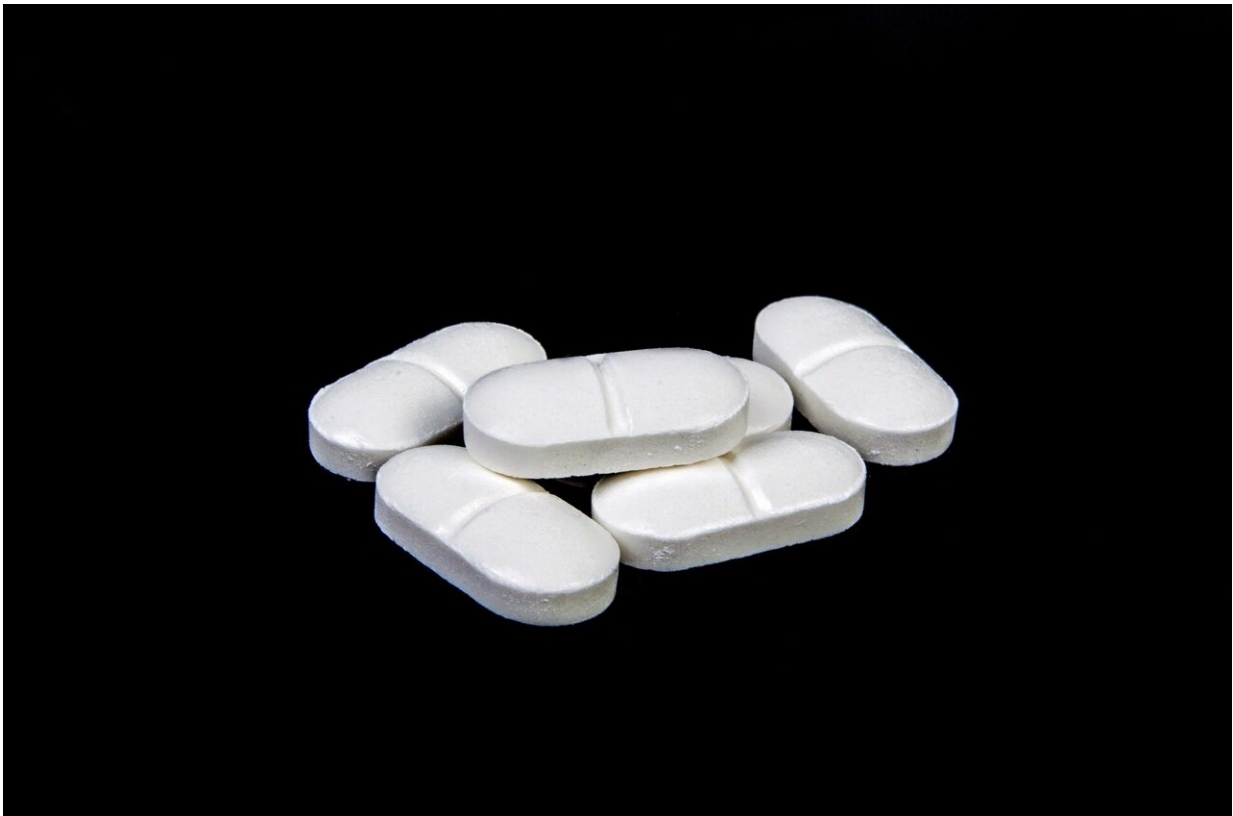


Study finds aspirin takes the headache out of restoration

June 9 2021



Credit: CC0 Public Domain

New Curtin research has shown how a readily available, cheap and safe-to-use product found in the medicine cabinet of most homes could be the key to better ecological restoration practices with major benefits for the

environment and agriculture.

The study revealed that aspirin, which naturally occurs in the bark of the willow tree and other plants, can improve the survival of grass species important for [ecological restoration](#) and sustainable pasture when applied in a [seed](#) coating.

Lead researcher Dr. Simone Pedrini from the ARC Centre for Mine Site Restoration in Curtin's School of Molecular and Life Sciences, said [salicylic acid](#) has been used for its medicinal properties for more than 4000 years and its modern synthetic version, [acetylsalicylic acid](#), or aspirin, is one of the most widely used medications in the world.

"Our research found that aspirin can do more than just ease a headache; it can also help restore degraded land and ecosystems and establish sustainable pastures through improving [plant growth](#) and survival," Dr. Pedrini said.

"This study was performed on native perennial grasses and showed that applying very low concentrations of salicylic acid to the seed can improve plant survival and therefore its effectiveness in reaching [restoration](#) goals.

"Salicylic acid was already known for its ability to improve stress resistance for plants such as tomatoes, making it useful for the agricultural industry, but its effect on [native species](#) and potential to aid landscape restoration was still unknown."

Research team member and Director of the ARC Centre for Mine Site Restoration, John Curtin Distinguished Professor Kingsley Dixon said salicylic acid was applied to the seeds of the native grass species using a technology called seed coating, perfected by Curtin University researchers, that allows seed shape and size to be modified, improving

seeding efficiency, and can be used to carry growth benefiting compounds.

"This is the first study to deliver aspirin via coating on native species which means the technology can be scaled up for improving restoration targets such as the UN Decade on Ecosystem Restoration to be launched on 5 June 2021," Professor Dixon said.

"Further research is now needed to test salicylic acid as a coating in other wild species to improve native plant resistance to drought, extreme temperatures, salinity, pathogens, and herbicides.

"Moreover, coating with salicylic acid in combination with other beneficial compounds should be tested on a broader array of plant species used in restoration, as their combined impact on seed germination, emergence, growth and plant establishment could improve the successful deployment of native seed onto degraded landscapes, ultimately allowing for a more efficient seed-based restoration."

The full paper, "Seed encrusting with salicylic [acid](#): a novel approach to improve establishment of grass species in ecological restoration" will be published in *PLOS ONE*.

Provided by Curtin University

Citation: Study finds aspirin takes the headache out of restoration (2021, June 9) retrieved 26 April 2024 from <https://phys.org/news/2021-06-aspirin-headache.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.