

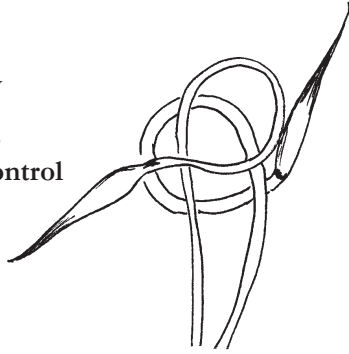


## NEW HAMPSHIRE VEGETABLE, BERRY & TREE FRUIT NEWSLETTER

Volume 3:6

June 2007

- Keeping birds at bay
- Organic bait options for Slug and Snail control
- Upcoming Events & Meetings



### Some general tips on repelling birds:

- Birds invade sweet corn fields about three days before picking. Time any control techniques so they are in place BEFORE harvest, and stay until harvest is complete.
- Use multiple tactics that reach more than one sensory mode. For example, combine scare-eye balloons with auditory repellents like shellcrackers or distress calls. This is likely to be more effective than using one tactic alone.
- Move devices frequently. Birds can learn and become habituated to any device that is used for a long time in one place.
- Good insect control will reduce the corn's attraction to birds. Birds eat insects, which is good, but they also like succulent grains of sweet corn and apparently can't tell the difference. And, they cause a lot more damage than most insects do.
- After harvest, scare devices can be removed from one block and concentrated in the next block. Some growers then allow birds to scavenge in the old block. A method that some growers say works is to rotary mow or disc the interior blocks of the previously harvested fields. Birds like to feed on the ground because it is easier than clinging to an ear, but they prefer perching nearby for protection and rest.

### KEEPING BIRDS AT BAY – TAKE A DIVERSIFIED APPROACH

Whether you grow fruits, vegetables, or both, birds can cause major damage throughout the season. Ravens and crows can pull up and consume nearly all of a direct-seeded cucurbit planting before it even germinates. Any of a number of species, primarily starlings and blackbirds, can render a mature corn planting unmarketable in a matter of hours, and blueberry growers in the Northeast estimate that birds consume 30% of their blueberry crops, on average.

Preventing bird damage is best done before the damage occurs, since feeding is a learned behavior. Unfortunately, there is no one simple solution, and taking a multi-pronged approach is most likely to be effective. Below I have reprinted a nice article from the UMass Veg Notes that summarizes several of the options available to vegetable growers.

#### PREVENTING BIRD DAMAGE

**by Ruth Hazzard and Ben Hunsdorfer.**

Bird damage in sweet corn is always worse in a dry year. It is better to take action in advance of the problem, because once birds get in the habit of feeding on your corn, it will be harder to stop them! Redwing blackbirds and other birds are causing serious crop losses in some fields. There is no easy answer and no guarantee that a particular tactic will work.

### Sweet corn topping

A new technique that is being studied and tested in NYS is to 'top' the corn. At the 2004 New York State Fruit and Vegetable Expo in Rochester, NY, Gary Sweet, a grower from Ohio, reported that for many years he has been "topping" his sweet corn. Topping according to Mr. Sweet is the removal of the top of the corn plant from just above the silk or top of the ear, after pollen shed and pollination. He listed the advantages of topping his sweet corn as the following:

continued .....

- 1) 2 to 3 days early harvesting compared to un-topped
- 2) Improved picking ease (and happier pickers)
- 3) Reduced bird damage
- 4) Reduced lodging due to wind.

Other benefits may also include better spray coverage. To test this, and evaluate possible negative effects as well, Chuck Bornt and Ted Blomgren of the Capital District Vegetable Program, Cornell Cooperative Extension, completed a controlled study on two farms during the 2004 growing season. They tested it in early and late plantings, with topping at different corn stages (just after pollination, and after dried silk) and different heights (just above the ear, or with two flag leaves remaining). Topping was completed using a handheld gas powered weed wacker with a blade for different treatments. There were no yield differences except where early corn was topped low, at one site; early corn also showed earlier yields by 2-3 days. At one location where bird damage pressure was high and no other bird controls were used, bird damage was significantly reduced where topping had occurred compared to un-topped plots, which resulted in higher marketable yields. For the complete report, please visit the UMass Vegetable Program website for vertebrate pest control. ([http://www.umassvegetable.org/soil\\_crop\\_pest\\_mgt/vertebrate\\_pests/index.html](http://www.umassvegetable.org/soil_crop_pest_mgt/vertebrate_pests/index.html)).



UNTOPPED

TOPPED

## Visual scare devices

Eye-spot balloons and reflective mylar ribbons are effective and fairly economical for small fields. Many growers are using these silent deterrents and the general feeling is that they are fairly effective, especially when combined with auditory deterrents. Growers report that the following methods make balloons more effective: use at least 8 balloons per acre, place them in the field several days before harvest, and leave the previous block standing, without balloons, to allow birds to feed in older corn.

## Auditory Scare Devices

Exploders are gas fired cannons placed in the field and fire with automated discharge timings. These can be quite effective. Cannons are available from some agriculture supply sources. Do check with your farm neighbors and the local police to let them know what you are going to do. Cannons are very loud.

Shellcrackers are 12 gauge shotgun shells in which the lead shot has been replaced with a bulldog firecracker. When fired from a shotgun, this firecracker travels 75 to 150 yards and explodes in the air with a loud report. Use a single shot, inexpensive 12 gauge shotgun as the loads are very corrosive. Firing a few rounds early and late in the day will unsettle birds. Federal permits are not required. Again, notify local police and neighbors to let them know what you are doing. Check on local town ordinances. This method can be satisfying on a short term basis. The disadvantage is that it requires a person to take time in the field to discharge the shellcrackers. For a more detailed fact sheet on shellcrackers and other prevention devices, contact USDA Wildlife Services (413-253-2403).

## Here are three sources for shellcrackers:

### Reed-Joseph International Co.

P.O. Box 894  
Greenville, MS 38702  
(800) 647-5554

### Margo Supplies Ltd.

Site 20, Box 11, RR#6  
Calgary, Alberta, Canada T2M 4L5  
(403) 652-1932

### Sutton Ag Enterprises

1081 Harkins Rd.  
Salinas, CA 93901  
(866) 482-4240

## Distress Calls

Recordings of distress calls or the calls of predatory birds, which repeat at regular or random intervals and operate on battery or solar-power, can be quite effective. Because flocking birds are very responsive to the signals from others in their flock, a distress call from one bird is a sign to all the

others that an area is unsafe. These have become quite sophisticated, with programmable or random call intervals that help to overcome birds' ability to get used to regular sound intervals. Make sure you are using a distress call that matches the bird species you need to scare away.

**Here are some sources:**

### **OESCO**

Box 540, Rte 116  
Conway, MA 01341  
800-634-5557 or 413- 369-4335.  
www.oescoinc.com

### **BirdGuard Bird Control Products,**

Erie, PA 16507  
800-331-2973  
E-Mail: info@birdguard.com,

### **Birdbusters**

300 Calvert Ave  
Alexandria, VA 22301  
(703) 299 8855

### **Bird-X, Inc.**

300 Elizabetb Ave.  
Chicago, Ill 60607  
(800) 860-0473

### **Gemplers'**

PO Box 270  
100 Countryside Dr.  
Belleville, WI 53508  
(800) 382-8473

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*Reprinted from UMass Vegetable Notes Volume 16, No. 15, August 11, 2005*

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The methods described by Ruth are probably the most cost effective for vegetable growers. Fruit growers have a few other options such as:

### **Netting**

The single most effective method of preventing damage is exclusion, by which I mean netting. It's true that netting is the simplest solution when dealing with very small areas (e.g. gardens or a few fruit bushes). While netting is not feasible for vegetable crops, it can work very well for perennial fruit plantings. One New Hampshire blueberry farm nets seven acres of blueberries each year. This works for them with minimal labor because they have a permanent support system in place and have modified a corn sprayer to hold and move large pieces of netting over the bushes quickly. Each year, they put the netting up prior to the first ripe fruit, and leave it up until harvest is done.

**See blueberry netting in person!** If you are interested in seeing how large-scale netting works, I would encourage you to come to watch the installation. Mike Snow and Bill and

Heidi Bartlett of Bartlett's Blueberry Farm in Newport, NH will be hosting a twilight meeting on Tuesday, July 3, 2007. We will see their netting setup and will also discuss blueberry crop and pest management. For more information or directions, please contact Seth Wilner, UNH Cooperative Extension Educator in Sullivan County, at 603-863-9200.

### **Chemical Repellents**

Years ago, the effective avian repellent methiocarb (Mesurol) was labeled for use on fruit crops. Methiocarb is no longer available, and none of the remaining options work as well. The most effective of the current alternatives is methyl anthranilate (marketed as ReJeX-iT, FruitShield, BirdShield and others). Methyl anthranilate (MA) is chemically similar to the major flavor component of Concord grapes, and is manufactured in large quantities by food processors. Several studies have evaluated its efficacy in deterring or repelling birds. When different repellents have been compared, MA often has been the most effective of the options tested. However, field trials have given variable results, depending on the crop, the bird species, and the MA concentration. While there have occasionally been statistically significant reductions in feeding, particularly in the short term after application, these differences did not correspond to less actual fruit consumption by the end of the studies. Overall conclusion – the material might help reduce bird damage, but there is little in the way of field evidence to suggest it will be highly effective. It will certainly not be as effective as netting. At high rates (which would be more effective at deterring), there is also a risk of phytotoxicity.

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### **NEW ORGANIC BAIT OPTIONS FOR SLUG AND SNAIL CONTROL**

Organic growers that experience major slug damage now have a new tool to help them prevent these losses. Recently, the Organic Materials Review Institute (OMRI) listed "Sluggo" and several other brands of iron phosphate slug and snail bait on their list of brand name materials approved for use by certified organic growers. As with other 'restricted' materials, it can only be used if other management practices are insufficient to prevent or control the slugs.

Slugs and snails damage can be particularly significant on many types of crops, particularly on young crops when soil moisture and relative humidity is high. Snails and slugs (which are shell-less snails) need high humidity and undisturbed soil to develop and reproduce. According to Alan Eaton, UNHCE IPM Specialist, some of our common slugs are European and some are native. However, all of our common species spend most of their time underground or under debris, and come to the surface at night to feed.

There are many slug control options. Slug damage can be reduced by making an inhospitable habitat (dry and warm) by

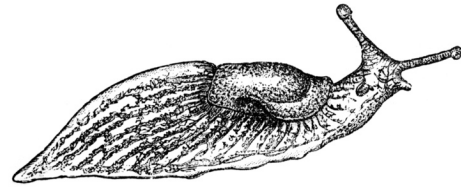
removing items which could serve as shelters (deep mulches, boards, rocks, etc.). Slugs can also be controlled by trapping. Shelters such as boards and rocks can be used to trap slugs, but in order to be effective, slugs must be regularly removed and destroyed. Fermented liquids (a mixture of yeast, sugar and water, or beer – see below) placed in submerged cups in the ground can also be used as traps in which slugs will drown.

Slug baits are probably the most reliable and efficient method of slug control. Commercially available baits or pellets contain molluscicides, poisons that kill snails and slugs. Two chemicals are licensed and formulated into slug and snail baits for use on home gardens and on food and seed crops in the United States - metaldehyde and iron phosphate. Of these, iron phosphate is far less toxic and has been shown to be just as effective as metaldehyde baits for slug control.

Iron phosphate is considered by the U.S. Environmental Protection Agency to be GRAS (generally regarded as safe) for food use. No toxicity has been seen in mammals, birds, or fish. It is applied to soil as part of a pellet that also contains bait to attract snails and slugs. It is not volatile and does not readily dissolve in water, which minimizes its dispersal beyond where it is applied. This also means that it will remain effective after repeated rain events, unlike metaldehyde. Snails and slugs are more sensitive to the effects of iron phosphate than are other organisms. When the pests eat the pellets, the iron phosphate interferes with calcium metabolism in their gut, causing the snails and slugs to stop eating almost immediately. They die three to six days later.

Iron phosphate slug and snail baits, originally used in Europe, have been registered in the United States since 1997. These are sold as pelleted bait, typically applied to the ground around plants or crops. Several slug bait products containing iron phosphate are registered in NH. When I checked the Division of Pesticide Control website, seven products were listed: Sluggo, Sluggo Plus, Bonide Slug Magic, Spectracide Snail and Slug Killer, Bayer Advanced Dual Action Snail and Slug Bait, Worry Free and Garden Safe Slug and Snail Bait. Two of these, Sluggo and Garden Safe Slug and Snail Bait, are also listed on the OMRI list of approved brand name products. In case of any question, it's always a good idea to contact your certifier before you purchase a product. And as with any pesticide, always follow the label instructions!

Lest you all think my newsletters tend to be a touch on the dry side, I'll include, strictly for entertainment purposes, some relevant song lyrics that Alan Eaton sent me when I asked him to confirm some slug facts for me.



**Now slugs is bugs that nobody loves but  
everybody understands  
Cause they look disgusting, and they taste  
disgusting  
And they feel disgusting in your hands**

**But of all the little bugs that grow in the  
garden  
Slugs have a special place in my heart  
And they never quit drinking once they start  
So come on down, lets go out and have a slug  
drowning party tonight**

**No they can't tell if they're floating in Gui-  
ness or sinking in Miller Light  
They ain't particular and they go no taste  
And they'll drown in any beer in sight  
So come on down, let's go out, and have a  
slug drowning party tonight!**

- From Dan MacArthur's 'Yucky Bugs'.

Information obtained from Ohio State University fact sheet HYG-2010-95, the U.S. Environmental Protection Agency, and the Organic Materials Review Institute (<http://www.OMRI.org>). Clipart courtesy the Florida Center for Instructional Technology.

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## UPCOMING MEETINGS AND EVENTS

*Tues. July 3. **Highbush Blueberry Twilight Meeting.*** Bartlett's Blueberry Farm, Newport, NH. On this farm, 7 acres of highbush blueberries are netted each year for bird control. We will show the netting process and discuss cultural and pest management strategies. Contact: Seth Wilner, (603) 863-9200. **SF.**



*Mon. July 9. **Controlling Weeds: The basics for fruit and vegetable growers, Twilight Meeting.*** Brookdale Fruit Farm, Hollis NH. This on-farm meeting is a followup of the three-part educational series on weed control presented in November 2006. Dr. Richard Bonanno, UMass Extension Weed Specialist, will be the featured presenter. Contact: George Hamilton, (603) 641-6060. **SF, TF, V, PAT.**

*Thurs. July 12. **Summer meeting of the Massachusetts Fruit Growers' Association, Inc.*** Bolton Orchards, Bolton, MA. In cooperation with the UMass Fruit Program. For info, see <http://www.umass.edu/fruitadvisor> or <http://www.massfruitgrowers.org>. **TF.**

*Sat. July 14. **Farming with Horses, Biodynamics and Serendipity.*** Hillside Springs Farm and CSA Garden, Westmoreland, NH. 11AM. NOFA-NH Potluck lunch and farm tour. For info, see <http://www.nofanh.org>, 603-224-5022 or email [info@nofang.org](mailto:info@nofang.org). **V, O.**

*Thurs. July 19. **Raised Beds and Companion Planting Market Garden Tour.*** Beetle Hill Farm, Warner, NH, 6-8PM. NOFA-NH farm tour. For info, see <http://www.nofanh.org>, 603-224-5022 or email [info@nofang.org](mailto:info@nofang.org). **V, O.**

*Tues. July 24. **Tree Fruit Growers' Twilight Meeting.*** Birchwood Orchard, Mason NH. Larry and Mary Pierce will host this meeting for commercial tree fruit growers. Bill Lord, retired UNHCE Fruit Specialist, will demonstrate summer pruning of peach trees. Contact: George Hamilton, (603)641-6060. **TF, PAT.**

*Tues. June 24. **UMass IPM Field School.*** Foppema's Farm, Northbridge MA, 4-7pm. Hands-on training for pest monitoring in vegetable crops. This meeting features disease identification and management in cucurbits, scouting for summer insects in sweet corn, and blueberry IPM. Contact: (413)577-3976 [umassvegetable@umext.umass.edu](mailto:umassvegetable@umext.umass.edu). Workshop fee \$20. **V, TF, SF, PAT.**

*Mon. July 30. **Organic Vegetable Production for CSA Farm Tour.*** Willow Pond Community Farm, Brentwood, NH. 6-8PM. NOFA-NH farm tour. For info, see <http://www.nofanh.org>, 603-224-5022 or email [info@nofang.org](mailto:info@nofang.org). **V, O.**

*Tues. July 31. **NH Vegetable and Fruit Growers Twilight Meeting.*** Edgewater Farm, Plainfield, NH. Pooh and Anne Sprague operate a highly diversified farm featuring bedding plants, strawberries, blueberries, mixed field vegetables, and greenhouse tomatoes. We will tour the farm and learn about how they produce and market their crops. UNHCE specialists will be on hand to answer questions. Contact: Seth Wilner, (603) 863-9200. **SF, V, PAT.**

*Wed. Aug. 8. **NH Vegetable and Fruit Growers' Twilight Meeting.*** Woodman Horticultural Farm, Durham NH. 4:30-7:30pm. See and hear about the latest UNH research on vegetable crops, ornamental horticulture, fruit crops, and more, and enjoy local refreshments! Contact: Suzanne Hebert, (603)862-3200 or [suzanne.hebert@unh.edu](mailto:suzanne.hebert@unh.edu). **V, SF, TF, PAT.**

*Wed. Aug. 8. **UMass IPM Field School.*** Golonka Farm, Hatfield MA, 4-7pm. Hands-on training for pest monitoring in vegetable crops. This meeting features scouting and management of midsummer diseases and pests of brassicas, tomatoes, cucurbits, and sweet corn. Contact: (413)577-3976 [umassvegetable@umext.umass.edu](mailto:umassvegetable@umext.umass.edu). Workshop fee \$20. **V, PAT.**

*Fri-Sun. Aug 10-12. **Annual Northeast Organic Farming Association (NOFA) Summer Conference.*** Hampshire College, Amherst, MA. See <http://www.nofamass.org/conferences/s2007/index.php> for the latest info, or call NOFA-MA at (978) 355-2853. **AC, O.**

*Mon. Aug 13. Redesigning the farm plan for farm sustainability.* Longhaul Farm, Holderness, NH. Workshop and farm tour. Pre-registration and a \$25 fee is required for this workshop. For info, see <http://www.nofanh.org>, 603-224-5022 or email [info@nofang.org](mailto:info@nofang.org). **V, O.**

*Tues-Wed. Aug 14-15. Annual North American Strawberry Growers Association (NASGA) Summer Tour.* Niagara Falls, Ontario and the Niagara region of New York. See <http://www.nasga.org/> for the latest info, or call NASGA at (613)258-4587. **SF.**

*Wed. Aug. 15. UMass IPM Field School.* Paradise Hill Farm, Westport MA, 4-7pm. Hands-on training for pest monitoring in vegetable crops. This meeting features scouting and management of midsummer diseases and pests of brassicas, tomatoes, cucurbits, and sweet corn. Contact: (413)577-3976 [umassvegetable@umext.umass.edu](mailto:umassvegetable@umext.umass.edu). Workshop fee \$20. **V, PAT.**

*Tues. Aug. 21. Agriculture Research Day.* 4-7 pm UMass Crops Research and Education Center, S. Deerfield, MA. Hear about the latest research on a wide range of topics in vegetable crops, cover crops and crops for fuel. Bring disease samples to a free onsite diagnostic clinic! Registration: \$20 per person (3 or more per farm, \$15 per person). Refreshments will be served. PAT credits requested. Contact: Ruth Hazzard (413) 545-3696 or [rhazzard@umext.umass.edu](mailto:rhazzard@umext.umass.edu). **AC, PAT.**

*Tues. Aug. 21. Annual Meeting of the Cape Cod Growers' Cranberry Association.* 9am - 1pm – UMass Cranberry Experiment Station, Wareham, MA. Contact: CCCGA at 508-759-1041 or e-mail [info@cranberries.org](mailto:info@cranberries.org). **SF.**

*Tues. Sept. 18. UMass IPM Field School.* Howden Farm, Sheffield MA, 4-7pm. Hands-on training for pest monitoring in vegetable crops. Howden Farm is the source of the well-known Howden pumpkin. This meeting will focus on late season diseases and fruit rots, harvest and post harvest handling of winter squash & pumpkins, and view the farm's photovoltaic-powered irrigation system. Contact: (413)577-3976 [umassvegetable@umext.umass.edu](mailto:umassvegetable@umext.umass.edu). Workshop fee \$20. **V, PAT.**

*Sept. 21-23. Maine Organic Farmers' and Gardener's (MOFGA) Common Ground Fair.* Common Ground Educational Center, Unity, Maine. For more information, see <http://www.mofga.org> or phone (207) 568-4142. **O, AC.**

*Tues-Thurs. Dec 11-13. New England Vegetable and Fruit Conference.* Center of NH Radisson Hotel, Manchester, NH. Three days of fruit, vegetable, and flower information, networking, tradeshow, and much more. Visit <http://www.nevbc.org/> for the most up-to-date information. **SF, TF, V, F, O, PAT.**

**Meeting topics:** F = flower, O = certified organic, SF = small fruit, TF = tree fruit, V = vegetable, AC = all crops. PAT = pesticide applicator recertification credits available.