

Robot-powered plant science helps grape growers predict yields, detect pest threats

For grape growers, accurately predicting each season's yield is key to a successful harvest. Underpredict, and you won't have enough labor on hand or you'll run out of storage space; overpredict, and you could fall through on promises to your distributors.

Two Cornell researchers are tackling the age-old problem using 21st century tools: inexpensive, touch-sensitive soft robots that can help growers predict yield and detect fungal threats.

Justine Vanden Heuvel, associate professor of horticulture in the College of Agriculture and Life Sciences (CALS), researches strategies to help grape growers improve their environmental and economic sustainability. Kirstin Petersen, assistant professor of electrical and computer engineering, studies bio-inspired and soft robotics.

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[W]ith their combined expertise in plant growth and machine learning, the researchers realized that they could predict yield very early in the season, when the flower clusters first emerge.

"There's a specific cohesion about how the leaves grow and where the clusters appear," Petersen said. "Before berries even form, we can go out and do this with something as simple as a smartphone and a flashlight, which is incredible."

Read full, original article: [Digital agriculture workshop highlights radical collaborations](#)