RUTGERS UNIVERSITY
New Jersey Agricultural Experiment Station

Rutgers Agrivoltaics Program

agrivoltaics.rutgers.edu

Rutgers Agrivoltaics Program (RAP)

The Rutgers Agrivoltaics Program (RAP) consists of a multidisciplinary group of faculty and staff committed to conducting applied agrivoltaics research and outreach. RAP is part of the New Jersey Agricultural Experiment Station and Rutgers Cooperative Extension, which provide research, outreach and education resources to residents, communities, and businesses in New Jersey and beyond.

RAP Mission

Our mission is to investigate the opportunities and challenges associated with agrivoltaics in New Jersey and to conduct research and outreach that focuses on combining agricultural production and solar power generation simultaneously on the same plot of land.

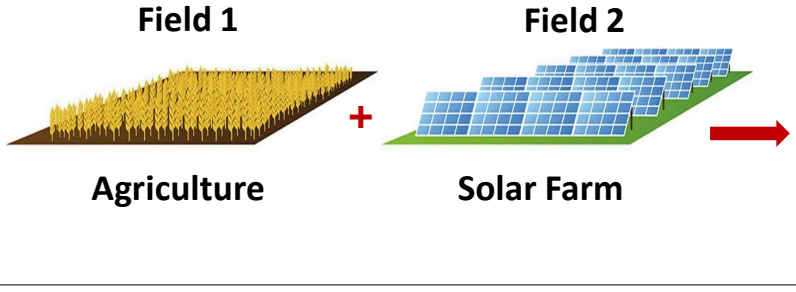
GOAL 1: Keeping New Jersey's Farmland in Agricultural Production

Agrivoltaics can play a key role in keeping New Jersey's farms viable by providing an additional revenue stream for farmers. Agrivoltaic systems can be designed to be compatible with a large variety of agricultural production systems.

GOAL 2: Increasing New Jersey's Renewable Energy Capacity

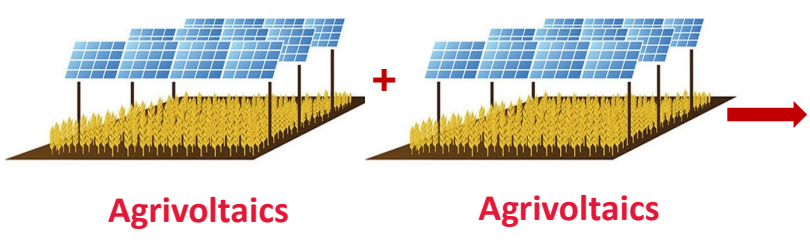
Agrivoltaics can contribute to New Jersey's renewable energy goals, while minimally impacting the State's approximately 700,000 acres of farmland. New Jersey is home to more than 10,000 farms, with around one third of these farms on preserved land. Agrivoltaics can help keep New Jersey's agricultural industry viable, while adding much needed renewable electricity production capacity.

Is the simultaneous dual-use of land for agriculture and solar energy production a good fit for New Jersey?



Agriculture and solar energy generation on separate fields

Using land for traditional solar power generation to meet New Jersey's renewable energy goals will reduce the amount of productive farmland since it can no longer be farmed



Agriculture and solar energy generation on the same fields

Agrivoltaics can increase the profitability of the land, while maintaining its agricultural productivity and contributing to New Jersey's renewable energy goals

Figure adapted from: Technological advancements and research prospects of innovative concentrating agrivoltaics https://doi.org/10.1016/j.apenergy.2023.120799

Rutgers Agrivoltaics Program Sites

Animal Farm
New Brunswick

170 kW_{DC} Installed

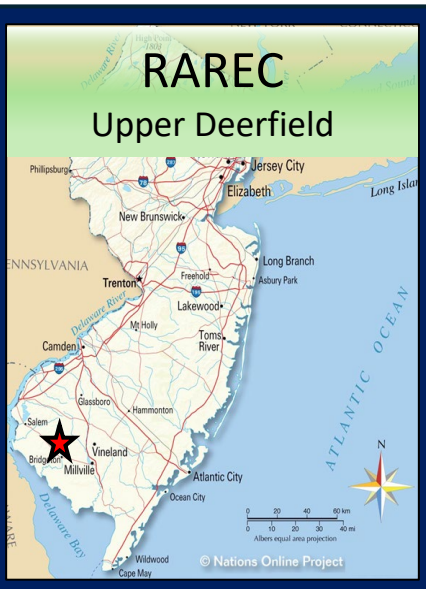
Large Animal Grazing and Forage Production

Vertical bifacial panels for beef cattle grazing and forage production

Grass evaluation to better understand how solar panels affect forage growth

Cook Campus Animal Farm
College Farm Rd.
New Brunswick, NJ 08901

RAREC
Upper Deerfield



255 kW_{DC} Installed

Staple and Specialty Crop Production

Tomato, eggplant & pepper under double wide single-axis tracker arrays

Soybeans under single wide single-axis tracker arrays

Rutgers Agricultural Research and Extension Center
121 Northville Rd.
Bridgeton, NJ 08302

Snyder Farm
Pittstown

95 kW_{DC} Installed

Hay Production

Hay production under single wide single-axis tracker arrays

Processing hay between single-axis tracker arrays

Clifford E. & Melda C. Snyder Research & Extension Farm, 140 Locust Grove Rd.
Pittstown, NJ 08867