The dragon fruit plant is markedly distinctive—its copious branches spray out in long, spindly cactus arms, the fruit’s flesh can be anywhere from a bright white to a reddish-fuchsia, and before the fruit is peeled, it looks like a fish caught in a still frame, wavy tendrils covering its circumference. Despite its inimitable appearance, the IPM Innovation Lab has discovered that it might take a little covering up to save the unique fruit from its enemies.

Every year, Vietnam produces hundreds of thousands of pounds of dragon fruit that bounds across nearly 90,000 acres of land. A number of pests including fruit flies, mealy bugs, stink bugs, in addition to fungal diseases like canker disease and anthracnose, find the fruit as alluring as people do, which is why the IPM Innovation Lab uses sleeves to protect it.

The IPM Innovation Lab, funded by USAID, collaborates with the Southern Horticultural Research Institute (SOFRI) in Vietnam on a project that applies IPM technologies to four exportable fruit crops. White plastic sleeves with small holes along the border have been most successful mitigating canker disease and fruit flies; the white covers, rather than clear, moderate sunburn, and the holes drain water that may accumulate, especially if the fruit is curved upwards. Sleeves, as opposed to the once-used bags, offer a better alternative that allows farmers to regularly monitor and manage their fruit.

With canker disease especially exasperated on young shoots and fruit in the wet season, farmers usually increase usage of pesticides to protect their crops from pests and diseases, making fruit unacceptable for export and putting families at risk. Sleeving offers an economical, safer option where farmers and communities don’t have to make the difficult choice between safe food and more food.

“The farmers were very scared,” Dang Thuy Linh, Plant Pathologist at SOFRI, said about farmers working on a dragon fruit orchard in the Cho Gao-Tien Giang province of Vietnam. “Dragon fruit supports people’s entire income, so now they are relieved to see problems being reduced.”

Farmers report that dragon fruit sleeving results in significantly less physical labor; it reduces chemical sprays by 4-7 times, which is 60% less sprays than what’s required for un-sleeved dragon fruit. Sleeving generates nearly 30% more marketable fruit than control plots that don’t use IPM technologies and farmers are also saving money by not purchasing as many pesticides.

Further, several regional companies purchase the IPM-engaged crop and have demonstrated a movement toward employing mostly women for the handling and cleaning of the dragon fruit amongst the export process.

It is with a distinctive fruit that comes simple and effective technology, and one that, like the wild branches of a dragon fruit plant, seem to effortlessly multiply.

“Many farmers kept calling and calling asking where to buy the dragon fruit bags,” Nguyen Thanh Hieu, Plant Pathologist at SOFRI, said. “I would say, where are you? I’ll bring them right to you.”