



Carrot Fly (*Psila rosae*)

If your carrots and parsnips show signs of damage it will almost certainly be due to carrot fly attack. The damage is done at the larval stage, which eat through the flesh, creating holes that then become the entry point for other diseases, disfiguring them and allowing moulds to gain a hold. Heavy infestations can kill or severely stunt young plants

Female carrot fly lay at least two generations of eggs in the soil around carrots and parsnips between late spring and autumn. Once the larvae hatch they feed on the roots for up to one month before pupating. The larvae are slender, creamy yellow maggots up to 10mm (1/2in) long. The adult flies emerge in late spring in enough time to begin the cycle again in August/September time. Adult flies are black with reddish brown heads so they often go unseen. Females fly close to the ground and are attracted to host plants by their smell: carrots are particularly at risk when rows of seedlings are thinned because of the odours released from bruised foliage.



The only sign above ground to indicate a carrot fly attached is a slight yellowing of the leaves and slightly stunted growth so you may not know until you lift the crop. On lifting an affected Carrot you will see that the root end will be black or dark. Close examination will reveal small holes in the Carrot. If Carrots are put in a bucket of water badly affected ones will come to the surface. This however does not mean that those which do not float are totally unaffected.

Control Methods:

There are no chemical controls available for garden use against carrot fly, so cultural methods are the best way to prevent it. The adult flies are attracted by the odour given off by crushed foliage, they are also weak low flyer so here are several practical tips on how to control them:

1. Sow seeds very thinly to minimise the need for later thinning. Try to alter your sowing pattern. Crops sown after late spring are generally less affected, as are those sown early enough for you to harvest before late summer.
2. Minimise the amount of disturbance caused when thinning out unwanted seedlings. If you must weed the carrots, do it on a dry evening with no wind, as the scent of the bruised foliage will not spread so far, and carrot flies take wing in bright sunlight. Pull carrots for eating in the evenings too, for the same reason.
3. The Carrot Fly is low flying and therefore can be prevented from laying its eggs by physical barriers. Growing carrots under horticultural fleece, such as 'Enviromesh', or surrounding carrot beds with a clear polythene barrier 60cm (2ft) tall, over which the low-flying female flies will not pass. Make sure there are no gaps at ground level. One simple method for a home grower is growing in pots and put them on a table.
4. Some carrot varieties, such as 'Resistafly', 'Sytan' and 'Flyaway' are less susceptible to damage, but not genuinely resistant. Best results are obtained if no other variety is grown alongside. Autumn King types are carrot fly's favourites, so avoid sowing these if there is a known problem.



5. Inter-planting onions or garlic in the carrot beds may also ward off the carrot flies. Other plants to try include black salsify (oyster plant), coriander, lettuce, pennyroyal, rosemary and sage.
6. Compost and wood ashes will also scare off not only carrot flies but carrot weevils, wireworms, and other carrot pests. Probably the best organic way to get rid of pests is to soak the bed once a week with a thin mixture of wood ashes and water using a watering can.
7. Attacks are particularly bad in old established gardens where the population builds up each year. Most carrot pests and diseases are soil-borne and can be controlled by crop rotation. or adult flies may emerge from pupae in the soil within a protected area.
8. Mulching with grass cuttings can make it harder for the female flies to find a suitable egg laying site. A range of creatures will make their home under the mulch, some of which will be predators of the carrot fly such as ground beetles and centipedes. Watch out for slugs and snails that will also thrive in these conditions.
9. Location can be vital however unappealing to the gardener, a windswept site with little protection is ideal.