

In 2016, a rancher on Hawaii island saw a large swath of his green pastures quickly turn brown. Surveys revealed a new invasive pest and even more damage: the two-lined spittlebug (*Prosapia bicincta*) had already decimated 2,000 acres of his land in the Kona area. Over the last four years, the infestation has expanded across 175,000 acres of rangeland — an area nearly half the size of Oahu. At this rate, the voracious bug is consuming 35,000 acres of pasture land each year. Maui ranchers are worried that the two-lined spittlebug will make it to our island and damage pastures here.

Native to the Eastern United States, the two-lined spittlebug is a recognized pest of pastures and turfgrass in North America and elsewhere in the world. Aptly named for the two bright orange lines on the adult's black wings, the "spittle" part comes from the white frothy mass that young nymphs make by blowing bubbles out of their abdomen, creating a camouflage defense from predators. Mature two-lined spittlebugs have a deep red head, abdomen and legs. Nearly a half-inch long, they are highly active, able to jump almost 3 inches high. The crop damage comes from the bug's feeding habits. Spittlebugs are sap suckers — feeding primarily on grasses. The saliva of adults contains an enzyme that interferes with photosynthesis and can even kill grasses at the root.

Kikuyu is the dominant pasture grass in the state; about 70 percent of livestock production relies on this protein-rich food source. Even if this invader doesn't kill the grass, it can reduce the overall nutritional value and palatability of kikuyu. Kikuyu grass benefits more than just cattle, helping to curb erosion of our watersheds and reduce coastal runoff.

"Even though it is not native, kikuyu is a great ally to conservation efforts and key in land stewardship," said Jordan Jokiel, vice president and land manager of Haleakala Ranch. "From grazing, to silviculture, to native reforestation efforts, kikuyu keeps down ecosystem-altering weeds, not only in pastures but remnant native forests as well."

When kikuyu and other pasture grasses are weakened or reduced, invasive and cattle-toxic weeds such as blackberry, gorse, crofton weed and fireweed can move in.



The saliva of the two-lined spittlebug contains an enzyme that kills grasses at the root. Since its discovery in 2016, it has destroyed more than 175,000 acres of rangeland on Hawaii island. When pasture grasses are weakened or reduced, invasive weeds can move in. — CTAHR photo

The crippling effects the two-lined spittlebug could have on the state’s \$45 million-a-year cattle industry is significant. It would also hinder efforts to increase food security by raising more meat locally. Although not yet on Maui, the fast-paced movement of this pest poses a serious threat. “The potential impact of the spittlebug on Maui would be huge,” said William Jacintho, a fourth-generation rancher and president of the Maui Cattlemen’s Association. “With the rate of how it spreads, we’re like sitting targets, not knowing if or when it will hit.”

Prevention and early detection activities are key to stopping this pest from reaching Maui or finding it early when it can still be controlled. To help stop its spread on Hawaii island and prevent it from becoming established on other islands, the Natural Resources Conservation Service, Big Island Invasive Species Committee, Hawaii Cattlemen’s Council and the University of Hawaii Extension Service established a working group for research and outreach.

Franny Brewer, Big Island Invasive Species Committee public relations specialist, urges the public to “monitor your lawns and pasture areas and report large patches of dead grass that can’t be explained by environmental factors.” Brewer also encourages people to learn what the two-lined spittlebug looks like.

“If you see one, trap it, and report it to 643-PEST immediately,” Brewer said.

Jacinto also emphasizes good cleaning protocols to prevent inadvertent spread of the bug.

“If you are in any pasture, make sure you clean your boots, equipment, and check your cars and bags,” he said. “If you don’t have a reason to visit a pasture known to have the spittlebug, don’t go.”

Many new invasive pest species are reported by the public. We rely on the eyes and ears of our community to ensure the protection of our island home.