Press Journal

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Bad for weeds - and us?

Pesticides' effect on Indian River Lagoon not tested or heavily regulated

Treasure Coast governments spray more than 100,000 gallons of weed- and bug-killing poisons yearly at sites where the runoff can flow into waterways, but with minimal regulation, there main guideline is "follow the label instructions."

Agencies and manufactures insist the chemicals sprayed in marshes, canals and ditches are safe, but no one tests for residue or effects of the Indian River Lagoon and other waters, despite a 1997 test that showed pesticide pollution in the St. Lucie River.

State officials say chemical companies work with the Environmental Protection Agency to craft safe instructions. "It's like going to the pharmacy and getting drugs – you're going to have to trust the label to use the drugs," said Francois LaRoche, who oversees the South Florida Water Management District's vegetation control.

Letting chemical companies set guidelines eliminates any meaningful oversight and leaves environmental health in industry's hands, said critics like Linda Young, director of Florida Clean Water Network. "Those companies – those interest groups – they really call the shots anymore," she said.

The Department of Environmental Protection and other state agencies have tested surface waters for pesticides only sporadically because no laws require them to do more. They also haven't studied whether chemicals, which can harm people, contribute to the loss of sea grass and animals vital to the lagoon's food web.

The DEP's last full-scale test on local waters was 1997, when if found 19 pesticides in the St. Lucie River's North Fork. One pesticide, Ethion, was 28,000 times higher than the state standard for that chemical.

The DEP and the Department of Agriculture and Consumer Services historically have taken a reactive approach, testing for pesticides only when there was a complaint or threat from, say, a spill.

"There needs to be the evidence to justify the effort to go out there," Tom Frick, the DEP's director of environmental assessment, said in a February interview about trace residue a Scripps Treasure Coast Newspapers herbicide test found in the lagoon.

Scripps' test was the first public one on the lagoon, and it targeted three common herbicides the DEP tests haven't covered: glyphosate, diquat and indaziflam.

In the past year, the DEP has tested some pesticide-sprayed water bodies – none on the Treasure Coast – to learn which chemicals are most prevalent and might require more regulation, said agency spokeswoman Dee Ann Miller.

Ignoring the possible cumulative effect of smaller doses, however, the state has no cap on the amount of pesticides allowed in a water body, and the EPA recommends only that the amount not immediately harm aquatic life.

The South Florida water district has testes the Everglades and Lake Okeechobee for decades until 2011 the C-44 Canal, but never the waters into which the canal flows – the St. Lucie River and lagoon, spokesman Randy Smith said.

Hefty costs are the main reason nonprofit researchers don't do extensive testing, said Warren Falls, managing director for the Ocean Research & Conservation Association, which collected Scripps' 18 samples. Testing them cost $3,500.

"We would love to do the work, but we need the funding to do so," Falls said.

Indian Riverkeeper Marty Baum called the lack of testing a political tactic to avoid regulatory action. "We can't hold them (polluters) responsible if we really don't know what's there," Baum said. "If the waters were properly and comprehensively tested, it would so scare … everybody that they would be forced to do something."

Scripps' herbicide test detected trace amounts of glyphosate, diquat and indaziflam. of insecticides, some of which can be toxic to some fish and invertebrates. Atrazine for example, shows up on several governments' pesticide lists.

Governments say they use as few chemicals as possible to minimize costs and environmental damage. The Indian River Farms Water Control District, for example, sprays vegetation only at the bottom 2 feet of canal embankments, rather than dousing the entire canal, superintendent David Gunter said.

While the South Florida water district's 2013 purchase of 64,000 gallons and 4,000 pounds of herbicides might seem like a lot, LaRoche said, the chemicals are spread over 2,000 miles of canals and 70,000 acres of stormwater treatment areas. That's an average of 31 gallons and 2 pounds of chemicals per mile.

Authorities still disagree about their potency, longevity, and effect on waters.

Some say glyphosate – used in Roundup and Rodeo, commonly used by homeowners and governments alike – dissipates within several days in water. Other research shows it can last up to several months, especially in murky water like the lagoon because there's less sunlight to break it down.

Gunter claimed glyphosate breaks down too quickly to reach the lagoon, and other chemicals that coast dead vegetation would not transfer onto live plants and would be too diluted to harm the lagoon's flora.

Pat Brown, a Vero Beach chemical engineer and consultant, questioned this argument and any claim that herbicides are discriminating and can target a specific plant. Diluting them doesn't always render them harmless either, he said, explain it can make the threat more gradual.

More research should be done on what happens when chemicals mix, the Indian Riverkeeper said, noting that blending the pesticide atrazine with glyphosate makes the two 1,000 times more potent.
"They may be pretty innocuous by themselves," Baum said, "and then they meet in nature somewhere and things go crazy."