



# CARROT PORTFOLIO UPDATE 2021

## CULTURAL CONTROL

Avoid fields with historic pest, weed and disease issues.

Healthy strong growing crops are better able to compete with weeds and have a lower susceptibility to diseases and pests. Promote quick establishment and encourage strong growth by providing optimum growing conditions. A fine firm seedbed is essential for small seeded crops such as carrots. Tailor fertiliser applications and consider the use of starter fertiliser to promote even emergence.

Choose a variety with tolerance/resistance to pests and diseases.

## SEEDLING DISEASES

Protect emerging seedlings from disease by using a seed treatment which will give control of *Pythium* and *Rhizoctonia*, the major causes of damping off.

An Extension of Authorisation for Minor Use (EAMU number: 2017/0896)\* is available for the use of WAKIL® XL on carrot seed.

## FOLIAR DISEASE CONTROL

Foliar diseases cause loss of yield through green leaf area reduction and reduce the use of plant energy for yield creation. Good foliar disease control is also important to reduce the incidence of disease appearing on roots.

## CONTROL STRATEGY

During early canopy development, *Sclerotinia* spp. is the main foliar disease issue. Apply SWITCH® as the crop canopy closes over.

Continue fungicide sprays of mixed modes of action at 14–21 day intervals.

With increasing temperatures and dense foliage, *Alternaria* and powdery mildew risk increases. Apply an SDHI in alternation with AMISTAR Top® for control of these diseases.



MAPP No.: 15129

Approved use: Carrot

Maximum individual dose: 0.8 kg/ha

Maximum number of applications: 3

Latest time of application: 7 days before harvest



MAPP No.: 18050

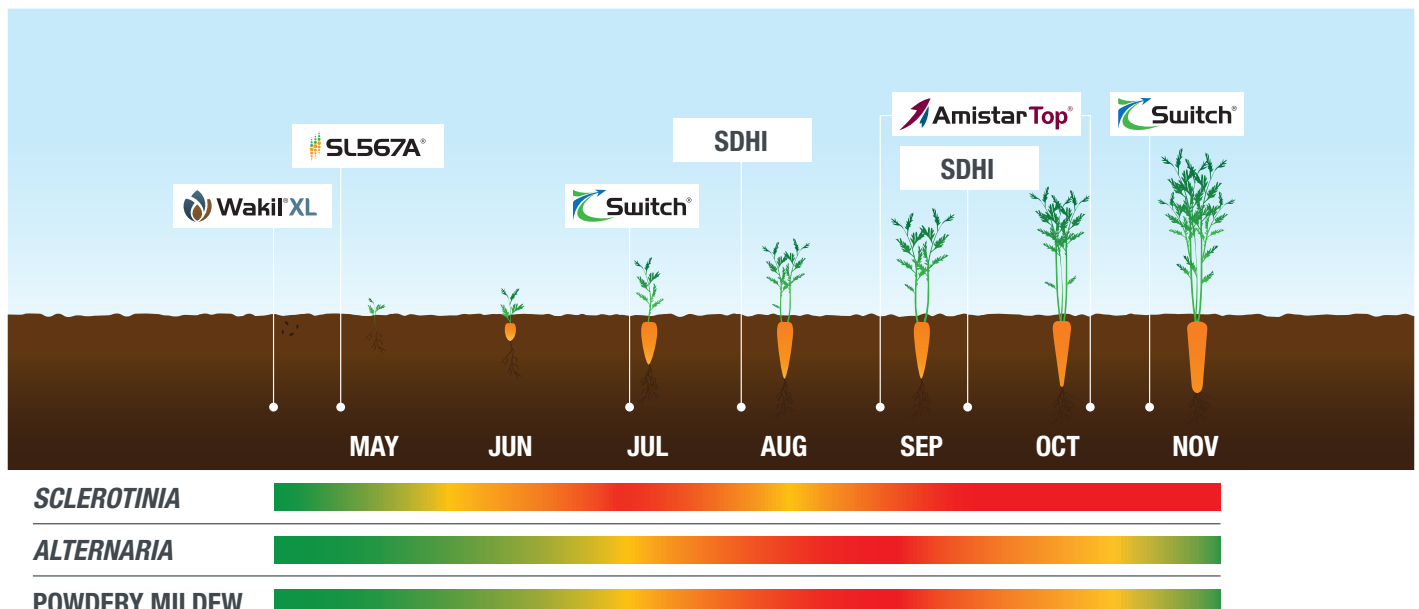
Approved use: Carrot

Maximum individual dose: 1.0 l/ha

Maximum number of applications: 2

Latest time of application: 14 days before harvest

Aquatic Buffer Zone Distance (metres): 5



For late season disease control and for crops destined for storage under straw consider strengthening *Sclerotinia* control by using SWITCH. Additional fungicide treatments are recommended where crown rot risk is high.

## DISEASE RESISTANCE MANAGEMENT STRATEGY

Syngenta products offer a robust disease control strategy giving growers the option of alternating fungicides with different modes of action and an essential tool for resistance management as recommended by FRAC.

Including SWITCH in your strategy further adds to resistance management by bringing in two further modes of action.

FRAC guidelines suggest no more than 2 applications of a QoI and SDHI containing product within a 5 spray programme.

## CAVITY SPOT CONTROL

An integrated management strategy is essential for the control of cavity spot:

- Sites with previous known cavity spot issues should be avoided, testing is advised if unsure of field history
- A long rotation of five to seven years should be maintained between susceptible crops
- Control may be lower in soils with high organic matter and applications of organic matter to the field just before carrot production should be avoided
- Avoid poorly drained or wet soils
- Use varieties with tolerance/resistance where possible
- Schedule irrigation, to ensure soil moisture during early growth and limit over wet soils especially through August. This may help to reduce disease incidence

**Note: SL567A® should not be used where carrots have been grown on the same field within the previous eight years. SL567A is capable of reducing levels of several pathogens associated with cavity spot disorder of carrots e.g. *Phthium* spp.**



MAPP No.: 18039

Approved use: Carrot

Maximum individual dose: 1.0 l/ha

Maximum number of applications: 3

Latest time of application: 14 days before harvest, 7 day minimum application interval. FRAC guidelines must be followed



MAPP No.: 12380

Approved use: Carrot

Maximum individual dose: 1.3 l/ha

Maximum total dose: 1.3 l/ha per crop

Latest time of application: 6 weeks after drilling

Visit [syngenta.co.uk/products/search/crop-protection](https://syngenta.co.uk/products/search/crop-protection) for Syngenta advice

## APPLICATION ADVICE



### OPEN CANOPY:

3D Nozzle (03, 035 or 04). Alternate the nozzles backwards and forwards along the boom. In compromised conditions the AMISTAR® air induction nozzle is recommended.

### FULL CANOPY:

Syngenta vegetable nozzle (06 or 08) is best for later fungicide applications particularly when targeting *Sclerotinia* in the root crown. Avoid air inclusion or hollow cone nozzles.



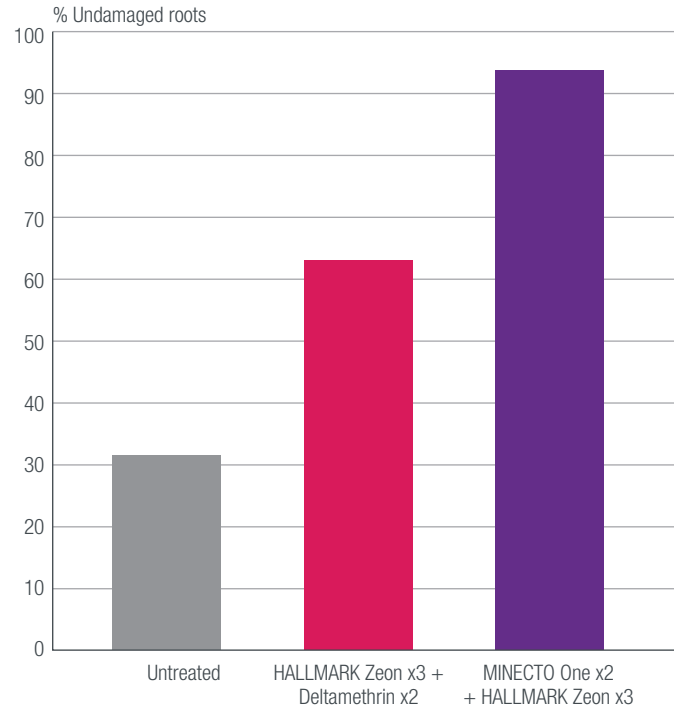
Cavity spot

# NEW INSECT CONTROL STRATEGIES - INTRODUCING

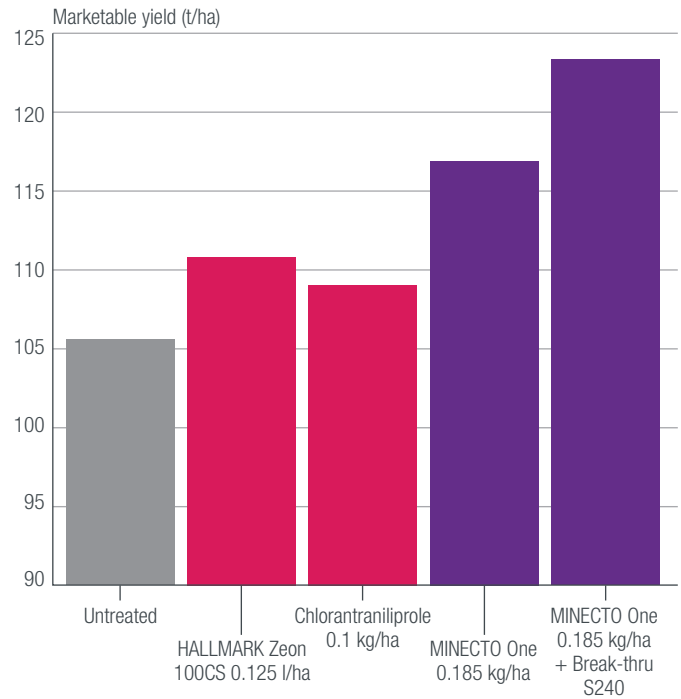


MINECTO One provides class leading control of carrot fly, belonging to the diamides group (Group 28 - IRAC), a fast acting insecticide that stimulates calcium channels in the muscles providing rapid control. Unlike chlorantraniliprole, cyantraniliprole (the active ingredient in MINECTO One) not only provides excellent efficacy against *Lepidoptera* and fly species but also incidental control of a wider range of species including sucking pests. MINECTO One works through ingestion and is xylem mobile and translaminar, thus able to move through the plant for better control of pests.

## CARROT FLY CONTROL IN CARROTS (Warwick crop centre 2019)



## YIELD FROM CARROT FLY ASSESSMENT (two carrot trials average FR and BE 2013)

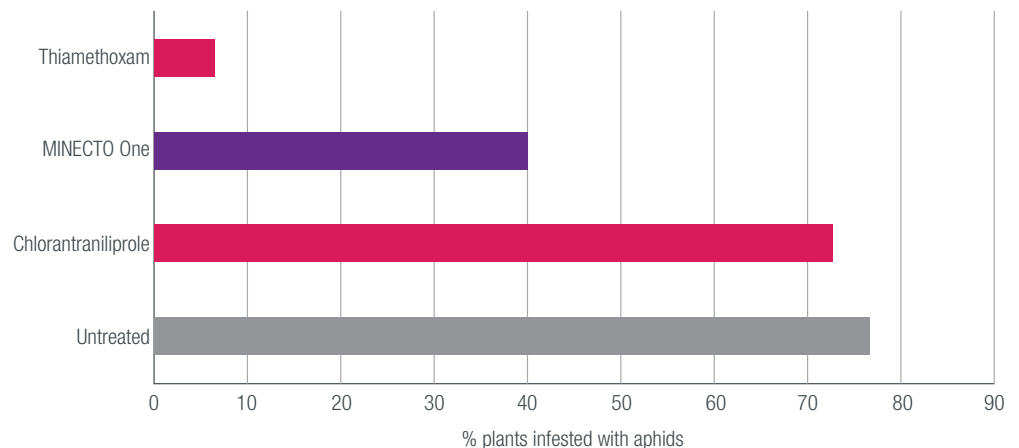


## MINECTO ONE LABEL IN ROOT CROP VEG

Crop	Pest	APPLICATION				
		Product rate	Growth stage	Maximum no. of applications	Interval between applications (days)	PHI (days)
Carrot, parsnip, salsify, parsley root, horseradish, celeriac	Carrot fly ( <i>Psila rosae</i> )	0.185 kg/ha (75 gai/ha)	GS 19-49	2	12-14	7

MINECTO One has excellent efficacy against carrot fly, controlling the larvae damage, increasing both yield and quality. However, the incidental control of both peach-potato and carrot-willow aphid has also been observed in trials, a 2018 demonstration had a >99% reduction in viral symptoms due to the fast activity of MINECTO One.

## EFFICACY OF TREATMENTS AGAINST APHIDS (12th June 2015): P ZWAARGDIJK



## CARROT FLY

Use the AHDB pest bulletin to monitor activity in your area. This can be found at [www.syngenta.co.uk/ahdb-pest-bulletin](http://www.syngenta.co.uk/ahdb-pest-bulletin). For infield information, monitor activity in your own field with yellow sticky traps. FORCE® ST (MAPP: 11752, EAMU 2019/1619) will give partial or full control of first generation carrot fly depending on sowing date and fly emergence. Thereafter, and for second generation control, applications of MINECTO One or HALLMARK Zeon are recommended.

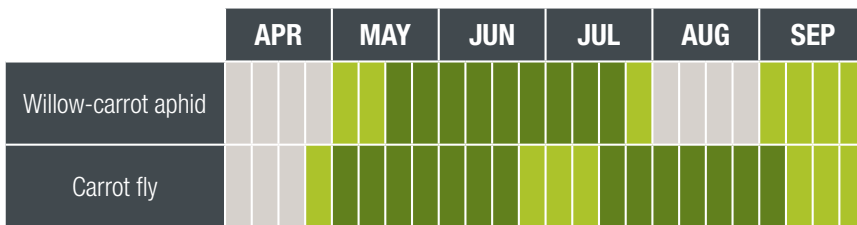
### FORCE ST (MAPP 11752) use up period

31<sup>st</sup> December 2020 for sale and distribution.

31<sup>st</sup> December 2021 for the disposal, storage and use of existing stocks

For HALLMARK Zeon applications made at the start of egg lay to the peak of activity, use the full label rate of 150 mls/ha. A reduced rate of 100 mls/ha can be used where the forecast or trap catches suggest pressure is low to moderate. Foliar insecticide applications should be made at 12-14 day intervals. HALLMARK Zeon can be used to control third generation carrot fly after use of MINECTO One for the first and second generations. MINECTO One will offer the best control of carrot fly during the higher risk period, while potentially offering incidental control of aphids at those timings.

## PEST INFESTATION TIMINGS



Highest risk: ■ Reduced risk: ■ Pest activity may be later in the North and Scotland

## CARROT APHIDS AND VIRUSES

Carrot quality and yield is adversely affected by a number of viruses which have increased in relevance in recent years. The major virus issues have been identified as carrot motley dwarf (CMD) complex and parsnip yellow fleck virus (PYFV), although a recent increase in internal issues over the past few seasons have been linked to carrot yellow leaf virus (CYLF).

The main vector responsible for transmission of these viruses is willow-carrot aphid although other possible vectors may include peach-potato aphid and parsnip aphid. MINECTO One has been shown in trials to give consequential control of peach-potato among other aphids and could help reduce virus build up in crops.

Crops should be monitored from emergence to ensure accurate foliar insecticide timings. To aid aphid scouting Rothamsted Research monitor aphid activity through a number of regional traps, this information can be used to monitor seasonal activity in your area. The latest trap results can be found at <https://insectsurvey.com>



Main image: Carrot fly (*Psila rosae*) damage.  
Inset image: Carrot fly yellow sticky trap (courtesy of the University of Warwick)



**Approved use:** Carrots and parsnips

**Maximum individual dose:** 150 ml/ha

**Maximum total dose:** 450 ml/ha

**Latest time of application:** 14 days before harvest

For best results applications should be made late afternoon and early evening.

## AGRONOMY TOOLS



Growers can get advance warning of impending key vegetable crop pest threats by visiting: [syngenta.co.uk/ahdb-pest-bulletin](http://syngenta.co.uk/ahdb-pest-bulletin) for weekly in-season reports.

Provided by Syngenta in association with The University of Warwick.

Other Syngenta Agronomy Tools are also available at: [syngenta.co.uk/agronomy-tools](http://syngenta.co.uk/agronomy-tools)

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