

Is Agrivoltaics a Win-Win for New Jersey?

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- Agrivoltaics allows the land to remain in agricultural production, while also generating renewable energy, thus lowering the operational risks for farmers
- The Rutgers Agrivoltaics Program (RAP) team is studying the challenges and opportunities of this technology for New Jersey farmers
- RAP installed three research and demonstration systems at Rutgers/NJAES research farms:
 - Animal Farm in New Brunswick, Snyder Farm in Pittstown, and RAREC in Upper Deerfield
 - Three different racking systems: Vertical bifacial, and single-axis trackers with single or double rows of panels
 - Experimental trials with tomato, pepper, eggplant, soybean, hay production, and grazing beef cattle



agrivoltaics.rutgers.edu

Animal Farm

New Brunswick

- Vertical bifacial panels for beef cattle grazing and forage production
- 170 kW_{DC} installed capacity (378 panels)



Overview of the site right after the installation of the solar panels



Site after grass establishment

- Effects of solar panels with different configurations:
 - 2 and 4 ft clearance height
 - 20 and 40 ft row spacing
- Research focuses on a cows-on-grass pasture system



Assessing the grass for establishment characteristics



Beef cattle grazing among the vertical bifacial panels

Snyder Farm

Pittstown

- Single-axis trackers with a single row of panels array for hay production
- 95 kW_{DC} installed capacity (210 panels)



Site prepped for sowing grass



Site after grass establishment

- Effects of shadow bands on hay production
- Tracker pivot point at 8 ft
- Research focuses on yield, drying, and quality characteristics



Grass just before harvesting



Windrowing hay before baling

RAREC

Upper Deerfield

- Single-axis trackers with single and double rows of panels
- 255 kW_{DC} installed capacity (567 panels)



Site after installation of the solar panels



Tomato, pepper, and eggplant trials

- Effects of shadow bands on the production of specialty crops and soybean
- Tracker pivot point at 8 ft
- Research focuses on crop yield and quality



Soybean trial



Pepper yield



Harvesting specialty crops