

Information Sources, April 13 Lecture

Dr. Alan Eaton, University of New Hampshire Coop. Extension. April 2017

Pollinators and Their Protection

1. Understanding Native Bees, the Great Pollinators: Enhancing Their Habitat in Maine. Bulletin 7153, Constance Stubbs and Nancy Coverstone. 2004.
<https://extension.umaine.edu/publications/7153e/>
2. Information on bumble bees, and pollinator conservation (Xerces Society) www.xerces.org
3. Enhancing Wild Bees for Crop Pollination (Venturini, Drummond et al. Univ. Maine) 2015.
<https://extension.umaine.edu/blueberries/wp-content/uploads/sites/56/2010/05/2015-Bee-Pasture-Fact-Sheet.pdf>
4. Pollinator Conservation Handbook Matthew Shepard, Stephen Buchmann, Mace Vaughn and Scott Hoffman Black. 2003. The Xerces Society. ISBN 0-9744475-0-1
5. Bee Nest Box Guidelines. 2016. Amy Papineau, UNH Cooperative Extension
https://extension.unh.edu/resources/files/Resource005503_Rep7670.pdf
6. Flowering Calendar for Wildflower Species in Southern New Hampshire. 2015. Dr. Cathy Neal, UNH Cooperative Extension
https://extension.unh.edu/resources/files/Resource005602_Rep7825.pdf
7. Native Wildflowers for New England Meadows. 2014. Dr Cathy Neal and Amy Papineau, UNH Cooperative Extension
https://extension.unh.edu/resources/files/Resource004206_Rep6043.pdf

Other Beneficial Insects, Pest Identification, and Reducing Spraying

1. Beneficial Insects In New Hampshire Farms and Gardens. Alan Eaton. (In layout now, hopefully posted this spring at our website www.extension.unh.edu) Text length is 12 pages, and we plan to include over 60 of my color photos. Total length might be 22 pages.
2. Think Before You Buy a Pesticide. 2002 2pp. Alan Eaton UNH Coop Extension
https://extension.unh.edu/resources/files/Resource000510_Rep532.pdf
3. How Insecticides Work. 2002 2pp. Alan Eaton UNH Coop. Extension
https://extension.unh.edu/resources/files/Resource000504_Rep526.pdf
4. Insect Pests of Home Lawns. Rev 2016. 5pp. Stanley Swier, UNH Coop. Extension.
https://extension.unh.edu/resources/files/Resource000515_Rep537.pdf
5. Magnifiers and Other Visual Aids for Insect Monitoring. 2013. 4 pp. Alan Eaton, UNH Coop. Extension. https://extension.unh.edu/resources/files/Resource003343_Rep4814.pdf
6. 10 Easy Steps to Prevent Common Garden Diseases. 2000. 1pg. Cheryl Smith, UNH Coop. Extension. https://extension.unh.edu/resources/files/Resource000498_Rep520.pdf

I also have about 40 other publications on our website, many on specific pests, including insects, birds, woodchucks, voles, and ticks.

Pest Management Resources for New England Gardeners

Dr. Alan Eaton, UNH Cooperative Extension. April, 2017

Publications: Relatively few publications are being printed and distributed as hard copies now. Most are posted on websites, where the user downloads & prints what he/she wishes. Because of that change, most of my new ones have color photographs now.

Fruit & Vegetable Pest Mgmt Publications (by Alan Eaton at UNH CE website www.extension.unh.edu)

Apple tree borers	Bird damage Prevention	Blueberry fruit fly
Using traps for Blueb fruit fly	Blueb stem borer	Chokecherry, source of X Disease
Corn rootworms	Home fruit Spray Sched	Imported Cabbageworm
Visual Aids for Insect Monitoring	Peach tree borers	Raspberry cane maggot
Raspberry crown borer	Slugs	Spotted wing drosophila & monitoring
Squash vine borer	Sweet corn pest mgmt.	Setting up traps, for sweet corn insects.
Ident sweet corn caterpillars	Ident moths in sweet corn traps	
Tarnished plant bug bio-control	Three-lined potato beetle	Tomato hornworms
Voles in orch & highbush blueb.	Seasonal household Insect Invaders	

General Gardening, flowers, pollinators, ornamentals (at UNHCE website)

How Insecticides Work	Think Before You Buy a Pesticide	Lily Leaf Beetle
10 easy steps to prev diseases	Insect Pests of Home Lawns	Lawn Diseases
Powdery Mildew in Lawns	Beetles on Ornamental Plants	
Pollinator plants for Northern New Engl Gardens		Bee Nest Box Guidelines
Planting for Pollinators	Pollinating Fruit Crops	

Indoor/yard/public health publications (at UNHCE website)

Bedbugs	Black Flies	Contr Wasps, Bees & Horn. Around Homes
EEE (and mosq mgmt)	Fruit Flies	Horsehair worms
Insect Repellants	Multi-colored Asian Ladybug	Biol & Mgmt of Ticks in NH
Springtails	Seasonal Household Insect Invaders	
Slugs	Dealing with Woodchucks	

Pesticide Applicator Training Fact Sheets (I didn't list all at UNHCE Website)

Aphids	Apple maggot	Cabbage looper
Cabbage maggot	Carpenter ants	Cluster flies
Codling moth	Colo potato beetle	Corn earworm
Cutworms	European corn borer	European red mite
Plum curculio	Raspberry cane borer	Redbanded leafroller
Seed corn maggot	Strawberry weevil	Tarnished plant bug

Coming soon to UNHCE website:

Beneficial Insects in New Hampshire Farms & Gardens. (22 pages, 70 color photographs)

Supplies (magnifiers, insect traps & lures, insect nets, some texts):

Great Lakes IPM 10220 Church Rd, NE Vestaburg, MI 48891 (800) 235-0285 FAX: 929-268-5311

<http://www.greatlakesipm.com>

Gempler's 100 Countryside Drive P.O. Box 270, Belleville, WI 53508 (800) 382-8473

<http://www.gemplers.com/>

Ladd Research Industries, Inc. 83 Holly Court, Williston, VT 05495 (800) 451-43406 (Ladd has a limited number of traps) <http://www.laddresearch.com/Traps/traps.html>

Spun-bonded Row Covers and Protective Netting

Remay floating row covers are distributed by various garden supply dealers

Brookdale Fruit Farm, Broad St, Hollis 465-2240 www.brookdalefruitfarm.com (floating row covers, Protek net insect netting is placed with their irrigation supplies)

Alan's tips on managing garden insect pests while minimizing chemical pesticide use:

Don't rely on pesticides as scheduled chemical insurance against pest problems.

Suppression/Prevention: make & use a garden plan. Rotate crops. Use resistant varieties. Destroy crop residues right after harvest is complete for that variety. Provide nectar & pollen sources. Emphasize pest easy crops; de-emphasize growing pest-prone crops. Control weeds.

Monitoring: use magnifiers if you can't easily see (to identify) small critters. During the off-season, study what pests are common on your crops, for your area, and be ready. Learn to recognize beneficial insects. **DO NOT BUY JAPANESE BEETLE TRAPS.** Know that most insect traps are to monitor, not control pests.

Controls: handpicking can be efficient method (milk jug method). Row covers or netting can work well. Tar paper shields for cabbage maggot. Cutworm collars for transplants. Surround for caterpillars, JB, CPB, Plum curculio, others. B.t. (Dipel and other brands) for caterpillars. Before spraying a chemical, weigh the positive and possible negative effects.

Reduce spray risks to pollinators: avoid using the chemicals that are highly toxic to bees (read label). Dusts are the most toxic formulation for a pesticide (with respect to bees). Dusk: best time of day to reduce spray risk to bees. Avoid applying insecticide (except B.t.) to blossoming plants. Consider insect-killing nematodes for soil insect control. Consider soap sprays for soft-bodied insects. Buy & release parasites/predators? Use not if outdoors. Learn to recognize beneficial insects.

Preserve/Protect Pollinators: Conserve areas for bee foraging & nesting. Minimize your dependence on chemical insecticides. If using chemical insecticides, select those with lower risk to bees. Maintain plant diversity... offer a variety of nectar & pollen sources through the growing season. Set hay bales for bumble bees?