

VEGETABLE NEWS

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Pest predictions

The start of cabbage root fly egg laying is predicted for 29 April with carrot fly egg laying predicted for 3 May.

Due to the mild winter, aphids have appeared on crops early and large populations are expected for all species up to at least the end of June.

The first carrot willow aphids have been caught in England a month earlier than last year. On carrots and parsnips, infestation can occur in the cotyledon stage, so good observation is essential to prevent damage and virus spread.

On brassicas, both peach-potato and cabbage aphid are likely to infest crops earlier than usual.

Aphids

Aphid eggs hatch out into female nymphs which give birth to daughter aphids without any fertilization – a process called parthenogenesis.

In favourable weather these daughters may mature in 8 to 10 days and begin to reproduce in the same way. It is this rapid birth rate that causes the population to build up so quickly.

Some aphids have a very wide host range eg the peach-potato aphid (*Myzus persicae*) which attacks most economically important crops.

Others such as the willow-carrot aphid (*Cavariella aegopodii*) are specific to willows and umbelliferous plants including carrot, parsnip, celery and parsley.

Most commonly, aphids are seen in large numbers clustered around tender young growth often causing young shoots to become weak and distorted.

Aphids feed on plants by sucking sap. As well as causing shoots to become weak and distorted aphids can spread plant viruses which can cause severe damage.

Aphid resistance

There is widespread resistance in certain areas in England to various aphid sprays. To prevent resistance developing remember the following

- ◆ Apply insecticides only when their use can be justified
- ◆ time pesticide applications appropriately and target applications of pesticide to the specific parts of the plant or crop where it will be most effective
- ◆ use good application technique and apply when conditions are favourable
- ◆ Do not rely exclusively on products from a single insecticide type—use
 - ◆ chemicals with different modes of action.
 - ◆ If using a tank mix then use products from different groups and at the full recommended rate of each
 - ◆ Monitor effectiveness of each treatment. If one insecticide appears ineffective and other possible causes, eg poor coverage can be excluded, apply a product from a different group for the next application.
 - ◆ If an insecticide appears ineffective there may be a resistant population. This can be tested for so please contact me so I can take a sample for analysis.

Chemical groups

The chemical group an insecticide belongs to is not always obvious. The table below shows the groups for a number of the insecticides used in vegetable production

Chemical group	Active ingredient	Examples of trade names
organophosphates	chlorpyrifos	Dursban
	dimethoate	BASF Dimethoate Danadim
carbamates	carbofuran	Posse, Marshal
	oxamyl	Vydate
	pirimicarb	Aphox,
pyrethroids	alpha cypermethrin	Fastac
	cypermethrin	Toppel Permasect
	lambda-cyhalothrin	Hallmark
	deltamethrin	Decis Bandu
	tefluthrin	Force
chloronicotines	imidacloprid	Gaucho
	thiacloprid	Biscaya
nicotine	nicotine	No Fid Stalwart
pyridine azomethrine	pymetrozine	Plenum
spinosyns	spinosad	Tracer

Herbicides in dry weather

Residual herbicides require damp soil conditions to work effectively. Those applied in the last couple of weeks are unlikely to give adequate weed control so pre-emergence sprays will be required.

In general these will be most effective if applied when the weeds are in the cotyledon stage, although some will be effective up to 2-3 leaf stage

The table below shows the weed species controlled at various stages post emergence by various herbicides

Product	Annual Meadow grass	Charlock	Chickweed	Cleavers	Fat hen	Fumitory	Field pansy	Groundsel	Knotgrass	Redshank	Bitter cress	Shepherds purse	Red deadnettle	Mayweed	Speedwell	Small nettle
Atlas Brown	MS	S ²	S ²	S ²	S+	S+	S ²	MR	S ²	S+	-	S ²	MR	R		S ²
Atlas Solon/ Cromptex Bronze	MS	S ²	S ²	S ²	S+	S+	S ²	MR	S ²	S+	-	S ²	MR	MR		S ²
Butisan S @ 1.5litres	S ²	MR	S+	pre	-	R	R	S ²	R	-	R	pre	S ²	S+		pre
Defy	S	-	S+	S ²	-	-	S	-	-	-	-	-	pre	-	S	-
Dosaflo	-	S ²	S ²	S ²	S ²	-	S ²	MS	R	S ²	-	S ²	S ²	S ²		R
Dow Shield	-	-	-	-	-	-	-	S ²	-	MR	-	-	S ²	S ²		-
Fortrol	MS	S+	S+	-	S+	S ¹	S ¹	pre	S ¹	S+		S+		S+	S	
Gesagard	pre	MS	S ²	R	S ²	S ²	-	pre	pre	S ²	S ²	S ²	pre	pre		S ²
Goltix/Skater	S-	S-	S-	R	S-	S-	S-	S-	S-	S-	-	S-	S-	S-	S-	S-
Linuron	MS	S-	S-	MR	S-	R	S-	S	MS	S-	S-	S	S	S-		S-
Semcorex	S ¹	S ¹	S ¹	R	S ¹	S ¹	MS	S ¹	MS	S ¹	S ¹	S ¹	S ¹	S ¹		S ¹
Totril full rate	R	S+	S+	-	S+	S+	-	S+	S+	-		S+	S ²	S+	S+	S ²
Totril half rate	R	S-	S-	-	S-	S-	-	S-	S-	-		S-	S	S-	S-	S

pre – susceptible pre emergence S- = susceptible to cotyledon stage

S¹ = susceptible to 1 true leaf, S² = susceptible to 2 true leaves, S+ = susceptible to young plant stage

MS = moderately susceptible, MR = moderately resistant, R = resistant,

Pesticide Update

Carrot fly control

The current SOLA for Hallmark (0729/06) for control of carrot fly restricts the total amount of Hallmark to 450ml per hectare ie 3 sprays of 150ml. It is best to use Hallmark at period of greatest risk and then use deltamethrin (eg Decis) when risk is lower. This does mean relying on insecticides from the same

chemical group (pyrethroids) but to date no resistance to these has been found in carrot fly.

The following off label approvals have been issued since the last Vegetable News.

Product	Active ingredient	Use	Crop	Off label number
Switch	cyprodinil/fludioxonil	botrytis	scallions	0239/07
Bandu	deltamethrin	general insecticide	carrot/ parsnip	0361/07
Bandu	deltamethrin	aphids/caterpillars	lettuce	0363/07
Bandu	deltamethrin	general insecticide	bulb onions	0364/07
Bandu	deltamethrin	general insecticide	leek	0365/07
Nirvana	imazamox / pendmethalin	herbicide	broad bean	0490/07
Goltix	metamitron	herbicide	broad beans	0513/07
Riza	tebuconazole	powdery mildew /rust	various herbs including parsley	0544/07
Riza	tebuconazole	ringspot	broccoli, calabrese, cauliflower	0546/07
Riza	tebuconazole	white rot	Bulb onion	0548/07
Riza	tebuconazole	rust	Broad bean	0549/07
Riza	tebuconazole	white rot	scallions	0553/07
Chess	pymetrozine	aphids	Broccoli, Brussels sprouts, cauliflower cabbage, kale	0788/07
Agrichem Flowable Thiram	thiram	damping off	lettuce	0792/07
Skater	metamitron	herbicide	Celery, rhubarb	0844/07
Tracer	spinosad	caterpillars	broccoli / calabrese	0849/07

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