

5-13-2021

Soybean Aphid Egg Hatch Complete

Ashley Dean

Iowa State University, adean@iastate.edu

Erin W. Hodgson

Iowa State University, ewh@iastate.edu

Follow this and additional works at: <https://lib.dr.iastate.edu/cropnews>



Part of the [Agricultural Science Commons](#), and the [Agriculture Commons](#)

Recommended Citation

Dean, Ashley and Hodgson, Erin W., "Soybean Aphid Egg Hatch Complete" (2021). *Integrated Crop Management News*. 2703.

<https://lib.dr.iastate.edu/cropnews/2703>

The Iowa State University Digital Repository provides access to Integrated Crop Management News for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for their intended purpose. For current information on integrated crop management from Iowa State University Extension and Outreach, please visit <https://crops.extension.iastate.edu/>.

Soybean Aphid Egg Hatch Complete

Abstract

Iowa's most significant soybean insect pest, soybean aphid, has host-alternating biology. Its primary host is buckthorn, an invasive shrub often found in hedgerows and roadside ditches, and its secondary host is soybean. For the majority of the year, soybean aphids exist as cold-hardy eggs on buckthorn branches near leaf buds. As spring temperatures increase, the eggs hatch and a few generations are produced on buckthorn before moving to soybean. In the summer, soybean aphid has multiple, overlapping generations on soybean. During the fall, soybean aphids return to buckthorn.

Disciplines

Agricultural Science | Agriculture

IOWA STATE UNIVERSITY

Extension and Outreach

Integrated Crop Management

Soybean Aphid Egg Hatch Complete

May 13, 2021

Iowa's most significant soybean insect pest, soybean aphid, has host-alternating biology. Its primary host is buckthorn, an invasive shrub often found in hedgerows and roadside ditches, and its secondary host is soybean. For the majority of the year, soybean aphids exist as cold-hardy eggs on buckthorn branches near leaf buds. As spring temperatures increase, the eggs hatch and a few generations are produced on buckthorn before moving to soybean. In the summer, soybean aphid has multiple, overlapping generations on soybean. During the fall, soybean aphids return to buckthorn.

For many aphids that overwinter as an egg, hatching often happens when the host resumes spring growth. This makes biological sense because the aphids feed on phloem from actively-growing tissue. If egg hatch happens too soon, they can suffer mortality from starvation. Research has confirmed soybean aphid egg hatch happens around the time buckthorn buds swell. Soybean aphid egg hatch occurs between 147-154 degree days (base 50°F) and buckthorn bud swell happens shortly after that (165-171 degree days). Based on air temperatures in 2021 (Figure 1), egg hatch is likely complete in northern Iowa, where most of the buckthorn in Iowa is located.

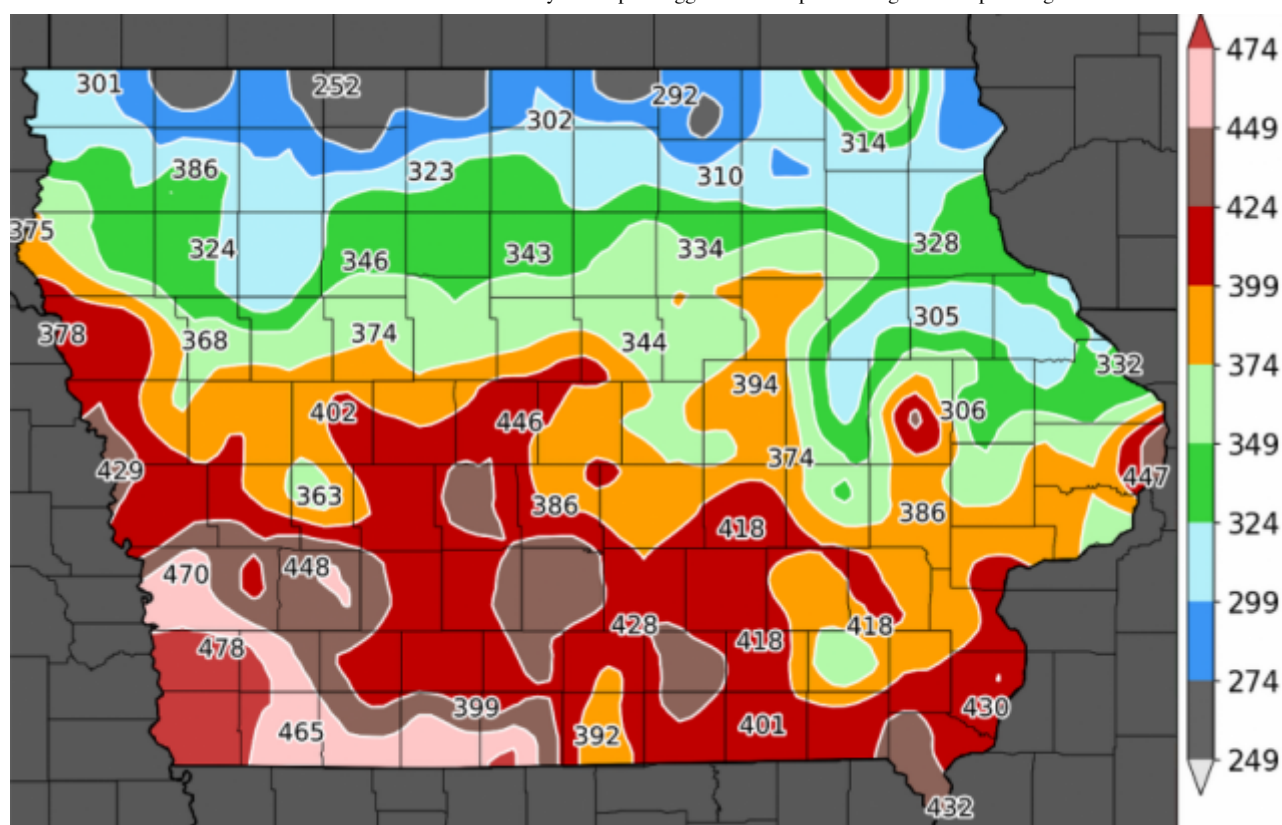


Figure 1. Accumulated growing degree days (base 50°F) in Iowa from January 1 – May 11, 2021. Map courtesy of Iowa Environmental Mesonet, ISU Department of Agronomy.

Once eggs hatch, soybean aphid has a few (2-3, typically) generations on buckthorn before producing winged morphs that move to early vegetative soybean. The initial colonization of soybean aphid in a field typically occurs in early-mid June and is patchy. Fields near a buckthorn stand are most likely to encounter early season infestations of soybean aphid. Winged soybean aphids may also fly short distances to colonize a new field; however, since they are weak fliers, they move longer distances by gliding along wind currents.

If ideal conditions persist after colonization, soybean aphid can reproduce quickly and become field-wide. Throughout the summer, soybean aphids are all females that reproduce asexually and give live birth to genetic clones of themselves, which lends to rapid population growth. It is important to begin scouting soybeans at V1 and continue every 7-10 days throughout the season to track soybean aphid population growth. We will monitor populations in soybean fields throughout the summer and report updates via the [ICM Blog](#) and Twitter.

Category: [Insects and Mites](#)

Links to this article are strongly encouraged, and this article may be republished without further permission if published as written and if credit is given to the author, Integrated Crop Management News, and Iowa State University Extension and Outreach. If this article is to be used in any other manner, permission from the author is required. This article was originally published on May 13, 2021. The information contained within may not be the most current and accurate depending on when it is accessed.

Crop:

Soybean

Tags: soybean aphid soybean aphid egg hatch egg hatch soybean pests

Authors:

Ashley Dean Education Extension Specialist I



Ashley is an education extension specialist for field crop entomology at Iowa State University. She coordinates the Iowa Moth Trapping Network, develops educational resources for field crop pests in Iowa, and aids in the research efforts of the

Erin Hodgson Professor



Dr. Erin Hodgson started working in the Department of Entomology at Iowa State University in 2009. She is an associate professor with extension and research responsibilities in corn and soybeans. She has a general background in integrated pest management (IPM) for field crops. Dr. Hodgson's curre...