

Will Organic Farmers Be Hit Hard By Warming Temperatures?

June 2015

Warming temperatures could increase the risks from certain pests for crops and farmers in the eastern United States. For example, so-called leaf hoppers damage a wide range of plants, including commercial crops like potatoes, alfalfa, and legumes. In a study published last week, researchers at Queens College at the City University of New York and the University of Maryland reported a newly established relationship between hotter temperatures and the frequency and severity of leafhopper infestations of potatoes.

Their findings were published here: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0124915>.

The researchers found that climate change can benefit individual species, but when pest species are enhanced by warmer temperatures, agricultural productivity may be placed at greater risk. To complete this study, the writers surveyed both scientific literature and agricultural extension records from 1951 to 2012. This information was then compared to climate data publicly available from and collected by the National Oceanic and Atmospheric Administration's National Climate Data Center.

The researchers found that the leafhoppers, which migrate into the U.S. along the Gold Coast, arrive 10 days earlier today than six decades ago. According to the Report, this information demonstrates how temperature changes can impact migrating insect species. These changes may then impact future agricultural production and yields.

The report may be particularly important for organic farmers, whose methods are less adaptable than more conventional agricultural practices using pesticides. As with all things related to climate

Practice Areas

Environment & Product Regulation

change, there is great uncertainty over the significance of these findings or the ultimate meaning for agriculture in the future. For some farmers and agricultural chemical companies, the report may suggest changing existing pest control practices or creating new active ingredients to match the changing threat.