



# VEGETABLE IPM MESSAGE

MAY 24, 2001

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## CROP CONDITIONS

The clouds that teased us throughout the week have finally opened up and given us some much needed rain. It has been coming down in a nice, steady drizzle, rather than a deluge, which could injure the young plants. Distribution of the rain has been patchy throughout the state over the last day or so, ranging from no rainfall in Waltham to a high of .85" in Worthington. Most locals have received between .25 and .75" of rain. The rain and drizzle predicted for the next few days, a total of one inch, combined with this cool, overcast weather will take care of the dry conditions for awhile. Uneven germination of sweet corn due to the dry conditions has been reported, though planting continues. Herbicide applications, however, have been delayed. Other vegetables continue to be planted, but some growers have been holding out for the rain. Asparagus and rhubarb are being harvested.

## NEW WEBSITE AND ADDRESS

Our new website is up! Check it out at the new address: [www.umassvegetable.org](http://www.umassvegetable.org). Send any comments about the new site to: [webmaster@umassvegetable.org](mailto:webmaster@umassvegetable.org), or call Ruth Hazzard at: 413-545-3696.

## DRY TRANSPLANTS

All this dry weather has led to a few farm visits to look at recently transplanted vegetables that appear to be drying out,

although the trickle irrigation is on. We have come up with a couple of explanations about what we may be seeing in these situations.

First, transplants are grown in trays in the greenhouse in a soil-less mix specifically designed to maximize water availability and minimize drying out of the seedling. Placing the moist transplant root-ball into dry soil will tend to wick water away from the root-ball. Thorough watering while transplanting is a must, but be aware that in unusually dry years, more water may be required than in past years.

A second area of concern in water supply for young plants is the placement of the trickle irrigation tape. In loose sandy soil there is little movement of water laterally away from the drip tape emitters. Water availability decreases dramatically as you move away from the drip tape. Depending upon where the drip tape is placed under the plastic mulch at the time it was laid down, it could be 6-12 inches away from the site of the new transplant. This may mean that, while drip tape irrigation would be fine for a mature plant with a large established root system, the transplant roots are receiving very little water even though the trickle irrigation is on.

Close monitoring of the water status of the soil around the transplant will help to eliminate drying out of the new plants. Supplemental irrigation may be necessary if the plants are experiencing water stress.

--Chris Gunter, from *Vegetable Crops Hotline*, No. 390, May 16, 2001, Purdue University Cooperative Extension Service.

## PREVENTING FERTILIZER INJURY THIS SPRING

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This spring's dry conditions have been excellent for planting but growers need to take special care when it comes to banding their fertilizer. All nitrogen and potassium fertilizers add soluble salts to the soil. These salts are capable of burning tender roots of germinating seeds. Crops that are especially sensitive include snap and dry beans, carrots and onions, while corn, cabbage and lettuce are moderately sensitive. Fertilizer injury occurs most often in dry springs and when fertilizer bands are placed too close to the seed. To prevent injury, keep the amount of N + K<sub>2</sub>O below 80 to 100 pounds per acre in the band. Phosphorus will not cause burning and does not figure into the equation. Make sure the band is placed 2 inches below and two inches to the side of the seed furrow. If you need a higher rate in the band, move the band further from the furrow. Also, using liquid fertilizer is just as hazardous as dry fertilizer. Many grower incorrectly assume that liquid starter is safer do to the extra water applied. However, the amount of water actually added on a per acre basis is miniscule, far below the amount of water necessary to prevent salt injury. In addition to salt injury, materials containing nitrogen may produce an injury due to a high concentration of ammonia. These include fertilizers containing urea, diammoniumphosphate (DAP), or anhydrous ammonia. Exceeding 30 pounds of N as urea or DAP (either in combination or alone) in bands at planting may cause seedling injury. If anhydrous ammonia will be used preplant or as a preemergence source of N for sweet corn, it should be injected as far as possible from the seed. If you realize there was a problem after planting, irrigating as soon as possible is recommended. The water will dilute the fertilizer salt and leach some of it away from the seed.

*-- Steve Reiners, Associate Professor in Horticultural Sciences, Cornell University, Geneva.*

## GET YOUR COMPOST ANALYZED!

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Many growers have access to organic waste materials such as manure, horse bedding, lawn clippings, or leaves and are producing compost on their own farm. Others are purchasing compost from off-farm. If you are applying compost to your fields, you should know its composition – just as you need to know the composition of a fertilizer. Also, it is important to know if the decomposition process is complete – if your compost is "finished".

Many farmers are more knowledgeable about how to make compost than they are about the nutrient availability from compost in production agriculture. In most cases, finished compost is classified as a soil conditioner rather than a fertilizer due to the relatively low levels of nitrogen, potassium, and phosphorus. Finished compost adds these elements, and others, but releases them over a longer period of time than chemical fertilizers.

A compost is considered mature (i.e. finished) when the energy and nutrient-containing materials have been combined into a stable organic mass. The composting process results in a dark-brown material in which the initial constituents are no longer recognizable and further degradation is not noticeable. The length of the time needed to achieve finished compost will vary with many factors and can take anywhere from a couple of weeks to over a year.

Making sure that a compost is finished before adding it to the soil is very important. Application of an unfinished, carbonaceous compost could adversely affect plant growth since the compost may have its own demand for nutrients as the breakdown to maturity continues in the soil. In addition, immature composts made from nitrogen-rich feedstocks are often high in ammonium, which can be toxic to plant growth. Because of the risks with use of immature composts, farmers would be wise to allow a period of at least a week between application of any compost to land and planting or seeding of crops.

Finished compost is a dilute fertilizer, having an analysis of about 1-1-1 (N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O), but varying with regard to the original materials that were incorporated into the pile and how they were composted.

### **Compost Analysis**

In response to the increased interest and use of composts by farmers, the UMass Soil and Plant Tissue Testing Laboratory offers a compost test. The test will analyze the following: Extractable major and minor nutrients (phosphorus, potassium, calcium, magnesium, zinc, boron, iron, manganese and copper), water content, pH, organic matter, total nitrogen, nitrate, ammonium, carbon: nitrogen ratio, soluble salts, and extractable heavy metals (lead, cadmium, nickel and chromium). The current cost for this test is \$25.00. Contact the UMass Soil and Plant Tissue Testing Laboratory to receive more information about getting your compost analyzed.

UMass Soil and Plant Tissue Testing Laboratory  
West Experiment Station  
University of Massachusetts  
Amherst, MA 01003  
(413) 545-2311

### **Making Compost**

If you are interested in learning more about making compost on your farm, you can order hands-on manuals from the Natural Resource, Agriculture, and Engineering Service (NRAES) located at Cornell University. Two manuals available are On-Farm Composting Handbook (\$25.00) and Field Guide to On-Farm Composting (\$14.00). You can get information on ordering these resources from their webpage (<http://www.nraes.org/>), or contact them at (607) 255-7654, or [NRAES@cornell.edu](mailto:NRAES@cornell.edu).

--Frank Mangano (978 422-6374), Allen Barker, and Steven Bodine

## **SWEET CORN**

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### **Time to monitor European corn borer flights.**

It's time to set up and monitor European corn borer traps. ECB have been found to the west in New York, and we have found 4 ECB strain Z-11's here in the CT river valley. Why trap for

them? Trap data tells you when the flight begins, how heavy it is at your farm, and maybe even more important, when it ends. To determine if and when to spray the tassel, you have to get out and scout the field -- traps won't tell you that. But they *will* tell you if your early corn will need sprays for corn borer during silking. Especially with corn started under plastic or row cover, silking may begin while ECB flight is still high. At that stage, egg masses are deposited on leaves near the ears, and new larvae tend to move directly into the ear. You might not see this with scouting. If flight remains high during silking, controls may be needed.

So -- now is the time to get ECB traps set up! Use two *Heliothis Scentry*<sup>TM</sup> traps, one baited with the lure for the Z (Iowa, I) strain and one for the E (New York, II) strain. The moths and larvae of these two strains of ECB look identical, but the male moths respond to a slightly different chemical blend wafting on the night air.

Place in weedy borders near early corn, with the base of the trap close to the top of the weed canopy. As ECB moths prefer the humid, protected areas of weedy borders, more are captured there. Place traps at least 50 feet apart to prevent cross-contamination of the pheromone plume that attracts the male moths. Hang lures in the center of the lower opening. Traps cost about \$50 each and lures about \$2.00 each. The field life of each lure is 3-4 weeks according to the supplier; however, we usually change lures every 2 weeks. Lures should be stored in the freezer until they are used. Lures from previous years that have been kept frozen will be perfectly good this year.

The following businesses provide traps and other IPM supplies. There may be others that are not included; lack of inclusion does not imply lack of endorsement.

--Gempler's (general supplier) P.O. Box 270, Mt. Horeb, WI 53572 (800) 382-8473

--Great Lakes IPM (general supplier) 10220 Church Street, NE, Vestaburg, MI 48891 (517) 268-5693

--Trece, Inc. (manufacturer of pheromone lures and traps) P.O. Box 6278, Salinas, CA 93912 (408) 758-0204

# POTATO AND TOMATO

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Be on the look out for the appearance of overwintering adult Colorado potato beetles because they should be starting to feed on the edges of tomato and potato fields. Look for both feeding damage and egg masses. Scout the edges of fields for hot spots that contain 1 adult/plant and treat with Thiodan, Guthion, Sevin or Asana. Admire or Provado should be saved for when the whole field is heavily infested. After the hot spots of overwintering adults have been controlled scout the field for the yellowish orange egg masses deposited in clusters on the underside of leaves. If greater than 5% of the plants scouted are infested with egg masses and greater than 30% of the egg masses have hatched start trying to control the population first with SpinTor or M-Trak (a Bt product) because they are less harmful to beneficial insects. Rotate between SpinTor and M-Trak as long as they are effective.

*--from Pestminder Vol. 8, Letter 2, May 16, 2001,  
Cornell University.*

## **Monsanto Shelves GM Potato Line**

Monsanto has decided to cease seed production of its six-year-old genetically modified (GM) potato, and will stop selling GM seed to U.S. and Canadian potato farmers after this spring. The NewLeaf potato contains a gene from a microorganism to make a toxin that repels the Colorado potato beetle. Monsanto advertised the potato as a way farmers could greatly reduce their pesticide costs, but NewLeaf never captured more than five percent of the potato-seed market. Last year McDonald's Corporation told its french-fry suppliers to stop using the potato. As a result, J.R. Simplot Company, a major maker of french fries, instructed its farmers to stop growing NewLeaf

potatoes. Monsanto is the only U.S. company to have launched a GM version of the tuber.

*--adapted from Entomological Society of America Newsletter*

## **UPCOMING TWILIGHT MEETINGS**

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### **\*Greenhouse Demonstration - Biological Control of Thrips and Flood Floor Irrigation**

**Wednesday, June 20, 2001, 12:30-3:30 PM**

**Location: Applefield Farm, 70 Old Bolton Rd., Stow, MA**

**Host: Steve and Kirsten Mong**

All commercial growers are welcome to attend this greenhouse demonstration. Biological control topics will include a demonstration using a mechanical mite applicator to apply predatory mites for thrips management, discussion of spring research trial results, cost analysis and mite release information and pesticide compatibility with natural enemies. In addition, attendees will have an opportunity to see and learn about a flood floor system that is used in 11,000 sq. ft of greenhouses for spring crops. For a program flier and pre-registration form, contact Tina Smith 413-545-5306 or Paul Lopes 508-295-2212 ext. 24, University of Massachusetts Extension Floriculture Program.

### **\*Greenhouse and field vegetables, Phytophthora management**

**Monday June 25**

**Calabrese Farms, Southwick.**

Mark your calendar! More details in upcoming newsletters.

*--Tina Smith*

*THERE WILL BE NO VEGETABLE IPM NEWSLETTER NEXT WEEK, MAY 31. NEXT NEWSLETTER WILL BE THURS. JUNE 7*

*Vegetable IPM Message, Ruth Hazzard, Editor. The Vegetable IPM Message is published weekly from May to September and includes contributions from the UMass Extension Vegetable Program faculty and staff, growers, and private IPM consultants. Authors of articles are noted; author is R. Hazzard if none is cited. Send comments or questions to [rhazzard@umext.umass.edu](mailto:rhazzard@umext.umass.edu), 413-545-3696*

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