

The Foundation for Food and Agriculture Research (FFAR) is pushing the boundaries of traditional agriculture with a new public-private partnership that will develop crops specifically suited for indoor environments.

To achieve this, the Precision Indoor Plants (PIP) Consortium is studying the environmental and genetic factors that help agriculture thrive indoors, says FFAR's executive director Sally Rockey.

According to Rockey, this research will provide unique insight for the industry as most other studies on this type of farming focus on design elements for indoor systems, such as vertical productions facilities and lighting, rather than the plants themselves.

The PIP collaborative has joined together world-class indoor growers, breeders, genetics companies, and agricultural equipment leaders, including AeroFarms, BASF, and Benson Hill Biosystems, among others. These participants are pooling resources to fund research on the best means to present nutritious, flavorful crops that can grow anywhere, year-round, profitably.

Specifically, PIP says its research will explore how to improve nutrient content and yields, decrease the amount of energy needed for production, and help crops perform their best in indoor conditions.

So far, FFAR has committed to investing US\$7.5 million in PIP, and with matching funds from participants, the consortium will grant a minimum of US\$15 million to its studies.

This move is just part of the growing trend of indoor agriculture, also called controlled environmental agriculture (CEA).

The "booming" interest in this type of agriculture has been attributed to the new needs of our growing world. The challenge of feeding a rapidly rising global population in a sustainable way has influenced researchers to examine innovative food production approaches, says *PR Newswire*.

Producing crops indoors could also be a solution for challenges arising from a changing climate, adds the company.

Today, lettuce and other leafy greens have successfully become profitable CEA, while PIP's research seeks to expand this to include a variety of other crops, such as herbs, tomatoes, strawberries and blueberries.

Initial PIP projects will focus on increasing nutritional content and changing the size and shape of the plant.

"This research has implications for a wide variety of agricultural environments, including outdoor agriculture and space," the entity said.

"For farmers planning outdoors, PIP's research has the potential to reduce strain on the environment, make crops more resilient to stresses, bolster food and nutritional security and shorten the supply chain for producers.

"The research is also useful for government agencies and corporations interested in growing food in space for long-term space exploration."