

Insect only part of what's plaguing cane, scientists say

BATON ROUGE — When scientists began noticing Roseau cane dying near the mouth of the Mississippi River last year, it took months to find the likely culprit.

Eventually, they concluded that a tiny insect known as the Roseau cane scale had made its way from Asia to south Louisiana and was feasting on the grassy cane that forms a major component of the marsh ecosystem.

The bug, which is smaller than a human fingernail, was turning lush, green swaths of marsh to barren, dead brown. Moreover, researchers quickly found the scale in cane beyond Plaquemines Parish — in Jefferson, Lafourche, Terrebonne, St. Bernard, even Tangipahoa parishes.

The reaction was immediate: Federal money was requested to study the insect, state agencies joined with academics and their federal counterparts, and people began worrying about other plants, like sugarcane. If the bug should jump to cultivated crops, the thinking went, its impact could be even more devastating.

The researchers quickly hit some roadblocks. Scientists were unsure of what measures could be taken to stop the cane scale. The immediately available options were fire or the intentional breeding of wasps that feed on the scale, and either of those could bring its own set of problems.

But there were also some promising signs: places where dying cane is adjacent to healthy cane and some places where the cane, especially a European variety, seems more resistant to die-offs.

Then the researchers noticed some dying cane without the insect on it.

“A couple of our guys went out in Cameron and Vermilion (parishes) within the past month or so,” said Vaughn McDonald, of the Louisiana Department of Wildlife and Fisheries. “They noticed some stands of cane that looked stressed, looked like everything else that had the scale on there, but didn’t have any scale,” he said.

That left two questions: What’s causing the die-offs in those areas, and why do some strains of Roseau cane not seem to be bothered by the insects?

“These die-offs may be a combination of factors,” said Rodrigo Diaz, an LSU scientist who has been monitoring the scale.

He said the die-offs may be caused by a variety of factors, of which the scale is just one. Those could include changes in water level, plant pathogens, toxins in the sediment, salinity, nutrient mix or water chemistry.

The Department of Wildlife and Fisheries is also studying the problem, taking soil samples, testing roots and genotyping the cane, meaning investigating its genetic makeup.

McDonald said this is the normal process in research such as this.

“It always happens, when you start looking into (a problem), it turns into more than one thing,” he said. “The path forward is to find out exactly what’s going on.”

It may turn out, he added, that the state’s Roseau cane die-offs are part of a natural cycle.

Regardless, Diaz said, the loss of the cane is devastating for marshes and for protection against erosion. Its natural replacements, like elephant ears and water hyacinths, absorb far less wave impact and don’t hold as much soil as Roseau cane.

“As Roseau goes, you start losing sediments that you need,” Diaz said. “You can get it back, but you have to act quickly.”