A REPORT FROM THE

EXECUTIVE DEAN OF AGRICULTURE AND NATURAL RESOURCES

Report to the New Jersey State Board of Agriculture April 2019



Flowering hemp plant with a dense grouping of female flowers.

In preparation for the implementation of New Jersey's Industrial Hemp Pilot Program, NJAES has assembled a working group consisting of senior associate directors **Brad Hillman** and **Brian Schilling**; faculty from the Department of Plant Biology, **Raul Cabrera**, **Jim Simon**, **Dan Ward**, and **Tom Gianfagna**; and county agents **Bill Bamka**, **Steve Komar**, and **Pete Nitzsche**. NJAES has purchased threshers and seed cleaners to support industrial hemp research, and once the state's regulatory authorization is in place, will conduct production trials and develop demonstration sites. A FAQ fact sheet has been produced, and an Industrial Hemp website is being developed. On April 3, an Industrial Hemp Education Session was held with more than 80 in attendance, featuring speakers from NJDA and NJAES covering the state's regulations and

pilot program, and commercial aspects of industrial hemp production and use. New Jersey's regulations need USDA approval before the state can implement licensing, which is required for any industrial hemp production or processing.

Over the past several years, New Jersey has had an increase in the number of backyard and small-farm livestock owners. Along with the rise in residents raising animals such as chickens, sheep, and goats, is the need for providing education and resources to this group. On March 21, the NJAES Board of Managers (BOM) sponsored a Livestock Summit. There were 49 people in attendance representing a range of livestock owners from small backyard operations to medium-size farms. Speakers from NJAES, NJDA, and NJ Farm Bureau covered a variety of topics including diseases and parasites, livestock processing, and pasture management. A listening session answered questions and helped organizers determine further needs and interests for this audience. This outreach effort also enabled the development of an outreach contact list in the event of an outbreak. NJAES organizers included Tracy Smith, chair of the BOM Livestock Committee; **Brian Schilling**; **Mike Westendorf**, extension specialist in livestock and dairy; **Rachel Lyons**, chair of the 4-H youth development department; **Nick Polanin**, chair of the agriculture and natural resources (ANR) department; and **Hank Bignell**, ANR program coordinator, Cooperative Extension of Warren County.

Cranberry plants originate from relatively nutrient-poor environments, but commercial cranberries receive fertilizer to improve plant growth and yield. Increased fertilizer use may influence plant resistance to insect pests. At the Marucci Center for Blueberry and Cranberry Research, a study by former post-doctoral researcher **Elvira de Lange**; **Vera Kyryczenko-Roth**, technician; **Jennifer Johnson-Cicalese**, research associate; Joan Davenport, collaborator from Washington State University; **Nick Vorsa**, director; and **Cesar Rodriguez-Saona**, extension specialist in entomology looked in detail at the effects of fertilizer on herbivore resistance in greenhouse-grown cranberry plants. Six cranberry varieties were tested with 0, 0.5, 2, and 4g NPK controlled-release fertilizer regimes. After confirming that increasing fertilizer rates enhanced nutrient availability in cranberry leaves and enhanced plant growth, the team then studied the effects of fertilizer on weight gain and mortality of three important cranberry



School of Environmental and Biological Sciences and New Jersey Agricultural Experiment Station SEBS.RUTGERS.EDU • EXECDEANAGRICULTURE.RUTGERS.EDU • NJAES.RUTGERS.EDU pest herbivores. All three herbivores gained more weight on plants subjected to higher fertilizer rates, for all cranberry varieties and experienced lower levels of mortality on plants subjected to higher fertilizer rates. This improved insect performance on plants with high nutrient availability may be due to improved quality of the plants as a food source, and/or reduced levels of defensive compounds. Studying the effects of fertilizer on resistance to herbivorous insects in cranberry may contribute to the development of better practices for integrated pest management, and help to optimize cranberry health and yield. This study was published in *Agricultural and Forest Entomology* in March.

Of Interest:

Published in the April 9 issue of *Good Fruit Grower*, "How to get water right in the orchard," presents an overview of precision irrigation by **Hemant Gohil**, ANR agent for Cooperative Extension of Gloucester County. Proper irrigation is critical for apple orchards, especially for new plantings of high-density trees. Too little water can delay the first full crop, increase vulnerability to certain diseases, and produce smaller fruits, while watering too much is an unnecessary expense and may cause mold or other problems. Gohil said that precision irrigation involves using available tools to determine when, how much, and how long to water to give the orchard just the moisture it needs.



Increased soil fertility in path of pastured poultry

Keeping chickens on pasture (referred to as pastured poultry) has become a popular alternative to indoor confinement systems. Birds raised outdoors on pasture distribute manure over the land and effectively fertilize the pasture. This can result in cleaner coops, decreasing the labor and cost of cleaning out poultry houses and hauling and spreading the manure over a field. Extension specialist in soil fertility **Joe Heckman** includes a guide for developing movable coop and pen modules that allows for rotational feeding on fresh pasture in the latest issue of *The Soil Profile* newsletter: <u>njaes.rutgers.edu/soil-profile</u>.

The following new fact sheets are now available on Publications:

FS1302 Industrial Hemp Production in New Jersey: Frequently Asked Questions. **Bamka**, **W.**, **Komar**, **S.**, **Cabrera**, **R.**, and **Schilling**, **B.** <u>njaes.rutgers.edu/fs1302</u>

FS1301 Ultra-Niche Crop Series: Asparagus. Garrison, S., Matthews, J., Melendez, M., and Nitzsche, P. njaes.rutgers.edu/fs1301

Events:

Vegetable Integrated Crop Management Twilight Meeting, Tuesday, May 14, 6:30 – 9 p.m. East Vineland Fire Hall, 4931 Landis Ave., Vineland, NJ For agenda contact Rutgers Cooperative Extension of Atlantic County at 609-625-0056.

2019 North Jersey Commercial Fruit Grower Twilight Meeting Series: Twilight Meeting II May 8, 2019, 4:30 – 7:30 p.m. (Light Dinner provided from 4:30 – 5 p.m.) Rutgers Snyder Research and Extension Farm, 140 Locust Grove Road, Pittstown, NJ 08867 RSVP to Rutgers Cooperative Extension of Hunterdon County at 908-788-1339.



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