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Make your plants healthier by improving the timing of your pest management

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It happens almost every year. The bright pink flowers on my saucer magnolia that are lured out by the warm weather turn ugly brown after the April freeze. Not all plants and animals are harmed by these wild swings. Plants that had yet to flower, leaf out, or germinate are just fine. Same goes for the spores of plant diseases or insects in their overwintering stages.

Plants and animals use a range of environmental cues to let them know wake them from winter dormancy. Photo receptors are often one of many signals that plants can use to know when spring is coming and it is time become responsive to warming temperatures. The predictable sequence in which of plants and pests become active is called a phenology. Learning the phenology in your area can help you time pest management activities to coincide with the most susceptible stages of pests and plants.

The phenology of many plants and pests can be predicted by tracking the amount of time that the temperature is above the level of warmth needed to initiate growth. The amount of heat accumulation necessary for insects to hatch from eggs or flowers to break bud is often expressed as degree-days. In a previous issue we discussed how tables of degree days, and insect and plant phenology can be used to time your management activities. We also provided links to a number of apps that help you determine degree days in your area. One of the more notable efforts in this area is a turf pest map to help you time applications of herbicides, fungicides and insecticides.

National Phenology Network

The National Phenology Network (NPN) is a national effort of scientists and citizen scientist volunteers to collect the data on a broad range of plants, pests, and weather to make them available to the general public. Currently they include maps that predict the emergence of a number of common landscape pests include, bagworm, eastern tent caterpillar, pine needle scale and lilac borer. They are looking to expand this list and need your help.

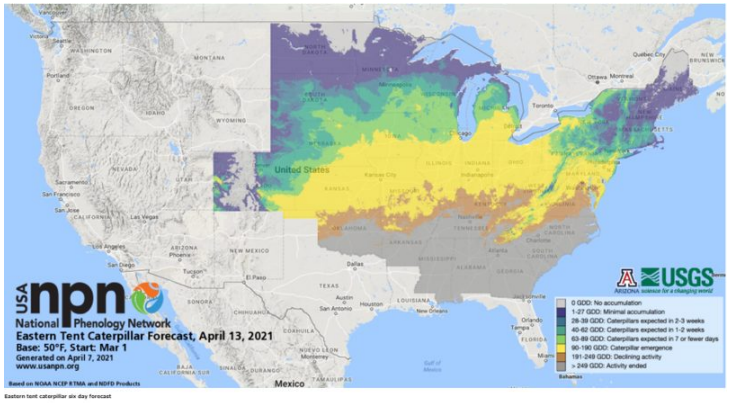

Figure 1. The NPN Eastern tent caterpillar 6 day forecast predicts caterpillars will be present in much of Indiana on April 13.

How to help the National Phenology Network collect more information?

The NPN could use your help to validate the models and maps the provide to the public. Their Nature's Notebook program provides specific opportunities to collect data on plant development, flowers used for bats, nectar sources, insect pests, invasive plants, and lilacs and dogwoods. Links on the nature notebook page provide details on how you can join a project, set up an account and start observing. Remember, you do not need to be an expert to participate. Instructions and photos provided for each of these programs make it is to report the correct information.