

# New fungus to help Australian farmers fight fast-spreading weed

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Dr Ben Gooden, CSIRO research scientist, surrounded by fleabane weed. Credit: : GRDC

Farmers now have a new biocontrol tool to help fight one of Australia's most challenging agricultural weeds, flaxleaf fleabane, which causes

grain crop revenue losses of more than \$43 million each year. Researchers from Australia's national science agency, CSIRO, are piloting the release of a fungus from Columbia to help farmers tackle the weed.

Flaxleaf fleabane (*Conyza bonariensis*) is a fast-spreading weed from South America that damages cropping and grazing areas across Australia and impacts the livelihoods of many farmers. CSIRO weed ecologist, Dr. Ben Gooden, said flaxleaf fleabane is one of the most difficult-to-control weeds in grain cropping systems, and is estimated to affect nearly three million hectares of land in Australia.

"As flaxleaf fleabane has developed resistance to some herbicides, we hope that the biocontrol agent will be effective in reducing its populations across the country," Dr. Gooden said. "We identified a rust [fungus](#) called *Puccinia cnici-oleracei* in Colombia which infects flaxleaf fleabane and restricts it from growing by destroying the plant's tissues."

The fungus was imported into CSIRO's high-security quarantine facility in Canberra where scientists studied it extensively to determine if it would be safe to introduce to Australia as a biocontrol agent.

"Our research found the fungus can only infect flaxleaf fleabane, while all non-target plant species tested were resistant to it. Based on this research, the fungus is deemed to be safe and has been approved by the Department of Agriculture, Fisheries and Forestry for introduction to Australia," Dr. Gooden said.

Flaxleaf fleabane grows up to one meter and is a prolific seed producer. Each plant can produce over 100,000 seeds and these can disperse long distances with the help of wind, water, animals, and vehicles, explaining its rapid spread not just within local districts but into southern and western cropping and grazing regions in recent times.

The Grains and Research Development Corporation (GRDC) was one of the supporting organizations for the research. GRDC Manager Weeds, Dr. Jason Emms, said grain growers had been battling flaxleaf fleabane for many years as the weed competed for [soil water](#) across multiple stages of the crop cycle, which directly impacts production.

"Flaxleaf fleabane can run rampant during the fallow phase as there is little competition for light or moisture. Once established it is very difficult to control," Dr. Emms said. "A biocontrol agent for this problematic weed is very exciting as it may help to reduce overall populations when integrated with existing weed management strategies."

This research is generated from the project "Underpinning [agricultural productivity](#) and biosecurity by weed biological control." As release sites are strategically selected across the [weed](#)'s range, CSIRO, AgriFutures Australia and GRDC will provide the rust fungus and clear instructions to land managers wishing to introduce the [rust fungus](#) to areas with high flaxleaf fleabane infestations. Landowners will monitor the fungus and how it establishes and will report back to CSIRO on the impact it has on flaxleaf fleabane.

**More information:** Farmers wishing to participate in the biocontrol release program should register their interest with the CSIRO at [fleabanebiocontrol@csiro.au](mailto:fleabanebiocontrol@csiro.au)

Provided by CSIRO

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