



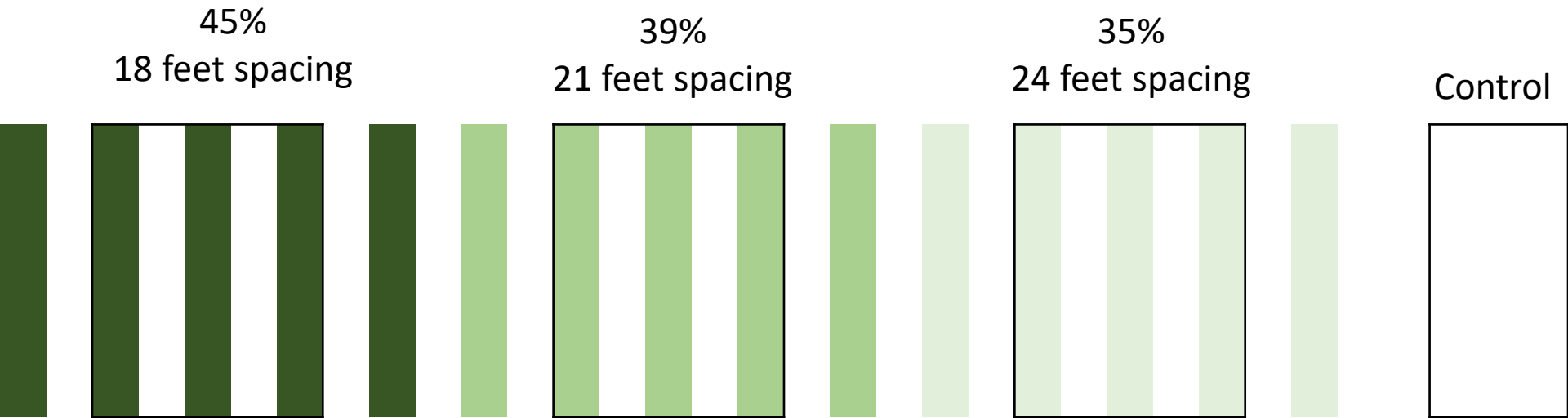
# Cranberry Research- Update

PROJECT ADVISORY COMMITTEE

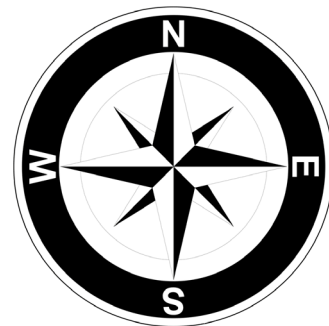
March 13, 2023

Giverson Mupambi & Hilary  
Sandler

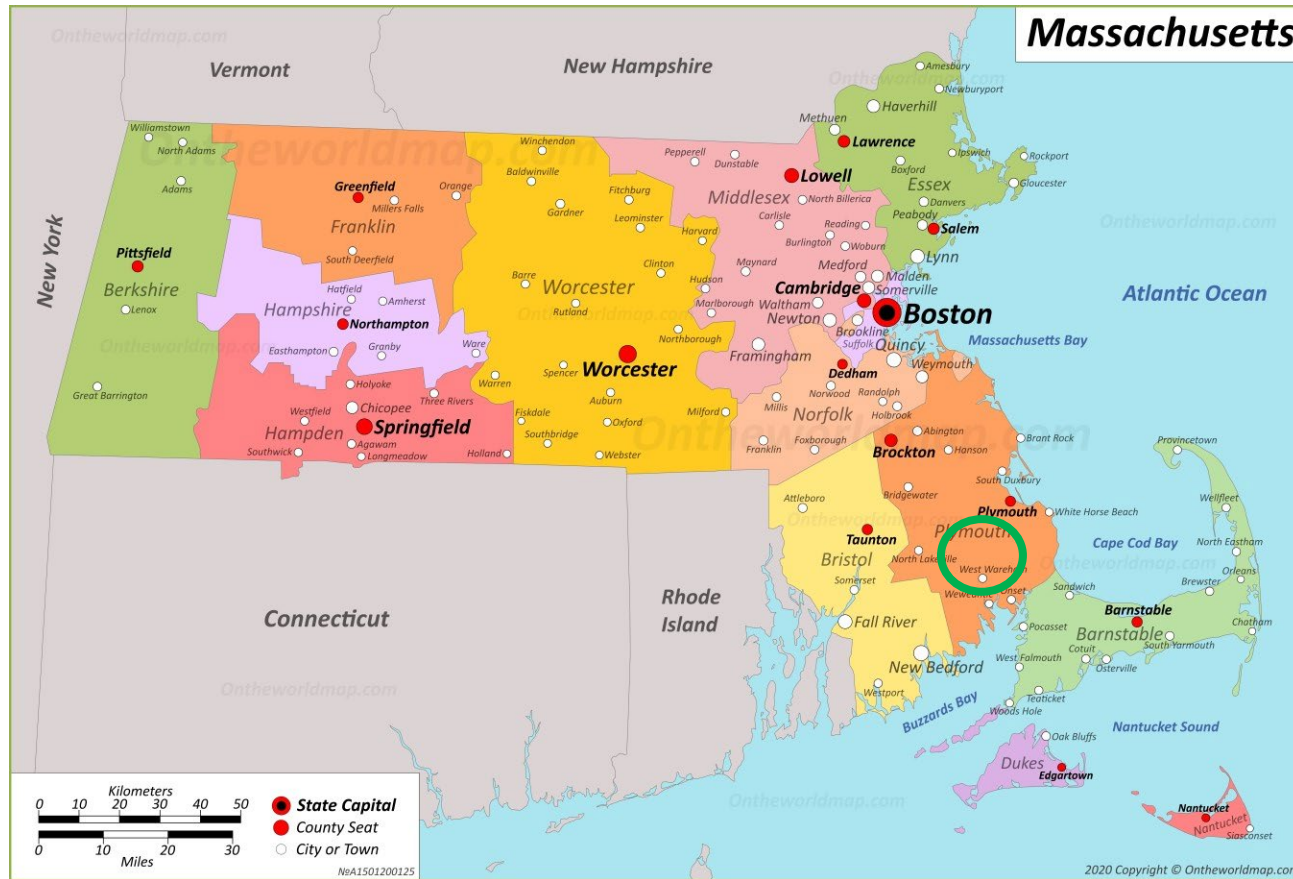
# Research design



- 3 treatments (35%, 39%, and 45% shading) and an uncovered control without solar panels
- Each treatment will be represented by 5 arrays of solar panels, approximately 180 foot long



# Research sites



Cultivar	Site 1	Site 2	Site 3
'Stevens'	Tremont St, Carver	Rochester Rd, Carver	Dunham, Kingston/Plympton
'Howes'		Rochester Rd, Carver	Correira Kingston/Plympton



# Microclimatic conditions



- ✓ Photosynthetically active radiation
- ✓ Temperature and relative humidity
- ✓ Soil moisture and temperature
- ✓ Rainfall
- ✓ Wind speed

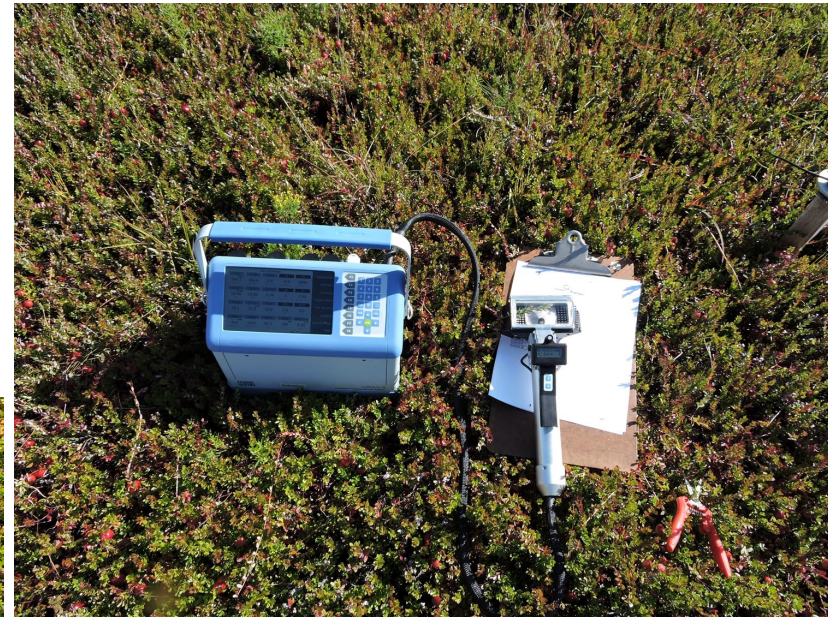




# Plant ecophysiology & biomass



- ✓ Leaf gas exchange measurements
- ✓ Rapid light curves & CO<sub>2</sub> response curves
- ✓ Biochemical responses
- ✓ Light interception
- ✓ Biomass samples





# Yield and fruit quality



- ✓ Yield
- ✓ Fruit color
- ✓ Firmness
- ✓ Internal quality
- ✓ Fruit size



# Other parameters



- Soil compaction
- Plant nutrient analysis





# Expected outcomes



- Research-based information about long-term shading effects on cranberry physiology, yield and fruit quality
- Develop best management practices for the cranberry industry when considering and/or implementing dual use
- Disseminate results of the project to stakeholders via grower meetings, newsletters, and extension fact sheets.



# Acknowledgements



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## **About the Solar Energy Technologies Office**

The U.S. Department of Energy Solar Energy Technologies Office supports early-stage research and development to improve the affordability, reliability, and domestic benefit of solar technologies on the grid. Learn more at [energy.gov/solar-office](https://energy.gov/solar-office).