California-based Monarch Tractor will begin field trials in Oregon this year of its new self-driving electric tractor.

Electric tractors are a new frontier in U.S. agriculture, so researchers, farmers and Monarch Tractor staff will be teaming up to test the new vehicle across California, Washington and Oregon with USDA Conservation Innovation Grant funding, Capital Press reports.

The Oregon portion of the pilot project will take place at Hopville Farms, with sites in Clatskanie and Independence. Jim Hoffmann, farm owner, plans to test the tractor on hundreds of acres of blueberries.

Hoffmann estimated he will decrease air pollution on-site, reduce noise, save about 1,500 gallons of diesel per year and, because the tractor has a self-driving option, potentially save thousands of hours of employee labor.

“Like all farms, I’m constantly looking at how to do things better,” said Hoffmann.

He plans to use the self-driving electric tractor for many tasks, including mowing between blueberry rows.

Hoffmann said he’s also excited the tractor carries multiple sensors and has ports for more sensors so Hoffmann can track data on pest pressure, plant health and productivity.

While moving through fields, the electric tractor can simultaneously collect data from “root to fruit” — from ground floor to fruit level — said Scott Fairbanks, an independent researcher and computer science expert at Oregon State University.

This September, Fairbanks plans to assign several of his engineering students to do capstone senior projects related to this electric tractor’s data-collecting capacities.

“I think what Monarch has done is really powerful,” said Fairbanks. “It’ll be almost like a

goldrush: for (OSU) students to go in and figure out what data is valuable."

The e-tractor, according to Monarch Tractor co-founder and CEO Praveen Penmetsa, can be programmed once for a particular field and will then "know" that route. The tractor also uses an artificial intelligence visual system to "see" each field and relies on a backup GPS system.

The tractor can be recharged at any standard 220-volt outlet.

One of the downsides of the e-tractor is that, compared to a diesel tractor that can quickly be refueled, the e-tractor's battery life is expected to be only 6 to 10 hours.