

Kentucky Nursery LISTSERV Bulletin

University of Kentucky Nursery Crops Team

End of February 2018

Next Three Months: Warmer and Wetter Than Average

La Nina in the Pacific is fading to average ocean temperatures, but is still exerting influence over weather patterns in North America. NOAA-based Prediction shows warm/dry weather to our south, with cooler/wet weather to our north.

Kentuckians should expect periods of both throughout spring, but with temperatures and precipitation rates higher than normal overall.

UKAg Weather Center's Long Range Outlooks

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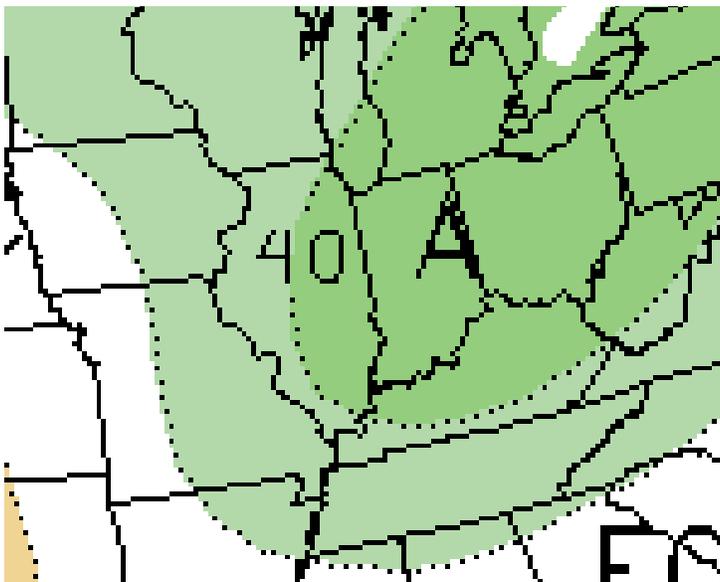
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Three-Month Outlook, Precipitation Probability
15 February 2018. Valid March, April, May 2018
Source: NOAA Climate Prediction Center

- **When Does Spring Start?**
- **When to Take Down Overwintering Protection**
- **Ambrosia Beetles are out Looking for New Hosts**

When Does Spring Start?

Joshua Knight, Senior Extension Associate, Horticulture

A web-based tool has been released from Cornell University's Emergent Climate Risk Lab to determine the timing of spring a full season before it occurs. They are calling it "Springcasting", and it attempts to look beyond the typical 5 to 10 day window of traditional meteorological forecasting. These efforts have been driven by an increased variability of spring's arrival across the U.S. In 2017, spring came early throughout most of the Southeast, Southwest and the Midwest with many places being more than 20 days early compared to average conditions from 1981 - 2010.

The Springcasting tool focuses on the timing of several modeled indicators, not just warm or cold temperatures though an accumulation of days with warmer temperatures are a primary driver. For most of Kentucky, spring leaf out will occur between a few days to a little over a week early (Figure 1) in the first half of March (Figure 2).

Figure 1. Map showing differences in spring arrival for 2018, compared to 30 year average.
Image: Cornell University

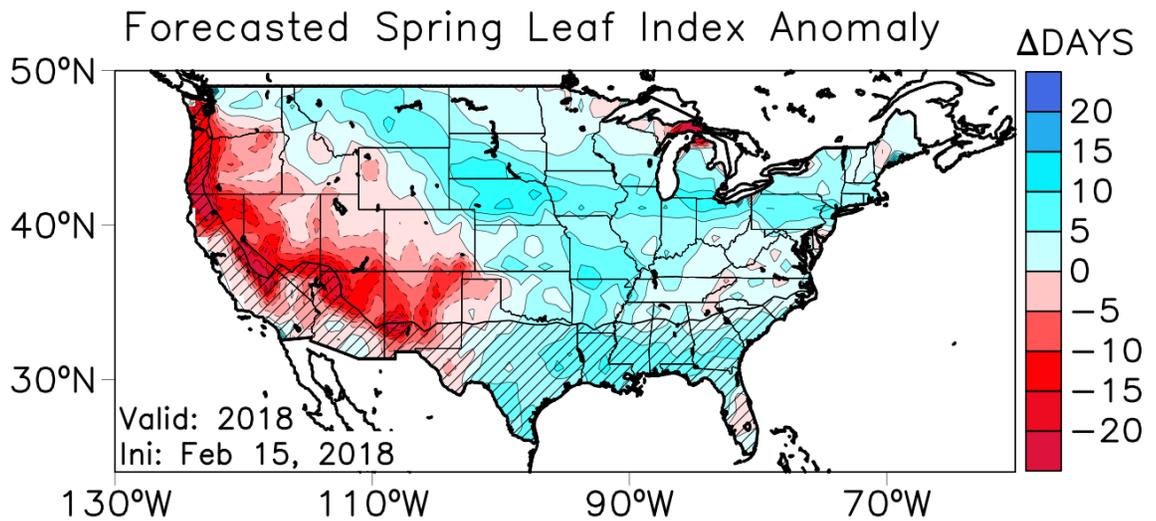
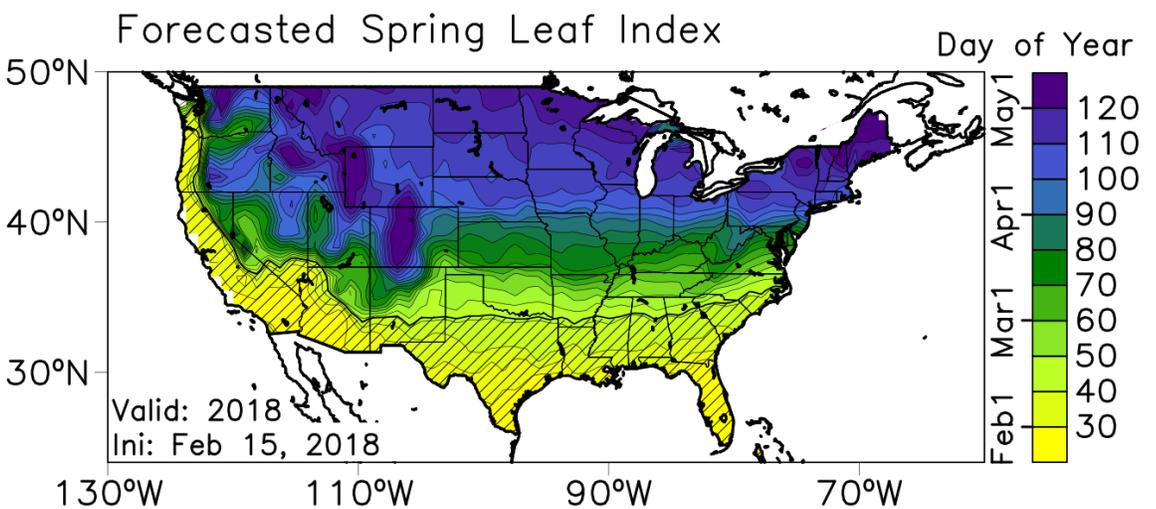


Figure 2. Map showing dates of spring arrival.
Image: Cornell University



When To Take Down Overwintering Protection

Carey Grable, Extension Associate for Nursery Crops

As we move into the month of March, some growers may be tempted to begin dismantling their over wintering structures in anticipation of warmer weather. What is important to keep in mind when doing this is that Kentucky has a transitional climate. This is important to the nursery industry because of the seemingly random weather patterns we can experience in this state.



Late freezes are a real possibility in Kentucky, as seen below in a list of monthly record low temperatures. I'm sure we all remember well April of 2007. Keep an eye on the temperature in your structures, and adjust them accordingly. Wait as long as is practical to make unreparable modifications such as removing the end walls and cutting holes in the side walls.

Month	Day	Year	Record Low (°F)	Location
January	19	1994	-37	Shelbyville
February	2	1951	-32	Princeton
December	24	1989	-24	Farmers
March	6	1960	-14	Bonnieville
November	30	1929	-9	Shelbyville
April	2	1857	10	Millersburg
October	27	1962	10	Dewey Dam
May	10	1966	20	Falmouth
September	26	1928	24	Farmers
June	1	1966	29	Cumberland
July	1	1988	34	Ashland
August	31	1946	36	Clermont

Ambrosia Beetles Are Out Looking for New Hosts

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Two invasive ambrosia beetle species are serious pests in nursery and landscape trees and shrubs: granulate ambrosia beetle (Figure 1), and black stem borer (Figure 2). Ambrosia beetles are about 2 to 4 mm in length and spend most of the time in the tunnels they build in the sapwood of trees. **In spring, when temperatures reach 68° F for at least 3 days in a row**, female ambrosia beetles start to fly out of their galleries to colonize new hosts. Stressed plants are more susceptible to ambrosia beetle attack. For this reason, ambrosia beetles are considered opportunistic pests.

Monitoring

Monitoring using alcohol-baited traps (Figure 3) is the best approach to detect ambrosia beetle presence and estimate seasonal populations.

In 2017, due to the mild winter conditions, we started monitoring these pests on February 16 in Kentucky. The numbers of captures of granulate ambrosia beetles were low and inconsistent in all locations up until the second week of March. Granulate ambrosia beetle populations increased substantially the third week of March. Black stem borer has been captured in low numbers.

Management

Currently, the management practice to control these beetles is through multiple insecticide sprays directed to the trunks when populations are high to prevent infestations. For more information, consult county agents close to you.

If toothpick-like structures protruding from stems are observed (Figure 4), the beetles are already inside plants and nothing can be done because insecticide sprays cannot reach them. In nursery stock, infested trees must be removed from nursery and burned.



Figure 1. Granulate Ambrosia beetle.

Photo: Zenaida Viloria



Figure 2. Black stem borer.

Photo: Zenaida Viloria

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Figure 3. Double bottle trap that contains ultra high release ethanol as a lure and antifreeze solution in catching bottle.
Photo: Ginny Travis, University of Kentucky



Figure 4. Toothpick-like structures made of sawdust and excrement are pushed out of galleries when beetles bore the stem.
Photo: Daniel Becker, University of Kentucky

Additional Information

Granulate Ambrosia Beetle (University of Maryland, Entomology Bulletin, 2008) [link](#)

Managing Black Stem Borer in Michigan Tree Fruits (Michigan State University) [link](#)

Granulate Ambrosia Beetle (*Xylosandrus crassiusculus*) (Indiana Department of Natural Resources) [link](#)

The University of Kentucky's **Nursery Crop Extension Research Team** is based out of two locations across the bluegrass to better serve our producers.

The **University of Kentucky Research and Education Center (UKREC)** in **Princeton** serves western Kentucky producers while our facilities and personnel on main campus in **Lexington** serve central and eastern Kentucky producers.

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