The Week in Vegetables

Fall crops should be well established by now, in the case of the larger brassicas (hope you’ve got some Rutabagas in). Pay attention to the later-season, voracious Lepidoptera (caterpillars), such as cabbage looper and cross-striped cabbage worm. It is definitely time to do your planning for direct-seeded fall field greens, such as spinach, beet greens, cutting lettuce and smaller salad brassicas, though some of you never stop seeding these throughout the year. In tunnels, there’s still more time. Remember that for late fall/winter crops, the 10 hour day length is a critical cutoff point, and for us, that’s around November 9. That’s 13 weeks away. According to this chart from Johnnys (http://www.johnnyseeds.com/growers-library/vegetables/winter-harvest-planting-chart.html), you ought to get your plans straight now. Sorry to drag you into the winter darkness...

Diseases to watch for:

Cucurbit Downy Mildew (CDM) has arrived at URI. In the photo of cucumber leaves below, you’ll notice how the yellow areas, which start out faintly at first, are clearly delineated by the leaf veins. Here’s another good piece on CDM by Jude Boucher, who just retired from UConn Cooperative Extension: http://ipm.uconn.edu/documents/raw2/Scouting%20for%20Downy%20Mildew%20on%20Cucurbit%20Crops/Scouting%20for%20Downy%20Mildew%20on%20Cucurbit%20Crops.php?aid=77. (Jeez, sorry for the long link...). Oddly enough, it turns out that CDM on Canteloupe has a very different look: distinct round lesions with brown centers. I was fooled, thinking it was Alternaria leaf Blight. Heather Faubert was skeptical of this diagnosis the whole time because she could not find any Alternaria spores, which are very distinct-shaped like a club (see photo below). Also, like Early Blight of tomatoes and potatoes (Alternaria solani), lesions of the one affecting cucurbits develop concentric rings in their lesions. We could find no such lesions.

Downy mildew on cucumber (above) is characterized by angular yellow patches on the upper leaf surface; it has circular lesions on melon (right)

Angular leaf spot (not pictured), a bacterial disease, has been seen recently in Connecticut, as well as here in RI several weeks ago. All of these diseases may be inevitable in a summer with adequate rain fall such as this one, as opposed to the 2016 drought when disease pressure was low.

Alternaria species spores (left) are club-shaped. Photo from University of Florida
Weather Note: Tim Sherman reports from the URI Agronomy farm that July was just about exactly average as far as rain fall and temperatures...

A tomato disease experiment:

A Rhode Island grower is doing an interesting experiment this year because he has *Fusarium oxysporum* sp. *lycopersici* (Race 2), which remains in the soil indefinitely, since it has many hosts, and the grower has limited land. He planted about 40 ‘San Marzano’ plants. Half of them were grafted, which is one known way to deal with vascular pathogens taken up by root systems. Half of the un-grafted plants were treated with Root Shield, which is a preparation of *Trichoderma harzianum*, a fungus which has shown to be antagonistic to numerous pathogenic species. Also, half of the GRAFTED plants were also treated with Root Shield. This is what we call a 2X2 factorial experiment: that is, two treatments (grafting and root shield), both with and without, for a total of 4 combinations. He put these 40 plants in an area of his field that we knew very well was infested with *Fusarium*. We did one disease rating so far, and we will begin to harvest fruits this coming week. We’ll document the weight for each plant. He has a map of the planting that will tell us which plants are which, but as I rate disease and harvest tomatoes, I don’t know which plants have which treatments. This will be interesting- stay tuned for results in October.

Diagnosing *Fusarium* in the field is not easy; it can closely resemble *Verticillium*, which is also a vascular wilt, disease that thrives in plants’ vascular systems, causing them to get plugged. This is usually asymmetrical, which results in leaves turning yellow on one side of the plant, and even on one side of the leaves. But sometimes the leaf yellowing can look like foliar dis-

Summer Cover Crop

If you are able to rotate out of vegetables for several summer months, you can do your land a huge service by growing a lush, biomass-producing cover crop. Over the last several years, there has been an effort to work with a number of different species to find out what works well here in Rhode Island. Among them is Japanese Millet, *Echinochloa esculenta*, which is mainly known as a wildlife forage crop, particularly for game birds. It is also closely related to Barnyard grass, a weed. One great quality is that it’s adapted to grow in a wide pH range, though it does better on silt and clay soils than sand. Our stand is growing on one of our turf fields this year, which is actually pretty gravelly under a thin topsoil. It must have loved the rain this year when it was getting established, because it’s now over 4 feet tall and starting to head. It will get flail-chopped and turned in when all the inflorescences have elongated- we don’t want that to drop seed! Unfortunately, unless you stop by in the next week and a half, you won’t get to see all this biomass when you attend the

**TWILIGHT MEETING ON WEDNESDAY, SEPTEMBER 13, 4 PM- SAVE THE DATE!!!**