

Early Season Insects in Vegetables

Vern Grubinger, University of Vermont Extension

A lot of pests attack vegetables, and here are a few to keep an eye out for. The good news is that an individual farm usually has just a few of these in a given year. The bad news is that if you're not paying attention, a lot of damage can be done. Scouting your crops on a regular basis is the way to discover a pest problem before it's out of control.

Cabbage maggot. The larvae of these flies attack Brassica crops. Adults emerge in spring and travel a long way to find host plants, where females lay eggs at the base of stems. Larvae hatch and feed on roots, making turnips and radishes unmarketable, or causing wilting and death of broccoli, cabbage, and cauliflower. There are several generations each season so planting in-between these can minimize problems. Typically, peak first flight correlates with full bloom of yellow rocket in late May, and second peak flight with bloom of day lily in early July. Mid-June in Vermont is a time of reduced crop vulnerability. Row covers can be used to exclude flies if applied before flights occur.

Colorado potato beetle feeds on potato and eggplant foliage, primarily. Adults overwinter in woods and borders near fields, then emerge to search for food. They can't fly for a few days so they walk, making crop rotation helpful to delay or avoid infestation, depending on the distance of rotation. The further the better, and obstacles like roads or rivers are a plus. Adults lay orange-yellow eggs on leaf undersides, and larvae hatch in a week or so. If you plan to spray (Spinosad, name brand Entrust, is approved for organic use, and though a Bt such as Novodor works on small larvae there is currently no approved organic Bt formulations), scout for egg hatch and make your first application to control the new larvae before they get large and do a lot of feeding. If you can't rotate very far, try making a trench between last year's field and this year's then lining it with black plastic. That will intercept newly emerged walking adults, which will die in the heat of the trench since they can't climb on dusty plastic. Another strategy is to plant after mid-June using short-season varieties, so that emerged adults don't find food and leave the area. Mulching the rows with rye straw is yet another way to deter adults from finding the plants and laying eggs. Push the straw right up against the plants.



GIROUX'S POULTRY FARM

8957 Route 9
Chazy, N.Y. 12921

GIROUX'S POULTRY COMPOST

- Premium organic compost: approximate N-P-K of 2-3-2. (High fertility)
- Contains natural materials: chicken manure & sawdust.
- Adds microbes to your soil.
- Helps to suppress plant pathogens.
- Excellent soil conditioner.
- Increases organic matter.
- Bulk trailer deliveries or pickups.
- Custom spreading available.

Call 518-846-7300 for more details.

Cucumber beetles need to be controlled early to avoid severe damage to cucurbit seedlings, and to prevent possible spread of bacterial wilt in cucumber, summer squash and zucchini, muskmelon, gourds, and some winter squashes and pumpkins. Row covers are effective in excluding beetles while promoting faster growth. Use of hoops to support the covers helps prevent injury from wind blowing the fabric against the leaves. Using transplants instead of direct seeding gives plants a head start over the beetle, and also allows planting later in June, after peak beetle activity. In larger fields, planting Blue Hubbard or Buttercup as a perimeter trap crop can delay colonization of an interior variety. Kaolin clay (Surround WP) is a repellent and feeding deterrent so it should be applied before beetles arrive. It can be sprayed on transplants before setting them out. Reapply after rain. Entrust provides suppression of beetles once they are actively feeding.

Cutworms. Crops that follow weedy fields or alfalfa are more likely to be damaged by cutworms, as the adults seek such residues for egg-laying. Plowing and keeping fields weed free for 2 weeks in spring before planting can starve young larvae. Cardboard or tinfoil collars around individual plants will protect them, but that's impractical on a large scale. A concentrated solution of Bt

(such as Dipel or Xentari), mixed with bran and some molasses, can be sprinkled on the ground near the crops or made into patties that are placed along the rows. Bt sprays directed at plant stems and foliage may control cutworms that are foliar feeding. Apply in the evening when cutworm activity is greatest. The challenge is to get the pest to ingest enough Bt to stop feeding before destroying the seedlings.

Flea beetles. Row covers applies to rotated fields is the best prevention. Be sure to use unripped covers and completely seal all edges and ends of the cover. Entrust provides suppression, while Pyganic (pyrethrins) can be used as knock-down but repeated applications are needed. Planting a trap crop to attract beetles 1-2 weeks ahead of the main crop can also limit damage and/or the sprayed area. Manage your plantings so that this year's brassicas are rotated as far as possible from last fall's, since beetles overwinter in field borders near the crop. Similarly, locate your fall brassicas in a field far away from spring crops, to reduce second-generation infestations.

Onion maggot fly larvae attack crops in the Allium family. Eggs are laid around the base of onion plants and larvae then crawl down to feed on the roots. There can be three generations in a season; the first generation of larvae can do a lot of damage, moving up the row to consume the roots of young seedlings. Adults of later generations disperse very little from onion fields, so crop rotation is important to avoid future infestations. Damaged onions are a desirable site for egg-laying so avoid mechanical damage and remove all culls. Wood ash and/or diatomaceous earth around the base of onion seedlings may deter egg laying and maggot survival.

Potato leafhopper. This pest comes up from the south on storm fronts and is not usually a problem until mid-summer, but that varies. Adults are about a quarter inch long and nymphs half that size, both move rapidly when disturbed. They suck the sap of plants like potatoes and beans, and many others, causing leaf distortion and damage, weakening the plant. This pest is often missed because it arrives all of a sudden and is not readily noticeable in the foliage. Brush the plants to see if adults are present. If so, 2 to 3 sprays of Pyganic, a week apart, may halt their damage and prevent buildup of nymphs. AzaDirect (azadirachtin = neem) may provide some suppression.

Seedcorn maggot. Peas, beans, and corn are crops commonly attacked by these yellow-white fly larvae, about a quarter inch long with a pointed head. Seeds or seedlings may be partially eaten.

Continued on page 10




J·D·L·E·W·O·O·D
THE RESTAURANT

**Experience
the *flaSH***

flavor
sustainability
harmony

— OPENING SOON —

Route 132 • Sharon • Vermont
(802) 763-5236 • www.marceausfinefoods.com



**Innovation and
Inspiration!**

Gardener's Supply is the nation's leading source for innovative, earth-friendly gardening solutions. We are an employee-owned, Burlington-based business in our 25th year. We invite you to visit our store in Burlington's Intervale and let us help you create a more beautiful, more productive garden in harmony with nature.

A partner in your gardening success.

GARDENERS
SUPPLY COMPANY

INTERVALE STORE • 802.660.3505
128 Intervale Road, Burlington, Vermont

OUTLET STORE • 802-879-0099
64 Harvest Lane, Williston, Vermont • www.gardeners.com

Early Season Insects

Continued from page 9

The flies are attracted to high levels of decomposing organic matter, so it makes sense to delay planting after turning in a lush cover crop or high rates of compost. Shallow planting into well-warmed soil can help prevent problems because injury is worse under conditions where germination is slow.

Tarnished plant bug can damage strawberries and apples, as well as flowers and young fruits of beans, cut flowers, eggplant, lettuce, tomatoes, and many other plants. Often populations build up on weeds or legumes like alfalfa, or clover growing nearby. When these are cut, bugs move into crops. So, either keep the areas near fields mowed closely and frequently, or delay mowing until after the vulnerable stage of crop, when fruits are well set.

Insecticide brand names mentioned here are OMRI-listed unless noted; this is for your information only, no endorsement is intended nor is discrimination against products not mentioned. Always follow the label and check with your certifier before using a pesticide. For more organic vegetable production see: www.uvm.edu/vtvegandberry, and please feel free to e-mail me with questions:

vernon.grubinger@uvm.edu.

Funding Opportunities

Continued from page 7

From the previous list, vegetable producers may think that NRCS programs are more geared towards dairy farms with large acreages, but vegetable crop producers may be surprised what they qualify for. Bob Pomykala, president of the Vermont Vegetable and Berry Growers Association and a farmer in Grand Isle, is a good example. At the VBGA annual meeting Bob discussed how he has benefited from implementing some of the above practices. Bob encouraged other producers to visit their local NRCS office and see if they can get paid for their good farming practices.

For all farmers, incorporating the above practices into the farm will have multiple effects, including erosion prevention, nutrient management, protection of water and ecologically sensitive areas, and maintenance of wildlife habitat. Looking at the full list of conservation practices on the NRCS website, you may find you are already doing some of these practices on your farm. Or, it may be you are looking into implementing one of these practices to remedy an issue raised during your inspection visit for organic certification. For some programs applications must be submitted before October 1st of this year for consideration for 2008 funding. Other programs have specific sign up times. For more information, contact your local field office or visit www.vt.nrcs.usda.gov.

Homeopathic Medicine

Keep your herd healthy,
Effectively treat:

- Mastitis
- Worms
- Foot Rot
- Pink Eye
- Bloat
- And More

Washington Homeopathic Products
www.homeopathyworks.com
Call 1-800-336-1695 for a free catalog

Johnny's Selected Seeds

An employee-owned company.

Superior performance with Johnny's Organic varieties.

 <p>NEW Organic</p>	 <p>NEW Organic</p>	 <p>NEW Organic</p>
Pandora Leek	Negovia (F1) Carrot	Baby Oakleaf Green oakleaf

- ① Over 160 organic products.
- ① OMRI-approved fertilizers and pest and disease controls.
- ① Superior products, growing information and customer service since 1973.

Call for your FREE 2007 catalog
1-877-Johnnys (564-6697) or visit
us online at **Johnnyseeds.com**.

Winslow, Maine U.S.A. #51367

Wisdom of the Herbs School

Annie McCleary, Director, with George Lisi

Plant Spirit Communication
Nature Adventures ~ Herbs and Wild Edibles
Food as Medicine ~ Holistic Living Skills
Certification, Advanced and Winter Programs



802-453-6764 ~ anniemc@gmatt.net
Lincoln, Vermont ~ www.WisdomOfTheHerbsSchool.com