

A REPORT FROM THE
EXECUTIVE DEAN
OF AGRICULTURE AND NATURAL RESOURCES

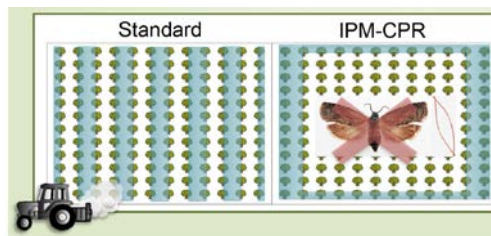
Report to the New Jersey State Board of Agriculture
April 2018



Andy Wyenandt (l) and Jim Simon examine basil crosses for downy mildew resistance.

After eight years of developing sweet basil resistant to downy mildew (DM), the basil breeding team, led by members of the Department of Plant Biology, distinguished professor **Jim Simon** and extension specialist in vegetable pathology **Andy Wyenandt**, is pleased to announce that the first series of new Rutgers releases are being commercialized by VanDrunen Farms Specialty Seeds (VDFSS) of Thermal, CA, and Momence, IL. The initiative developed stock seed and commercial seed for three new varieties for seed companies and growers, prioritizing early access for New Jersey growers. The three varieties available from VDFSS are Rutgers Obsession DMR, Rutgers Devotion DMR, and Rutgers Thunderstruck DMR.

As this is the first growing season, a limited supply of the DM-resistant basil seeds are available to commercial growers. To accommodate small growers, all three varieties are available in small volume 20-gram packets. Buyers will need to sign a use agreement (e.g., stating they won't harvest seeds, re-sell seeds, or rename the new varieties). The team emphasizes that growers should remember that these new varieties are not "immune" to DM, rather are "resistant," and as such, growers will need to continue implementing management strategies with proper cultural and control practices to ensure an excellent, disease-free crop. To order, contact Grant Bouwer at vdfss@vandrunen.com.



Standard sprays for BMSB involve all rows, while IPM-CPR only treats the perimeter.

The invasive brown marmorated stink bug (BMSB) has disrupted IPM protocols, forcing growers to rely exclusively on frequent, repeated, season-long broad-spectrum insecticide applications. Starting with peach orchards, fruit IPM agent **Dean Polk** and extension specialist in entomology **Anne Nielsen**, and colleagues have developed a behaviorally-based tactic termed IPM-CPR (Crop Perimeter Restructuring) that utilizes border sprays for BMSB, groundcover management for tarnished plant bug, and mating disruption

for oriental fruit moth. IPM-CPR reduced insecticide usage by 25-61%. These results suggest that perimeter applications of insecticides exploit the border-arrestment behavior of BMSB by controlling them at the orchard edge, reducing damage throughout the block. The researchers concluded that IPM-CPR significantly reduces the area managed by growers to control BMSB, while it simultaneously manages key pests at levels equal to current grower standard practices. This approach brings IPM tactics back into the orchard system and potentially supports beneficial insects. In 2016 and 2017, the team expanded this research to apples, working with the entire Snyder Research & Extension Farm tree fruit acreage, placing an IPM-CPR treatment in about half the acreage, while using standard insecticides in the other half. The initial results in apples shows this technique is effective in this crop as well. The positive effects on increasing beneficial insects weren't as apparent in apples as in the longer term study on peaches, but they anticipate this may improve over time.

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As an example of how Rutgers researchers are using drones for real-world research, before he began using drones to monitor New Jersey's cranberry bogs, extension specialist in plant pathology **Peter Oudemans**, Department of Plant Biology, used satellite imagery. However, its low resolution didn't allow for precise viewing. Today, the imaging equipment carried by the drones provide a resolution so clear that Oudemans can literally count cranberries from a bird's eye view. One way he's harnessing this technology is in disease control and, specifically, a disease called fairy ring that grows about 45 centimeters per year in radius. He can evaluate different ways to treat fairy ring and assess progress from one year to the next by taking georeferenced images and comparing them over time.

In the News:

The Delmarva Farmer reported on the Central Jersey Vegetable Meeting, held in February, which was attended by over 130 vegetable growers from Monmouth, Middlesex, Mercer, Ocean, and Burlington counties. The annual meeting traditionally focused on tomatoes, peppers, and sweet corn and typically drew 30 to 40 farmers. Monmouth County agricultural agent **Bill Sciarappa**, who has been organizing the event for the past 20 years, expanded the program to include new crops, specialty vegetables, with panels on deer, blueberries, and agritourism.

Of Interest:

The IR-4 Project develops data that is required by EPA and other regulatory authorities to support registrations on specialty crops for minor use pesticides that produce relatively little revenue for their manufacturers. The national program, headquartered at Rutgers, has endured eight years of flat funding while expenses have increased. **Jerry Baron**, executive director of IR-4, notes that this is potentially hazardous for growers of fruits, nuts, vegetables, ornamentals, and herbs, and that the program is in "desperate need" of additional funding. For fiscal year 2019, Sen. Bob Menendez (D-NJ) is supporting additional federal investment of \$7.1 million dollars to reach a total of \$19 million in federal funding. Baron requests grower associations, individuals, and others supportive of the specialty crops industry contact their senators and ask their support of the IR-4 Project Appropriations Letter being led by Sen. Menendez. Let the Senators know that IR-4 is critical to our nation's ability to feed the public and keep our farming operations profitable.

The following NJAES Publications are now available:

E358 Respiratory Protection for Occupational Users of Pesticides. **Hastings, P.**

njaes.rutgers.edu/pubs/publication.php?pid=E358. This publication provides pesticide applicators with a comprehensive source of information and guidance on the selection and safe use of respiratory protection for pesticides in compliance with applicable state and federal regulations, including EPA's Revised Worker Protection Standard (40 CFR Part 170) and OSHA's Respiratory Protection Standard (29 CFR 1910.134).

FS 1289 Ultra-Niche Crops Series: Garlic for Small Commercial Growers. **Orton, T., Hlubik, W., Matthews, J., and Melendez, M.** njaes.rutgers.edu/fs1289

