

A REPORT FROM THE
EXECUTIVE DEAN
OF AGRICULTURE AND NATURAL RESOURCES

Report to the New Jersey State Board of Agriculture
August 2020



A bumble bee pollinating a blueberry bush. Photo: Winfree Lab

Most crops depend on pollinators, so any decline in both managed and wild bees raises concerns about food security. However, the degree to which insect pollination affects current crop production is poorly understood, as is the role of wild species in pollinating crops, particularly in intensive production areas. In cooperation with several universities, professor **Rachel Winfree** and research associate, **James Reilly**, Department of Ecology, Evolution and Natural Resources, established a nationwide study to assess the extent of pollinator limitation in seven crops at 131 locations situated across major crop-producing areas of the U.S. The team found that out of the seven crops studied, apples, sweet and tart cherries, and blueberries showed evidence of pollinator limitation. Wild bees and honeybees provided comparable

amounts of pollination for most crops, even in agriculturally intensive regions. The findings show that pollinator declines could translate directly into decreased yields or production for most of the crops studied, and that wild species contribute substantially to pollination in major crop-producing regions. Practices that conserve or augment wild bees, such as enhancing wildflowers and using managed pollinators other than honeybees, are likely to boost yields. The study was published in the journal *Proceedings of the Royal Society B: Biological Sciences*.

Management of Spotted Wing Drosophila (SWD) in blueberries has led to IPM advancements in cultural, behavioral, and biological control. However, current recommendations rely heavily on preventive weekly applications of broad-spectrum insecticides. Since a single infested fruit can cause the rejection of an entire shipment, there is a zero-tolerance threshold for SWD larvae in fresh market fruit or frozen products. Early detection of adult activity in crops is critical to reduce infestation. In New Jersey, monitoring traps are used to detect early fly activity and to gauge insecticide application timing. Recent Rutgers research by **Cesar Rodriguez-Saona**, extension specialist in entomology at Marucci Center for Blueberry and Cranberry Research and Extension, and colleagues has looked at using trap counts to evaluate the effectiveness of SWD management programs and for predicting fruit infestation. These studies were published in *The Canadian Entomologist* and the *Journal of Economic Entomology*. In addition, articles have been posted on the StopSWD.org website, *Interpreting Trap Captures of Spotted-Wing Drosophila (SWD) in Blueberries* and *Wild Hosts, Spotted-Wing Drosophila, and Blueberries*. The website provides up-to-date information on research and extension efforts in the Northeastern U.S. to manage SWD sponsored by the Northeastern Integrated Pest Management Center.



In the News

In a *Star Ledger* article, [400,000 solar panels, 800 acres, 1,000 sheep. A preview of N.J.'s largest solar project](#), extension specialist in livestock and dairy **Michael Westendorf**, Department of Animal Sciences, was quoted on “solar grazing” contributing to the promotion of local markets and farmers, since much of the lamb meat marketed in the U.S. is slaughtered and processed in other countries like Australia and New Zealand. Solar grazing is the use of livestock to maintain vegetation under solar panels.

Of Interest

The following publication is now available on [NJAES Publications](#):
[E364 Soil Fertility Recommendations for Pastures](#). **Heckman, J.**

Since its initial detection in 2002, the Emerald Ash Borer has killed millions of ash tree species as it has spread across much of the eastern half of the U.S. It is understandable for arborists and landscapers to assume that this invasive Asian tree beetle borer is the cause when observing branch die-back of ash trees. However, some of the other wood borer species can also cause ash decline. In a *Plant & Pest Advisory* blog post, program associate in landscape/greenhouse IPM **Steve Rettke** discusses the symptoms that distinguish the Emerald ash beetle borer, the Ash/Lilac Clearwing moth borer, the Banded Ash Clearwing moth borer, and Ash Bark Beetle borers in the article, [Differentiating the Common Wood Borers of Ash Trees](#).

Events

August Nursery Twilight Meeting (credit-bearing online webinar), August 27, 6 – 7:00 p.m.
Rutgers Cooperative Extension is hosting an informative Twilight meeting with presentations on pest management topics from nursery agents **Tim Waller** (Cumberland) and **Bill Errickson** (Monmouth); Spotted Lanternfly updates from program associate **Steve Rettke** (Monmouth), and water related updates from agriculture & natural resources agent **Sal Mangiafico** (Cumberland). For more information go to: <https://plant-pest-advisory.rutgers.edu/august2020twilight>.

The **Equine Science Center** will be holding its "Fall 2020 Webinar Series" every other Thursday from August to the first week of November. Presentations on various equine-related topics will be given by Rutgers extension specialists and professors as well as other experts in equine-related fields. For the full list of dates, presenters, presentations, and to learn how to register for the webinars, please go to: <https://go.rutgers.edu/Fall2020ews>.

Rutgers Cooperative Extension's **Barneget Bay Shellfish Restoration Program** Coastal Stewardship Course will begin in the Fall semester with evening Zoom webinar classes September through November. Participants learn how to be responsible stewards of our coastal marine resources and get involved with local efforts to improve the health of our coastal ecosystems. For more information, contact: **Kelly Jurgensen**, kjurgensen@co.ocean.nj.us, or **Doug Zemeckis**, zemeckis@njaes.rutgers.edu.

