Iowa State Agrivoltaic Solar Farm

Research Project List

Title:
Agrivoltaics: How Solar Panels Affect Bell Pepper 'SVPB8415 F1' Production

Project Leads:
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Materials and Methods

Crop	Bell Pepper(Capsicum annuum)
Growing Season	Summer 2025
Treatment	Field Condition 1. Under Shorter Solar Panels (5 foot) 2. Under Tall Solar Panels (10 foot) Control treatment: Open-field Conditions
Data Type Taken	1. Yield 2. Soil Temperature 3. Air Temperature 4. Light Intensity 5. SPAD 6. Stem Diameter 7. Dew Point 8. Relative Humidity 9. Soil Moisture 10.LICOR 11.Water Use
Cultivars	SVPB8415 F1 (Source: Johnny's Selected Seed)
Seed Date	April 14, 2025
Transplant Date	June 10, 2025
Tillage	Howard HR20 rototiller
Planting Method	By hand
In-row spacing	12 inch (Double row)
Between row spacing	36 inch
Irrigation	Drip irrigation
Weed Management	Weed fabric, Plastic mulch, By hand (as needed)
Pest Management	Sprayed for Thrips control due to Tomato Spotted Wilt Virus (Switch 62.5 WG, a.i. cyprodinil and fludioxinil)
Harvest Date	August 19, 2025 to October 22, 2025
Experimental Design	Randomized Complete Block Design
Replications	3

Objective

Evaluate the effects of sun-tracking solar panels on bell pepper **yield** and **plant health** in North Central growing conditions. Demonstrate the use of agrivoltaic production for sustainable practices.

Acknowledgments

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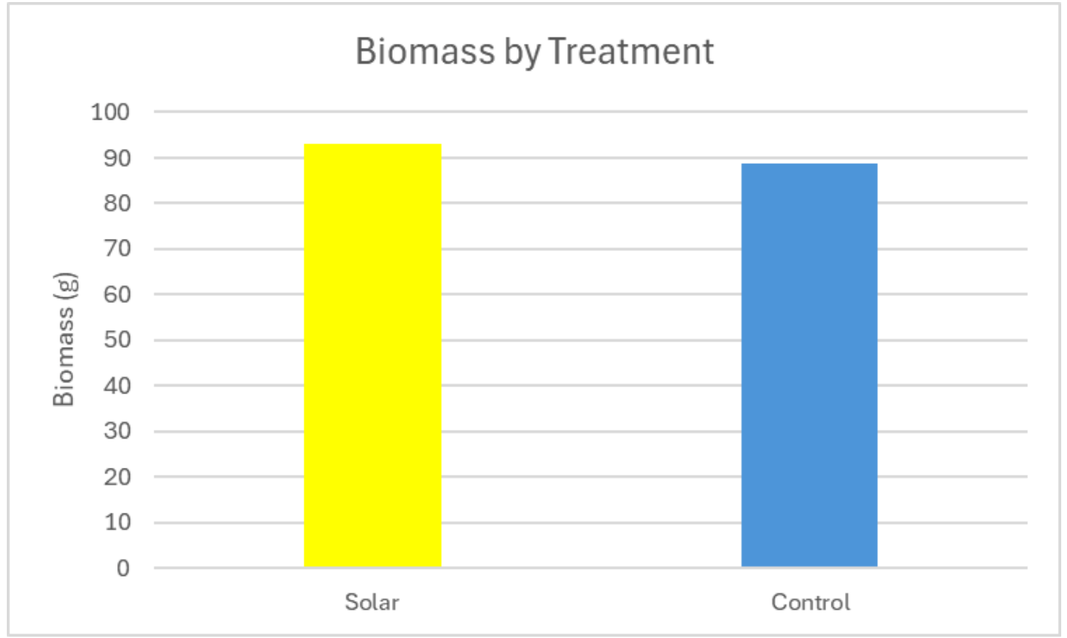

Graph 1: Numerically, more aboveground plant tissue biomass was seen under solar panels compared to the control treatment