

Scientist: Salvinia extract could kill salvinia

By Bonnie Culverhouse/The Press-Herald 4:31 p.m. CDT September 6, 2014



(Photo: Jim Hudelson/The Times)

MINDEN — A giant salvinia extract being investigated as a possible cancer-fighting agent can be used to kill the plant that is draining the life of Lake Bistineau, says the head of the National Center for Pharmaceutical Crops.

Lab and field tests show that the chemical successfully controlled the plants in various stages of growth, said Shiyou Li, director of NCPC at Stephen F. Austin State University.

"This could be a really good tool in fighting the salvinia on Bistineau," said state Rep. Gene Reynolds, D-Minden, who was in a group that recently traveled to Lock & Dam #3 on the Red River Waterway to meet with Li.

"The researchers have been experimenting with getting chemicals out of salvinia for cancer research," Reynolds said. "In the process, they crush the salvinia and get a mixture of compounds — endocides."

"Endocide" is short for endogenous biocide: "an agent derived from a source that does not cause apparent poison in normal growth of the producing plant, but when exposed has biocidal effects in that species," according to NCPC.

"It breaks down the cell walls underneath the salvinia leaves and destroys the roots," said Reynolds, a retired science teacher. "In three or four hours, we could actually see the process taking place."

"It's like an autoimmune system that turns on itself," he continued. "At this time, it has no effect on other plants. They showed some areas where they sprayed where there were other plants involved. In four months, the salvinia was gone and the other plants were fine."

Every year he has been in office, Reynolds has introduced a bill asking for money to help with the salvinia problem on Lake Bistineau.

"This is so intriguing, I'm going to include this in my next bill," he said. "We don't know how much money they will need, but my bill allows up to \$300,000 for three years."

"With EPA approval, they (NCPC) will come to Lake Bistineau and do clinical trials on a wider area," he continued. "They want to see what it will do on a wider area than their experimental ponds — Lake Bistineau is perfect for that."

The entire process, from collection and extraction to treatment and residue disposal is under patent application. It is relatively low cost and can be completed in the field. Salvinia decomposition can be seen in as little as two weeks, leaving the surrounding plants and wildlife unaffected.

Mike Wood, biologist director with the state Department of Wildlife and Fisheries, is the state official in charge of finding a solution to the growing problem. The endocide is interesting, he said, but he isn't sure it will happen quickly.

"It's certainly innovative to take the plant itself to kill the plant," Wood said. "However, I could see that it's very preliminary. I saw many folks at the demonstration who have heightened hopes that this may be something that would be useful in the near future, but I'm doubtful."

Although the procedure can be done on-site, Wood said it seemed very labor-intensive.

"I expect it would have to go through a process to synthesize this material," he said. "Then there are the EPA hurdles that are extensive and take time."

About 50 lakes around Louisiana are infested with salvinia, and Wood described 17,000-acre Lake Bistineau as among the worst-hit.

"It's because of the lack of wind and wave action on Bistineau," he said. "Other, more open lakes don't have this problem because wind and waves sweep the plant to the shore where it dies. Because of the trees on Lake Bistineau, that doesn't happen."

Drawdown of the lake is at target level, and there is a possibility of adding one more month, ending it in January.

Wood said he would like to hear from the various interest groups, including residents from around the lake. The Bistineau Task Force will meet Sept. 18, and Wood hopes attendance will be good.

"I hope these groups will have some representation and have the opportunity to say what they think," Wood said. "I don't want it to be lop-sided and whoever's the loudest rules the day. But we don't want to damage anyone's recreational enjoyment of the lake."

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