



# **Carrot fly control**

**Colin Noble**

**Vegetable Consultancy Services Ltd UK**

# Carrot Fly Control



- Conventional industry practises
- Alternative options to Pyrethroids
- Low impact insecticides
- Organic control options



# Products



Level of control required is based on local pest pressure

Present options:

Tefluthrin - Force seed treatment

Lambda cyhalothrin - Karate Zeon

Deltamethrin - Decis

Chlorantraniliprole - Coragen

Cyantraniliprole - Benevia



Timing and correct application of product is essential

# Monitoring



**Vegetable Consultancy Services (UK) Ltd**

Comprehensive Agronomy Support for the Vegetable Industry

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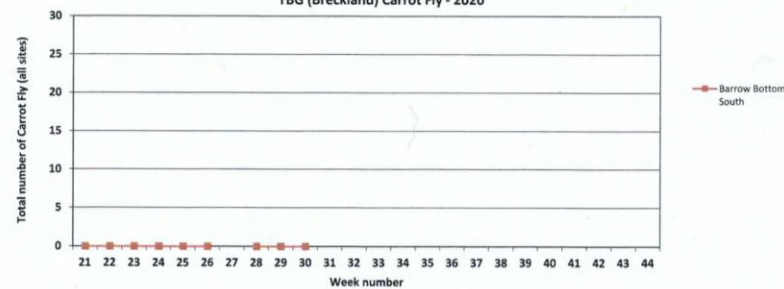
Week 30

## TBG (Breckland) Carrot Fly & Turnip Moth Report

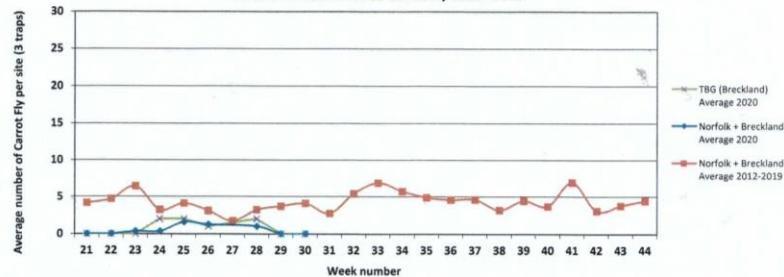
Carrot Fly:

Field	Wk 21	Wk 22	Wk 23	Wk 24	Wk 25	Wk 26	Wk 27	Wk 28	Wk 29	Wk 30	Wk 31	Wk 32	Wk 33	Wk 34	Wk 35	Wk 36	Wk 37	Wk 38	Wk 39	Wk 40	Wk 41	Wk 42	Total
Barrow Bottom South	0	0	0	2	2	1		2	0	0													7
Total	0	0	0	2	2	1		2	0	0													7
Mean (all sites)	0	0	0	2	2	1		2	0	0													7

TBG (Breckland) Carrot Fly - 2020



Norfolk + Breckland Area Carrot Fly 2012 - 2019



Turnip Moth:

Field	Wk 21	Wk 22	Wk 23	Wk 24	Wk 25	Wk 26	Wk 27	Wk 28	Wk 29	Wk 30	Wk 31	Wk 32	Wk 33	Wk 34	Wk 35	Wk 36	Wk 37	Wk 38	Wk 39	Wk 40	Wk 41	Wk 42	Total
Barrow Bottom South	-	0	5	12	17	14		30	8	11													

Comments:

# First Generation



First Generation normally starts late April early May

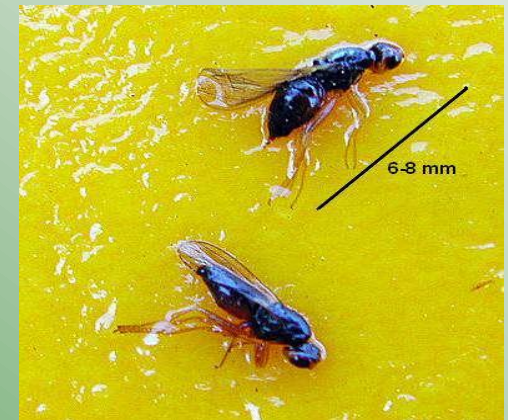
Control based around Force treatment or drilling date

Consider early open ground carrots and parsnip 3TL +

Or any crop not being harvested by mid August

Willow Carrot aphid may also be present?

Root mining seen August - September



# Second Generation



Most significant risk to crops

Normally emerges late July continues into September

First Application Karate Zeon applied 1 week before forecast 10% (first) egg-laying and then at 14 day intervals

T1 150ml Karate Zeon @ 4 – 6pm

T2 100ml Karate Zeon

T2 100ml Karate Zeon

T4 100ml Karate Zeon

T5 ??? Headland treatment

Root mining seen November onwards





# Second Generation



Alternative to pyrethroids

Warwick HRI 2013 Coragen Trial

T1 Coragen 175ml

T2 Coragen 175ml



Gave statistically similar results to full pyrethroid program

Possibility if a pyrethroid application missed

Costs approx. 10 times /ha more

Benevia would also be an option

# Low Impact Insecticides



Pyrethrin – natural pyrethroid (still takes out beneficials)

Garlic no effect seen

Nematodes – Nemasys – inconclusive/ supply issues

Azadirachtin - Neem oil

Azadirachtin positive preliminary results in one trial but not approved for outdoor use !





# Organic Control



One of the most significant pest of organic carrot and parsnips

Avoidance 1Km

Monitoring traps

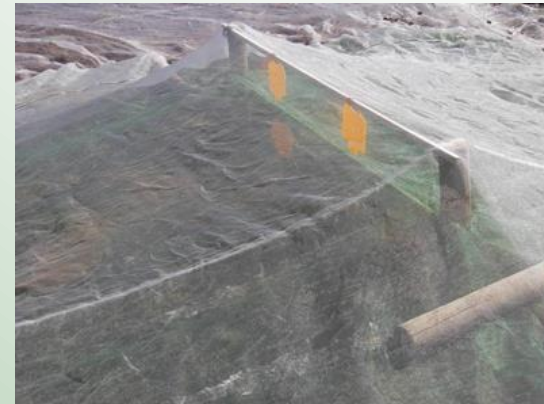
Delayed drilling

Early harvesting of distressed crops and field margins Sept/Oct

Netting - effective if used early – costly

Vertical barriers - variable results when used field scale

Site risk assessment



# Field Risk Assessment



## Site Risk Assessment

Field Name/Code

Physical characteristics  
of site

### Exposure

Risk Score

0 = very exposed  
3 = very sheltered

### Size of Field

0 = >20 ha  
1 = 10 - 20 ha  
2 = 2 - 10 ha  
3 = <2 ha

Proximity to sources of  
infestation:  
Old crops, allotments,  
gardens

0 = > 2 Km  
1 = 1 - 2 Km  
2 = 100m - 1 Km  
3 = <100 Meters

Exposure to second  
generation egg deposition  
and time for larval  
development

0 = Lifted before end July  
1 = lifted before end September  
2 = Lifted before end December  
3 = Lifted after end December

TOTAL SCORE  
maximum score =  
12

Risk Category

Low 0-5  
Medium 6-9  
High 10-12



A close-up photograph of a hand holding a bunch of fresh carrots with green tops. The hand is positioned over a large pile of harvested vegetables, including parsnips and onions. The background shows more of the harvest and some green foliage. The text is overlaid on a semi-transparent grey box in the center of the image.

**Thank you for your attention**  
**Colin Noble VCS Ltd**