The Week in Vegetables

Hotter Than July! (Some of you may now hear Master Blaster running in your head... sorry for the earworm!) This is the weather that makes the zucchini grow too fast, the melon vines run, and causes one to wonder if there’s enough water in the soil. By now, heat loving crops should have extensive root systems. But remember that moisture is required for nutrients to be available, since they are dissolved in the water. As tomato fruits begin to think about ripening, maintaining even moisture is critical not only for fruit sizing, but for maintaining availability of $K^+$ and $Ca^{++}$. This is especially so in warm high tunnels. If you have fertigation capability in the field, now would be the time to consider a supplement of $K^+$, but not N or P. Testing should be the basis of these decisions, either by leaf tissue or using your most recent soil test. Don’t take the advice of someone who’s in sales unless they can back it up with evidence and legitimate reasoning.

Diseases to watch for:

Pepper problems are beginning to show up, unfortunately. **Phytophthora blight** or root rot, *Phytophthora capsici* was found in a field of peppers in Cranston this week (see pictures below), after several heavy rain events during hot weather, the perfect storm for this disease. It affects not just peppers, but tomatoes, eggplant, and all cucurbits. This organism, a “water mold”, is related to Late Blight of potato and tomato, but is more insidious in one important way: it remains in the soil for years to come. It shows itself as a whole-plant wilt, and this usually starts at a distinct point in a field and radiates outwards to afflict neighboring plants. Far and away, the best way to manage this disease is to know where the (potentially) wet areas are in your fields and avoid planting these crops in them. Make no mistake: if conditions are right, this disease will spread! If the pathogen is present in the field but the conditions for disease don’t cooperate, there won’t be a problem. Growing on raised beds insures rapid drainage. Getting a definitive diagnosis from your extension service will insure that you know what you are dealing with. There are preventative management tools in the form of fungicide and biological inoculants, and it may be cost effective to use these. The biologicals may hold promise, though this pest management approach is still in its infancy. See UMass for details of the disease life cycle ([https://ag.umass.edu/vegetable/fact-sheets/phytophthora-blight](https://ag.umass.edu/vegetable/fact-sheets/phytophthora-blight)) and the New England Vegetable Management Guide for a list of potentially effective products.

**Bacterial Leaf Spot** [*Xanthomonas campestris* pv. *vesicatora* (Xcv)] affects tomatoes and peppers, but we more commonly see it on peppers- and it has shown up on chili peppers at a South Kingstown farm this week (see picture). Again, the conditions have been perfect: heavy rains and high temperatures. Like phytophthora blight, this disease, too, will spread. Symptoms are irregular brown leaf spots, **without** distinctive halos. Once the disease begins to advance, lower leaves start dropping. It is not uncommon for it to reach a field via contaminated seed, but it can also overwinter on pepper and tomato debris, so rotation is important. Rain splash, mechanical injury to plants by workers, tools, wind or insects are all potential mechanisms of spread. As always, prevention is the best management strategy. One is resistance, but it’s important to have the disease identified to its race in order to select a resistant cultivar. Such cultivars will probably not be available in the diverse world of chili peppers. For a complete list of strategies, see: [https://ag.umass.edu/vegetable/fact-sheets/solanaceous-bacterial-spot](https://ag.umass.edu/vegetable/fact-sheets/solanaceous-bacterial-spot).
Insect pests to watch for:

As of yesterday and this morning, a new entrant into the fray: Tomato hornworm. In the field, they are rarely that much of a problem, but if you are growing indeterminates in a high tunnel, pruned to one or two leaders, they can really take a bite out of your harvest. I have an unproven theory that once a few female moths find their way into a tunnel, they have trouble finding their way out and end up dumping their loads of eggs entirely within a tunnel. I’d probably have to set up video cameras to verify. B.t. kurstaki or aizawi are highly effective controls.

Stay tuned for pepper maggots, which are now emerging from the soil (mid-July to early August), will be laying their eggs on developing pepper fruits shortly. This pest is often local to individual farms or regions, but it is definitely a problem in New England. Monitoring can be done using a perimeter trap crop of cherry peppers. Jude Boucher (just recently retired from UConn) did some excellent research on this pest. You can read about it here: http://ipm.uconn.edu/documents/raw2/Pepper%20Maggot/Pepper%20Maggot.php?aid=57. There are good pictures. Also note that the second flight of European corn borers will happily lay eggs on pepper plants.

Cross-striped cabbage worms have been seen in RI and other parts of New England. They can do a lot of damage in a hurry. Luckily, the same B.t. used to control imported cabbage worm, diamond-back moth, and cabbage looper will also work on these.

Finally, on SWEET CORN, trap catches throughout New England and New York have increased for Corn Earworm and Fall Armyworm. This suggests a 4 to 6 day spray schedule. I was also told of picnic beetle trouble in sweet corn just yesterday. These are small dark beetles with spots that feed on corn silk. They do no damage to the corn itself. While it bothers some people to bring home purchased corn with a few of these beetles present, growers should assure their retail customers that they (the beetles!) are harmless. An additional spray ought not be necessary in order to satisfy consumers.

Additional disease update snippets:

Late blight has not arrived in our area - closest is in DelMarVa and western NY

Downy Mildew of cucurbits has not yet been seen in RI; closest is the eastern NY border with MA

Downy Mildew of basil (10 year anniversary, first found in Florida in 2007) - no reports yet in New England