties (it is important to select varieties which are resistant to the isolates in your area)
- Rotate crops to avoid inoculum build up
- Cultivate crop residues quickly to bury infected plant material
- Use irrigation which minimises leaf wetness such as drip irrigation

SYNGENTA VARIETIES

Within the current portfolio, there are a number of varieties with full DM resistance, for example:

- **Babyleaf** - Crispita II, Red Crispita II, Adelita II and Flavita
- **Iceberg** - Ice Electro, Ice Ring and Ice Country
- **Cos** - Yakina, Greenspy, Stargo
- **Speciality** - Retorio, Verdagio, Juninio, Rubagio

For the full list of varieties visit our website:

www.syngentavegetables.com

The use of resistant varieties can significantly improve control as illustrated in the pictures below



Variety with full DM resistance (including Bl:29-40EU)



Variety with incomplete resistance

FUNGICIDE APPLICATIONS – DOWNY MILDEW

Fungicide applications are important as part of the strategy to ensure product quality and also to ensure that selection pressure is reduced, helping increase the longevity of varieties. As with any disease, application timing is crucial and preventative applications based on a forecast or decision management system will improve efficacy.

CORE RECOMMENDATIONS



MAPP No: 19305

Active ingredient: Oxathiapiprolin

Approved use: Outdoor lettuce

Maximum individual dose: 0.15 l/ha

Maximum number of applications: 2 per crop

Latest time of application: 14 days before harvest when used with AMISTAR®



MAPP No: 18039

Approved use: Lettuce, endive (including frisee, escarole), chicory (raddichio), (outdoor and protected)

Maximum individual dose: 1.0 l/ha

Maximum number of applications: 2 per crop

Minimum spray interval: 7 days

Latest time of application: 14 days before harvest

NOTE: A maximum total dose of 500g azoxystrobin must not be exceeded within a 12 month period on the same field

CORE RECOMMENDATIONS



MAPP No: 17443

Approved use: Outdoor and protected crops of lettuce, lamb's lettuce, endives (including frisee, escarole and radicchio), rocket, red mustard, baby leaf crops**, spinach, land cress, cress, purslane, spinach beet leaves (chard) and herbs#

Maximum individual dose: 0.6 l/ha

Maximum number of applications: One per crop for protected crops, two per crop for outdoor crops

Latest time of application: 7 days before harvest

NOTE: For outdoor crops and protected crops that are grown under a temporary cover, the maximum total dose must not exceed 1.2 l product/ha/year on any single area of land



Withdrawal notice: Mancozeb

Date of issue: 23 May 2024

Extent of authorisation: Great Britain only, EAMU 20212125

This authorisation ends: (a) 30 November 2024 for sale and distribution
(b) 30 November 2025 for the disposal, storage and use of existing stocks

*Applications made under an Extension of Authorisation for Minor Use (EAMU) are at all times at the user's choosing, and the commercial risk is entirely theirs. Syngenta implies no commercial support or provision of liability cover for this use. The basic principle underlying this legislation is that there is no increased risk to the Operator, Consumer or the Environment. The user must observe all safety precautions and statutory conditions relating to use on the original approval and the EAMU approval certificate. A copy of the EAMU must be held by the user. This can be obtained from the Chemicals Regulation Directorate. For full and up-to-date information, go to the Chemicals Regulation Directorate website: <https://secure.pesticides.gov.uk/offlabels/search.asp>

**Crops harvested no later than the 8 true leaf stage # Please refer to the full list of herbs included at the back of the product label.

 **Orondis[®] Plus** with  **Amistar[®]** **AVAILABLE AS A CO-PACK**

FOR THE CONTROL OF DOWNY MILDEW IN OUTDOOR LETTUCE, ONIONS, GARLIC AND SHALLOTS

Unique mode of action for Oomycete control, moves quickly into the leaf tissue with some retention in the wax layer. Good protection of new growth in the plant.

ORONDIS[®] Plus is very active at a low dose and should always be used in combination with AMISTAR[®] to minimise the risk of fungicide resistance developing to oxathiapiprolin.

ORONDIS Plus[®] with AMISTAR[®] works best as a protectant and should be used before disease becomes established and be incorporated into a programme of treatments to protect lettuce from *Bremia lactucae* through the season.



TRIAL RESULTS FROM STOCKBRIDGE TECHNOLOGY CENTRE 2020

A trial was carried out using a butterhead lettuce, variety Cobham Green. After seeding in July, the peat blocks were planted out on 20th August. The trial was inoculated with *Bremia lactucae* on 26th August and again on 10th September. Fungicide applications were made on 2nd, 17th and 28th September. Harvest was on 15th October.

The effect of the programmes against *Bremia* are shown opposite. The old standard treatment plan was based on AMISTAR® + Invader at T1, then Infinito at T2 and FUBOL Gold® at T3. This may not be possible in future due to the impending loss of approval for mancozeb.

When used without ORONDIS® Plus, AMISTAR® gave some control of *Bremia* showing the product has useful activity but the best results came from using ORONDIS® Plus with AMISTAR® as per the product recommendations.

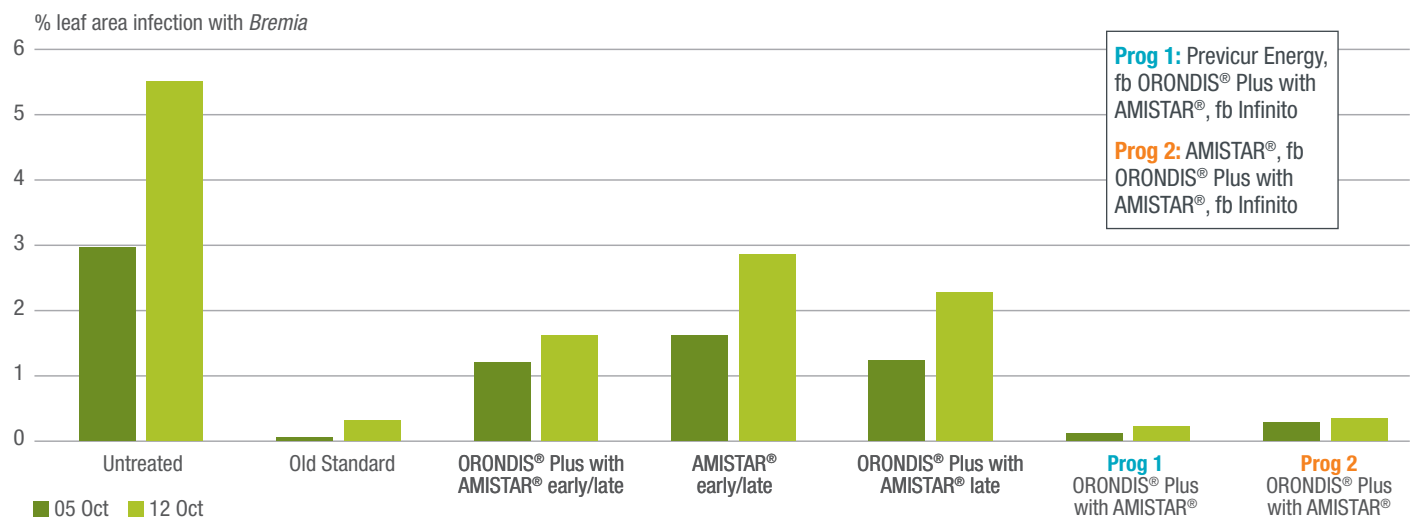
The results also showed that ORONDIS® Plus with AMISTAR® can be successfully integrated into a programme with other fungicides to provide good control of lettuce downy mildew. In this trial this was especially effective when ORONDIS® Plus with AMISTAR® was used in the middle of the programme of applications.

IN BRIEF - RESISTANCE MANAGEMENT

Use AMISTAR® as part of an Integrated Crop Management (ICM) strategy, incorporating other methods of control including, where appropriate, other fungicides with a different mode of action. To avoid the likelihood of resistance developing, an application of AMISTAR® should be made with due regard to current FRAG-UK guidelines for QoI compounds. Do not apply more than a total of two applications when used as part of a programme.

To minimise the risk of resistance developing, REVUS® may be applied in tank mixture, or applied in alternation with another fungicide of a different mode of action that is effective against Downy mildew. Further information on suitable tank mix products and resistance management strategies is available on the FRAG website. Avoid sequential applications with other CAA fungicides e.g. dimethomorph.

THE CONTRIBUTION OF ORONDIS PLUS WITH AMISTAR® FOR BREMIA CONTROL IN LETTUCE



APPLICATION ADVICE

GROWTH STAGE	WATER VOLUME (l/ha)	BEST NOZZLE	REDUCED DRIFT OPTION	
Small open	100-200	AMISTAR® nozzle		LERAP rating: ★★★ 1.0-1.5 bar (at least 75% less drift)***
Hearted	300-800	05-06 or 08 Syngenta vegetable nozzle		

KEY TIPS

- Monitor crops closely before applying fungicide
- For optimum efficacy, ensure the crop is free from any stress caused by environmental or agronomic factors
- Best results will be achieved from applications made in the earliest stage of disease development or as a protectant treatment following a disease risk assessment or the use of appropriate decision support systems

PEST CONTROL IN LETTUCE

Silver Y Moth (*Autographa gamma*) is a migratory pest which arrives from the near continent following warm weather fronts. The significance of this pest can vary considerably from year to year depending on how many adults arrive and when. Early summer migration often causes the most problems with the population building through the year.

Pheromone traps can be used to monitor the arrival of Silver Y Moth, and data can also be obtained from the Brassica Alert reports, visit the web page for more information:

<https://warwick.ac.uk/fac/sci/lifesci/wcc/research/croppests/updates/2024>.

Once caterpillars are seen, well targeted foliar applications will give good control.

Cultural control of caterpillars

- As mentioned above use pheromone traps and regional data to monitor adult numbers
- Incorporate crop residues quickly post-harvest
- Establish beneficial friendly habitats

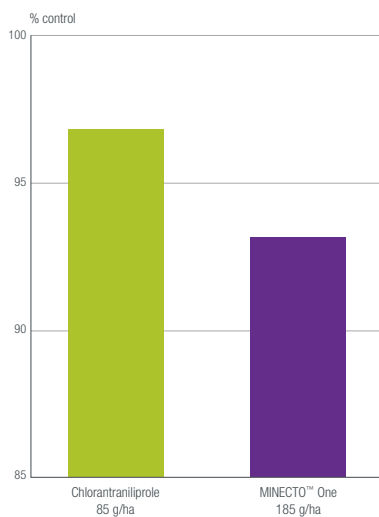
MINECTO™ ONE

MINECTO™ One provides excellent efficacy against *Lepidoptera* species but also gives incidental control of some sucking pest species. MINECTO™ One works through ingestion and is both xylem mobile and translaminar, thus able to move through the plant for better control of pests.

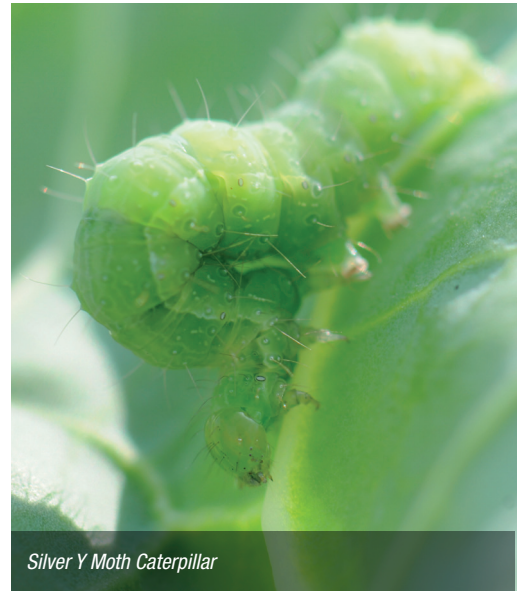
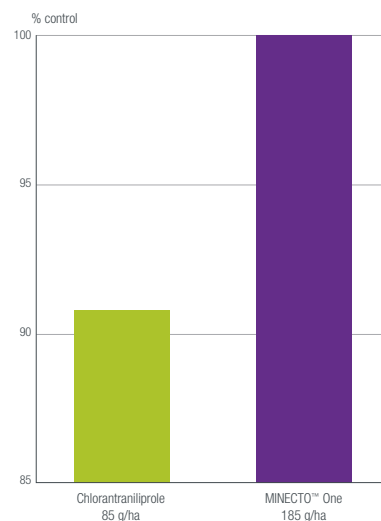
MINECTO™ One is active on all caterpillar pests, examples demonstrated in the graphs below.

Use of MINECTO™ One in lettuce will also provide incidental control of both Peach-potato aphid as well as thrips, without the use of an adjuvant. Although, in 2019 trials no visible control of *Nasanovia* (Lettuce aphid) was observed. MINECTO™ One will not control lettuce root aphids due to the products xylem mobility.

Silver Y Moth control (lettuce), 2012 data summary – three trials



Cabbage Moth control (lettuce), 2011-12 data summary – two trials



Silver Y Moth Caterpillar

Minecto™ One

MAPP No: 18649

Approved use: Outdoor Lettuce

Targets: Caterpillars (*Autographa gamma* (Silver-Y)), Cabbage moth (*Mamestra brassicae*)

Maximum individual dose:

185 g/ha (75 gai/ha)

Growth stage: GS12-49

Maximum total dose: 370 g/ha (150 gai/ha)

Maximum number of applications: 2

Interval between applications: 7 days

Pre-harvest interval: 7 days

syngenta®

Syngenta UK Ltd. Registered in England No. 849037. CPC4, Capital Park, Fulbourn, Cambridge CB21 5XE
Website: www.syngenta.co.uk. For Technical Enquiries: visit www.syngenta.co.uk/content/contact-us to contact your local Area Manager.

AMISTAR®, FUBOL GOLD WG®, MINECTO™ One, ORONDIS® Plus and REVUS® and are Registered Trademarks of a Syngenta Group Company. AMISTAR® (MAPP 18039) contains azoxystrobin. FUBOL GOLD WG® (MAPP 14605) contains metalaxyl-M and mancozeb. MINECTO™ One (MAPP 18649) contains cyantraniliprole. ORONDIS® Plus (MAPP 19305) contains oxathiapiprolin. REVUS® (MAPP 17443) contains mandipropamid. All other brand names used are Trademarks of other manufacturers in which proprietary rights may exist. **Use plant protection products safely. Always read the label and product information before use.** For further product information including warning phrases and symbols refer to www.syngenta.co.uk ©Syngenta UK Ltd June 2024. GQ 13178.