

## Florida farmers could cash in on plain old vanilla as new crop

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In the tropical climes of Florida, researchers are trying to breed the state's next commercial crop. It could be vanilla. Products like vanilla extract and beans that flavor ice creams and lace perfumes come from plants in the genus *Vanilla*, part of the orchid family.

Florida's farmers might want to look into the plant's tasty potential as a valuable secondary crop. The spice could be nice for Florida's agriculture and may help solve a budding global dilemma.

Consumers take the world's second most-prized spice (after saffron) for granted, but the vanilla industry faces major challenges:

- Vanilla prices have skyrocketed in recent years as major food brands attempt to [go all-natural](#), dumping the artificial flavor vanillin. Vanilla is now [more valuable](#) than silver, selling for around \$600 a kilogram.
- Climate change and geopolitical challenges are affecting world vanilla suppliers like [Madagascar](#) and [Mexico](#), contributing to rising prices and global supply instability. In 2017, a cyclone hit Madagascar, killing at least 81 people and damaging 30 percent of the crop. Vanilla farmers on the island country [risk their lives](#) defending the precious crops from thieves.
- Most of the industry relies on one species of vanilla orchid, *Vanilla planifolia*, leaving the bulk of the world's supply susceptible to an opportunistic disease or pest.

Vanilla production in Florida could open up a niche economy for the state and help diversify its agricultural offerings.

"Many growers are looking at alternative crops not only as a new or additional revenue stream, but also as a way to have some risk diversity with ag," said Sonia Tighe, executive director of the Florida Fruit and Vegetable Association.

Matt Adair is lead researcher with the Florida Research Center for Agricultural Sustainability, which primarily works with citrus growers and former citrus growers, many of whom are still reeling from citrus greening.

He said that they are always looking for promising new crops.

"A lot of growers, at least in citrus, have either sold to development or they have [stopped citrus farming] and put cattle on [the land] to keep their ag exempt status," Adair said. "They're looking for new things to grow."

To make things even sweeter, vanilla farming in Florida would not necessarily require more acreage. Existing tree orchards could double as vanilla farms, said Alan Chambers, an assistant professor of genetics and the breeding of tropical fruit with the University of

Florida. Avocado trees, with their height and shady canopy, would be an ideal structure for vine-like vanilla plants to climb.

“We call them tutor trees,” Chambers said. “In terms of co-cropping, you want a shade tree that’s long-lived and doesn’t require a lot of chemical inputs like fungicides or insecticides.” “Co-cropping” the vanilla with avocado, citrus or nut trees on existing farms would mean getting more use out of the same piece of land, a win-win for growers and the environment.

Compared with traditional monoculture, the dual system would have its challenges. Another option for growing vanilla in Florida is monoculture in shade houses. The simple and relatively inexpensive structures can sustain the right conditions for plants to thrive and enable more intensive production.

### Vanilla blueprints

There are years of research to do before vanilla is determined commercially viable in Florida.

Existing varieties of vanilla will grow in the state, but Chambers said there’s lots of room for improvement.

A piece of the puzzle might come from remote South Florida swamps, the home of the state’s native vanilla species. Their genetic material could help create a better commercial crop.

There are four species of vanilla orchid native to Florida, all of them endangered by habitat destruction and illegal collection.

Chambers said the native species do not have commercial potential as they are, but he is interested in their genetics.

By combining the best genes from native and non-native varieties, he and colleague Elias Bassil will attempt to create new, superior varieties of vanilla.

Chambers describes the process as “going from wild material, which is pretty much what we have now, to something more domesticated — including higher yields, less disease, better taste and improved production qualities.”

Blueberries and strawberries went through a similar cultivation process in Florida. It is just a matter of investing the time and resources in vanilla. Thanks to modern technology, vanilla’s journey will be much quicker. Chambers says it is a five- to 20-year prospect.

Then there is the taste factor.

“There is so much flavor chemistry work still to be done, especially for new hybrids,” Chambers said. “I have a very heavy focus on fruit quality for each of my tropical species, but vanilla is an especially fun one.”

The end result could be delicious new varieties of vanilla with their own distinct flavor profiles.

“Considering we’ve had vanilla for hundreds of years, if they would have done this a hundred years ago we’d already have amazing kinds of vanilla,” Chambers said. “So someone’s got to start.”