

## Phenology Gardens

By Barbara Wagner

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We have been having mild winter with little snow cover. My crocuses began blooming at the end of February, something I usually look forward to about the second week of March. Such information is important to scientists, some of whom keep detailed records from phenology gardens.

Phenology is “the study or recurring biological phenomena and their relationship to weather.” [phenology.osu.edu](http://phenology.osu.edu). This can include the blooming of plants, appearance of insects, and migration of birds. A detailed study of these observations can tell us appropriate times for planting crops and when to apply insecticides and when to practice weed control.

Phenology is an ancient study of scientific observation. China is thought to have recorded records from 974 B.C.E and Japan has recorded records from the 1200's. Their interest was in the blooming of peach and cherry trees and the festivals associated with these events.

Great Britain has records from Robert Marscham from 1736-1997 and the Royal Meteorological Society has records from a national recorder network between 1875 to 1948. Charles Morren, a Belgian scientist, first coined the term “phenology” for such observations.

Here in the United States we acknowledge Henry David Thoreau, author of the much read *Walden* for keeping many records on the arrival of birds and blooming start dates from 1851 to 1858. Another Massachusetts naturalist Alfred Hosmer also left records from 1878 to 1902. Hosmer recorded over 600 species.

Evan Nicole Brown in “How Thoreau’s 19<sup>th</sup> Century Observations Are Helping Shape Science Today, of July 9, 2019 [www.altasobscura.com](http://www.altasobscura.com) explains how modern scientists Richard Primack and a team of biologist from Boston University began researching at Walden in the spring beginning in 2004. They were able to observe 14 species recorded by Thoreau and Hosmer. These include Lady’s Slipper and Star Flower and Wild Sarsaparilla. Their results as written by Mason Heberling show that the wildflowers are leafing out about one week earlier and trees two weeks earlier than in Thoreau’s time.

Here in Ohio, Ohio State University has a phenology network of gardens. Research under [phenology.osu.edu](http://phenology.osu.edu) will show a map of these gardens, one of which was in Erie County in Osborn Park here in Sandusky and maintained by Huron County Master Gardeners including Richard Hartley. Data was last collected in 2018 and pictures in this garden can be researched. Other gardens are located throughout Ohio.

From such dates, phenology calendars are created. Phenology calendars make use of growing degree days (GDD) to help gardeners make planting and pest control decisions. In “Gardening Guided by Phenology” by Dr. Holly Walker, Plant Health Specialist and Alexander Denecker,

Horticulturist on April 4, 2022 from Smithsonian [gardens.si.edu/learn/blog](https://gardens.si.edu/learn/blog) states that it is helpful to compare notes from year to year. Growing degree days (GDD) “provide a more precise way to calculate and predict when life stage changes will take place.”

A growing degree day is recordable heat unit from a base of 50 degrees F to a average daily temperature. Knowing how many GDD’s have occurred can guide gardeners.

Ohio State University also has a Phenology Calendar website:

<https://weather.ofaes.osu.edu/gdd>. By entering your zip code, you can find the gdd for the date and see pictures of the plants that are blooming and information about insects. For today’s day, March 24, 2024 Northern Light Forsythia was in full bloom at 92 GDD.

Forsythia has long been a sign of spring – who cannot enjoy its vivid yellow color brightening the landscape. But for homeowners it is also the sign of when to put on crabgrass prevention on the lawn. D. Walker sites some other long used signs: “plant peas when forsythia blooms, plant potatoes when the first dandelion blooms, plant beets, carrots, cole crops, lettuce and spinach when lilac is in first leaf, plant tomatoes when flowering dogwoods are at their peak.”

The Ohio State University website will also show related insect events. For example on gdd 92 the Eastern Tent Caterpillar hatch is recorded.

I have already pulled some weeds in my garden this year – they really grew quickly in the warm days two weeks ago. It will soon be time to do other chores – timing that a phenology calendar can help.

The Erie County Master Gardener’s Annual Plant Sale will be held at the Erie County Fairgrounds on Saturday May 11, from 9am to noon. Proceeds support our scholarship program.