

Researchers confirm glyphosate resistance in junglerice

September 18 2018



Credit: CC0 Public Domain

There has been a lot of publicity in recent years about growers battling glyphosate-resistant pigweed in soybean and cotton crops. But pigweed isn't the only weed resistant to glyphosate. New research published in the

journal *Weed Science* shows certain populations of junglerice (*Echinochloa colona*) are now among a growing number of weeds resistant to the herbicide.

Junglerice is a weedy grass that grows in rice, corn and vegetable crops, in gardens, on roadsides and along waterways—primarily on the U.S. West Coast and in the South. Populations of junglerice resistant to multiple herbicides have previously been found in Arkansas, California and Mississippi, but [glyphosate](#) wasn't among them. Now, though, new glyphosate-resistant populations have emerged in Mississippi and Tennessee.

A research team set out to determine the magnitude of junglerice's [resistance](#) to glyphosate and to identify the specific mechanisms of resistance. Their study showed a glyphosate-resistant population of junglerice discovered in Mississippi was four times more resistant to the herbicide than susceptible populations, while a population in Tennessee was seven times more resistant.

Researchers identified two separate mechanisms of resistance. In one population, resistance was attributed in part to a target-site mutation in an EPSPS gene. In a second [population](#), resistance was conferred by the reduced translocation of glyphosate.

"Our research shows that integrated management strategies are fundamental to the effective control of junglerice," says Vijay Nandula, a plant physiologist with the USDA's Agricultural Research Service in Stoneville, Mississippi. "It is imperative that growers use a wide range of chemical, cultural and mechanical tools."

More information: Vijay K. Nandula et al, Glyphosate-Resistant Junglerice (*Echinochloa colona*) from Mississippi and Tennessee: Magnitude and Resistance Mechanisms, *Weed Science* (2018). [DOI:](#)

[10.1017/wsc.2018.51](https://doi.org/10.1017/wsc.2018.51)

Provided by Cambridge University Press

Citation: Researchers confirm glyphosate resistance in junglerice (2018, September 18) retrieved 20 March 2024 from <https://phys.org/news/2018-09-glyphosate-resistance-junglerice.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.