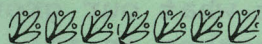


for a foolish error on my part might keep me just that critical tad more alert. (We're not suggesting anyone would intentionally burn out, just a subconscious subtle difference in attitude.)

These were just thoughts casually exchanged on a rainy-turned-sunny lazy morning. But we're supposed to be sharing and communicating with the larger RLA community, right? So here are our ramblings.

-- Valerie Ingram



# CABBAGE ROOT MAGGOTS

## ...AN UPDATE

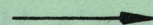
Two years ago I wrote in this newsletter about my various attempts and theories for dealing with root maggots (the cause of mysterious wilting and wasting of cabbage family seedlings in early June in many of our gardens). I had consulted scientific papers, tried home remedies, but continued to watch 1/3 to 1/2 of our cauliflower and broccoli bite the dust, their roots crawling with those cursed white maggots. I even killed a hefty stretch of seedling nursery bed by overdosing with a half-inch layer of wood ashes (one of the recommended remedies), only to dig up the dying plants and find maggots merrily feasting in what must have been a very alkaline environment (ashes + water = lye).

Ironically, the answer was right under my nose. It was almost too simple. It involves a knowledge of their life cycle and a bit of crawling around on knees and elbows.

In our climate, this pernicious insect overwinters in the soil as a pupa (fattened on your fall broccoli and rutabaga crops). After a certain number of degree days of spring warmth have occurred, the adult flies emerge (generally from May 15 to May 20 around here). They spend a couple days revving up their ovaries, and then for about two or three weeks, they seek out wild and cultivated members of the mustard family (cauliflower seems to be a favorite, radishes, too). They then "ovaposit" their eggs right next to the stems of the victim plants. The eggs hatch in 4-6 days, depending on temperatures. The maggots (larvae) crawl down the stem and chew up the roots. Soon you notice the plants wilting on sunny days and turning weird colors.

The larvae will eventually pupate, yielding one or two more cycles later on, in July and August, but these usually go unnoticed (except for those ugly grooves on your turnips). The populations are lower, supposedly due to hotter, drier conditions (pupae go dormant), and sometimes due to predators (a certain "rove beetle" which unfortunately attacks only the pupae, after the larvae have already taken their toll on your spring seedlings.) Also, most of your brassica plants will be large enough to barely be affected by a few root maggots.

With the aid of rain or irrigation, you can save some plants by piling soil up around them so they can grow new roots along the stem. A meager harvest is all you can expect. But why confine yourself to rescue attempts, when there are simple preventative measures? Here are three that I use:



1) The eggs are visible, at least to near-sighted people like me. When you plant the seedling, hill up a little dirt around the stem; then, about May 20, start checking for maggot eggs. They are tiny, white, about the diameter of a pin, and maybe a sixteenth of an inch long. They are always located within 1/2" of the stem, and close to the ground surface. We simply brush away the dirt where the eggs are located, and then pile up some fresh dirt around the stem. It helps if you start with slightly tall plants so you can pile dirt around the stem one or two inches above ground level (careful not to cover the growing point of the plant, where the new leaves are emerging). Then it's easy to brush the dirt away when removing eggs. If brushed at least 10 or 15 inches away from the stem, the maggots never seem to find their way back after hatching.

Timing is important. In warm weather, you should go through all your plants every four or five days, to catch them before they hatch. In cooler weather they hatch more slowly. When you stop noticing eggs, usually around June 10, your troubles are over. You may lose a few young seedlings from late plantings in July.

2) Another method for dealing with root maggots is to plant so early that the plants will be big enough by late May to withstand some root maggots. This has the added advantage of yielding harvestable broccoli or cauliflower by late June. You have to start the plants indoors in early March, transplant them out by mid-April, either under hotkaps, or, preferably, plastic tunnels. Combined with method #1, you are sure to get most of your crop through in good shape.

3) You can also put plants out under hotkaps (commercially made wax-paper tents) about mid-May, just before the egg-laying season, and leave the hotkaps on all through the damper period. Usually you can get by without ventilating the hotkaps so that the flies can't get in and lay their eggs, unless you have hot, sunny weather.

-- Doug Jones

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