VegNet

The Ohio State University Extension Vegetable Crops

Volume 19. Number 13. July 10, 2012. On the WEB at: http://vegnet.osu.edu

In this issue:

1. Super Derecho
2. US Drought Monitor
3. Heat Issues
4. Senate Farm Bill Friendly to Specialty Crops

Super Derecho

Sources: Accuweather.com, NOAA, Wikipedia

While you probably have another "D" word or adjective in mind to describe the storm that hit OH on June 29th, the correct meteorological term is "derecho". A derecho is a widespread, long-lived, straight-line windstorm that is associated with a fast-moving band of severe thunderstorms. Generally, derechos are convection-induced and take on a bow echo form of squall line, forming in an area of divergence in the upper levels of the troposphere, within a region of low-level warm air advection and rich low-level moisture. The June 29th storm went 700 miles from Indiana to the mid-Atlantic coast in just 12 hours at an average speed of 60-65 miles per hour. *Check out the radar graphic below from NOAA.* Wind gusts were clocked at the Ft Wayne, IN airport at 91 mph and the Columbus airport at 80 mph, equivalent to a category 1 hurricane. It maintained this violent wind even when it reached Tuckerton on the south Jersey coast where gusts were clocked at 81 mph. In Ohio, the violent wind snapped power poles in half, blew tractor trailers off the road and quickly took down trees leaving many without electric power for a week or more. The electronic news zipper on the Columbus Dispatch building in downtown Columbus said on Friday night, over 10 million people were without power from the mid-west to the mid-Atlantic coast.

For vegetable growers, this storm flattened many sweet corn fields, stripped leaves from vegetable plants making developing fruit susceptible to sunscald and either damaged or took down high tunnels.

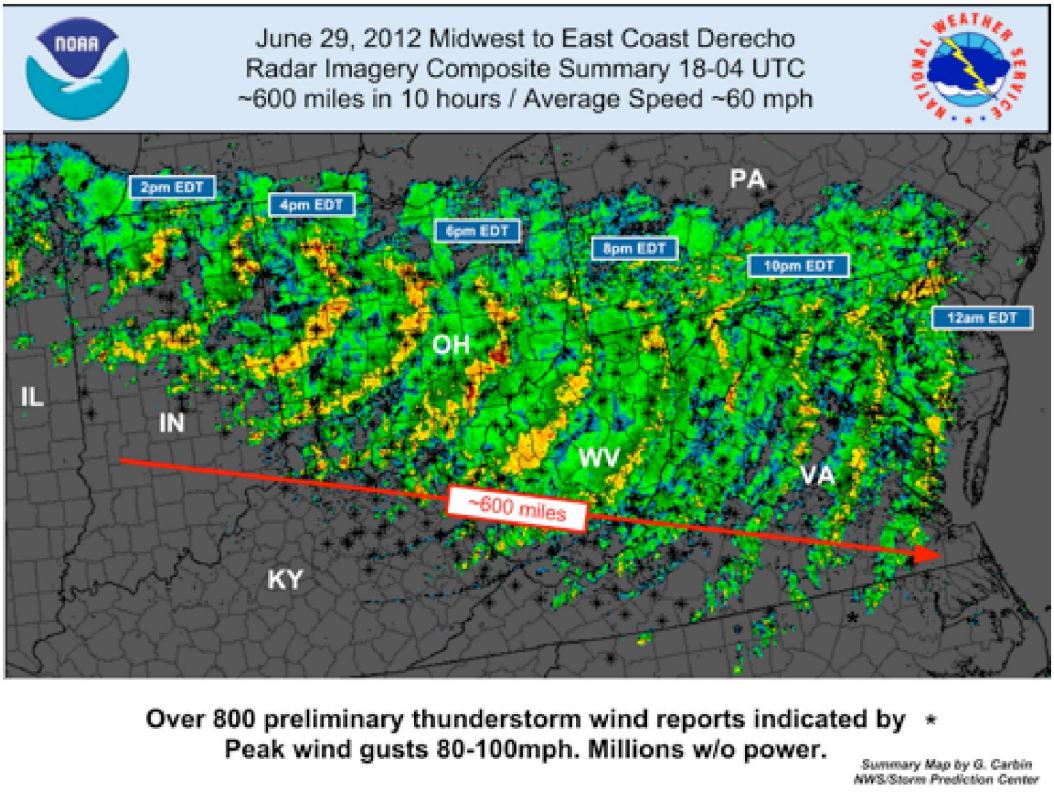
Storm damage to our haygrove tunnels at Piketon

DERECHO DEVELOPMENT

Derecho development necessarily is tied to the formation of bow echoes. A bow echo usually arises from a cluster of thunderstorms, but also may evolve from a single strong storm. Bow echoes most frequently occur when tropospheric winds are relatively strong and unidirectional (i.e., they vary little in direction with height). As the rain-cooled downdraft of a thunderstorm reaches the earth's surface, it spreads horizontally, most rapidly in the direction of the mean tropospheric flow. As the cool, dense air spreads outward, it forces the lighter, warm and moist air surrounding the storm up along the leading edge of the outflow, or gust front. The upward motion along the gust front typically is greatest along that part of the front that is moving most rapidly, that is, in the downwind direction. Gust fronts often are marked by a band of ominous, low clouds known as "arcus." An example of an arcus cloud appears below.

Photo by Brittney Misialek, former WGN Weather Intern

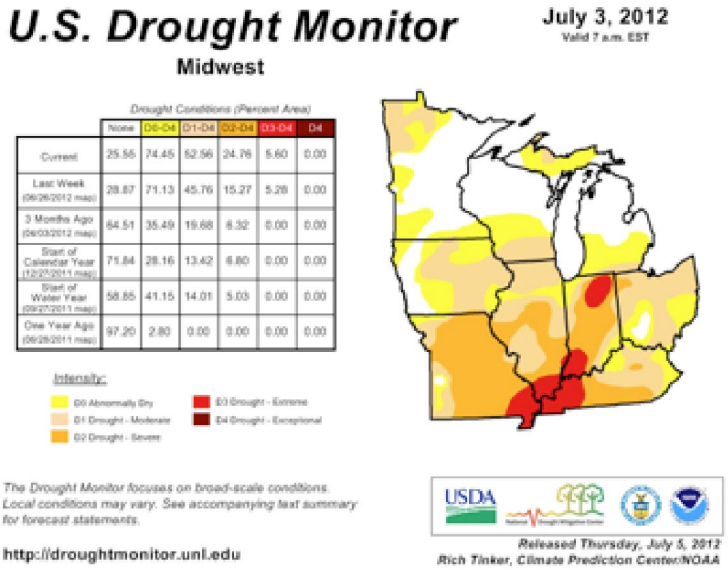
The gust front "arcus" cloud on the leading edge of a derecho-producing storm system.
The photo was taken on the evening of July 10, 2008 in Hampshire, Illinois as the derecho neared the Chicago metropolitan area. The derecho had formed around noon in southern Minnesota.



US Dought Monitor

It may not be clear in the graphic below, but a good portion of northern OH and extending in a narrow band north to south through central OH is considered to be in moderate drought (light beige color) as of July 3, 2012. Yellow areas are considered abnormally dry. The drought monitor is updated every Tuesday and generally posted about 2 days later. In case you can't read it, the URL for the drought monitor is:
http://droughtmonitor.unl.edu/monitor.html
Click on your region and then on your state for more detail.

The data cutoff for Drought Monitor maps is Tuesday at 7 a.m. Eastern Standard Time. The maps, which are based on analysis of the data, are released each Thursday at 8:30 a.m. Eastern Time.



Critical periods of water need for vegetables

Vegetable crops have periods in their life cycles when the need for adequate moisture in the soil is particularly critical for the development of optimum product quality. Knowledge of these periods can help in irrigation scheduling. Here is a quick summary:

- Asparagus – Plant development (brush) following harvest.
- Beans and Peas – from flower to pod enlargement. Too little water can cause flower drop or pods not to properly fill.
- Cucumbers and vine crops – Fruit set and development. Drought can cause flower or fruit drop and even blossom end rot.
- Onion – bulb enlargement.
- Pepper and tomato – flowering fruit set and development to prevent fruit drop. Even moisture supplies to prevent cracking in tomatoes and blossom end rot in both peppers and tomatoes.
- Sweet corn – tasseling, silking and ear development. Lack of moisture can affect pollination, tip fill and flavor quality
- Root crops – during root enlargement to prevent cracking and uneven growth, woody texture.

As conditions remain dry the following workshop maybe of particular interest to many:
Join us next Thursday, July 19, from 6-9 p.m. for our Drip Irrigation Field Night at OSU South Centers. Brad Bergefurd will lead the demonstration and discuss the benefits of drip irrigation, what is needed to install a system, fertilizing tips and more. The cost is $5 per person.
This system is outside so participants should come prepared to stand during the demonstration. If special accommodations are needed, please let that be known when you register.
Registration will be in the Endeavor Center (the first building on the right when you enter the Centers) beginning at 5:30. To register, contact Charissa McGlothin at mcglothin.4@osu.edu or call her at 740-289-2071, ext. 132.
For complete details, go to http://go.osu.edu/DripIrrigation.
Julie Strawser-Moose, Information Associate, OSU South Centers, 1864 Shyville Road, Piketon, OH 45661, 740-289-2071 or 800-297-2072 ext 223, moose.14@osu.edu

Heat Issues

With a week or more of temperatures in the mid 90's to triple digits, you might be seeing some weird things or problems in vegetable fields. The plant temperature at which plant tissue dies is usually around 115 degrees F. Plants have numerous ways of coping with this but with dry soils, low humidity, gusty winds, cloudless skies, things can get of control quickly. With black plastic, temperature can exceed 150 degrees on the plastic surface. Here are a few things you might be seeing.

Pollination and fruit set

Pepper flowers may start to drop when temperatures move into the 90's for a period of time. Tomatoes will not set fruit with warm night temperatures. Tomato blossoms may also drop with high day temperatures. Sweet corn pollen sterilization can occur leading to missing kernels, tip fill issues and overall reduction in flavor quality. Some fruiting vegetables may even start to drop leaves if they went through a dry period.

Sunscald

Tomatoes, peppers melons, pumpkins (late summer) can all suffer from sunscald because the temperature of the fruit tissue gets too hot and dies. Maintain good canopies, proper spacing at planting, provide adequate moisture to reduce this problem as much as possible. Some varieties in sweet corn will even show leaf scald.

Fruit

In the above article we already mentioned the importance of proper moisture supply to maintain even growth, development and quality. Blossom end rot is a primary concern. Some tomatoes may not ripen to a nice red color during hot weather and have more of an orange color.

Cool season veggies

These crops may bolt quicker than normal do to temperature extremes.

Senate Farm Bill friendly to specialty crops

Stan Ernst, Businesss & Marketing Specialist/Ag Economist, Specialty Crops Business Program Manager, 257-A Howlett Hall. OSU Columbus. Ernst.1@osu.edu, Cell: (614) 937-3740

Colleagues… some random thoughts for the specialty crop biz related to the Senate's Farm Bill proposal passing on June 21 by a 64 to 35 vote.…

I certainly don't track Farm Bill politics as closely as OSU's expert on such matters – Prof. Carl Zulauf over in Ag Econ – so this certainly won't get into the nuances of what passed or the wheeling and dealing that brought us the Senate Farm Bill on June 21. Nor would I predict when the House Ag Committee will have its version…July? August? After November elections?...all could be argued. But am trying to keep an eye on farm bill items relevant to fruit and vegetable growers and food marketers. Whether any of the items mentioned below will agreed to in the House version, or whether it all has to be negotiated in joint committee later, is anyone's guess. I would say that I'd anticipate most of these Senate proposals to be somehow addressed in final legislation. The amount of emphasis (a.k.a. funding) remains to be seen.

Several items that showed up in the Senate bill caught my interest as they were reported by industry media and organizations:

- Plant Pest and Disease Program funded at $60 million in FY13-16 and $65 million in FY17
- Specialty Crop Block Grants funded at $70 million per year
- Specialty Crop Research Initiative funded at $25 million in FY13; $30 million in FY14-15; $65 million in FY16; $50 million in FY17
- Fresh Fruit and Vegetable Program fully funded at 2008 farm bill levels
- Farmers Market and Local Food Promotion Program
- Market Access Program and Technical Assistance for Specialty Crops fully funded at 2008 farm bill levels
- Several government purchasing programs for specialty crops were held at 2008 levels, and programs aimed at alleviating community hunger and broader use of SNAP (food stamp) benefits for produce purchases held support.

A number of the funding programs mentioned are obviously important to OSU's work with the specialty crop industry. Ignoring the numbers passed by the Senate since they'll surely change before we're done, what's important is their continuation and even increased funding in some cases. But, again, there's a lot of road to travel before we're through.

One thing Carl has promised to continue is detailed dissection on the movement of safety net/crop insurance discussion throughout the legislative process. That element of farm legislation has increasing relevance on specialty crop producers. The crop insurance debate is generally driven from a row-crop perspective. The devil's in the details, but this this time around I expect some serious political wrangling as to what level – if any – of insurance support is appropriate for agriculture. For a debate like that, horticultural crops have to be in the mix. It appears that the Senate bill would already give organic growers some help accessing crop insurance. Other provisions from the Senate would reduce premiums paid to growers with income over $750K …a potential negative for high-value crop producers. I think we'll see a whole lot more debate over any and all levels of support when we get to the House. Mandatory compliance with conservation and environmental programs was also a Senate requirement on receiving insurance payments and would take some getting used to by everyone…but in today's political environment, you can expect to see most every proposal addressed in terms of income and environmental issues.

The ornery cynic in me might argue that including more support for specialty crops in the farm bill is a good (necessary?) strategy for garnering enough support for any part of agriculture to receive an income safety net in general and crop insurance in particular. Current political and public discussions focus more and more on the American diet and produce's role in it. Some of the same voices in that discussion also want to cut government spending and support for certain kinds or sizes of farms. Certainly we've seen an increase in the voice of consumer groups and specialty crop producers through the last several farm bill debates. That's arguably meant more emphasis on specialty crop research and a whole lot of promotional push aimed from DC toward the consumption of produce and broader public access to such goods. Likewise, the specialty crop industry has a huge stake in more general public debates related to food production and consumption and the science/technology behind it. I don't begin to think that even the various segments of specialty crop industries agree on most of these issues…let alone agree with opinions of all other farm and consumer lobbies. You can be sure of innumerable perspectives in discussions related to things like food safety, biotechnology, animal welfare, dietary needs and requirements, farm income, labor, and other emotionally charged topics during the

Senate discussion. Now we're headed to the House where a larger body lives and represents even more worldviews. The ag committee may bring the legislation forward, but the House has a whole lot more legislators representing unfathomable nuances of perspective on farm, food, and feeding programs. And I'd expect them to have their say.

I'm inclined to hold off on more detailed thinking about the Farm Bill's horticultural and retail food impacts at least until we see what the House brings, but wanted to give those of you interested in specialty crops a heads-up on some of the discussion. I just spoke with Carl Zulauf and he'll keep us all posted on the overall tenor of the debate and its impact on the large program crops. And we can expect more analysis from him on that farm safety net discussion. One last thing that we both agree on (in our own ways, of course) is that we'll certainly be continuing a discussion Carl and I have been having for a number of years that the "farm bill" is not all about farmers anymore… maybe not even for farmers anymore. That's a challenge for those who haven't gotten used to watching all the "non-farm participants" in the debate. And for those who haven't gotten used to having all parts of agriculture in the discussions in a big way….like specialty crops.