

The science that stops possums eating your garden

August 30 2019, by Dr Daryl Holland



Credit: AI-generated image ([disclaimer](#))

In Australia, we have a love-hate relationship with our native possums.

We love to watch them scramble up a tree on a summer's evening and admire their agility as they skitter across power lines. But we threaten violence when subjected to the incessant scratching, and smell, when

they squat in our roof cavities.

Then there are the long-suffering gardeners who go out on a beautiful summer morning to admire their rosebush, or to pick fresh lettuce for lunch, and find the rosebush stripped bare or the lettuce clipped to the ground.

For gardeners there is now a solution that allows them to live in harmony with possums. And it's thanks to a developmental biologist from the University of Melbourne with a passion for citrus and an eye for invention.

Professor Lynne Selwood AO has created a spray that deters possums by using a naturally occurring insecticide found in some chrysanthemum flowers.

Professor Selwood has worked in the UK ,USA and Australia where she has done research on mammalian reproduction, focusing on marsupial developmental biology, captive breeding and fertility control of native marsupials.

In 2013, she was elected the first female president of the Royal Society of Victoria and in 2017 she was made an Officer of the Order of Australia.

She moved to Melbourne in the mid 1970s and during her research and teaching career, Professor Selwood always made time for her garden.

But, possums were a problem and so she began working on a solution in her kitchen.



Credit: AI-generated image ([disclaimer](#))

Professor Selwood wasn't interested in controlling [possum](#) numbers, just in discouraging them from eating her precious plants. And as with a lot of her research, she started with basic observation.

"I noted what they did and didn't eat. Even within particular plant types, there's only some that they like," she says.

"One of the defenses of plants is to have lots of toxins in the leaves as a defense against browsers. The browsing animals have a good sense of smell so that they can detect them, or they take a tiny nibble and if they don't like it, they don't go back. They have a very good memory for what they don't like."

Her plan was to make extracts of plants that possums avoided to see if

these could be sprayed on other plants as a deterrent. Jasmine initially seemed a good choice.

"But when I Googled jasmine, I found it had a toxin called gelsimine and I don't want to spray around a toxin if I can avoid it," says Professor Selwood.

The first breakthrough came while Professor Selwood was trying to control another pest.

"I had a problem with insects on my lemon tree; I'm very keen on growing citrus trees," she says.

She turned to pyrethrum, a naturally occurring insecticide found in some chrysanthemum flowers. As expected, it helped control the insects and Professor Selwood noticed another benefit.

"The possums tended to avoid these trees when I used pyrethrum and I knew from some of my work in the University that they didn't like the smell of pyrethrum," she says.



Credit: AI-generated image ([disclaimer](#))

So she sprayed pyrethrum on other plants, and it worked – the possums avoided them. But pyrethrum on its own had some major downsides.

"While it's highly regarded because it's an organic substance and people feel comfortable using it, unlike other insecticides, it's sensitive to sunlight and so it degrades after exposure to sunlight. And it's readily washed off," says Professor Selwood.

"I asked myself whether there was something I could adsorb it onto so that it would stick onto the leaf."

Professor Selwood trialled several mixtures.

"I tested it in my garden and in friends' gardens. It was exhausting," she

says.

And as with any field-based research, the results didn't always go as planned.

"In the early 2000s, the [powerful owls](#) started moving into Melbourne in big numbers," she says.

"One day, I was doing tests on a friend's garden and the results were a shambles and I thought, what's going on?"

"Then I felt something watching me and thought it was somebody in the house. I looked above my head and there was a powerful owl looking at me, as though saying 'what are you doing?'"



Credit: AI-generated image ([disclaimer](#))

"They are a natural predator of possums and rodents, so an owl watching over the garden, would really interfere with possum browsing.

Professor Selwood brought her invention to the University of Melbourne, who worked with her to patent the product.

Gardening supply brand Yates then licensed the invention and worked with the University and Professor Selwood to commercialize the product, releasing Yates Possum Repellent Spray in Bunnings stores around Australia.

She donated the patent rights and a proportion of the royalty and commercialization fees to the University.

Although Professor Selwood has been controlling possum grazing in her garden for years, she is still keen to keep her possum neighbors, so leaves some plants spray-free for them to graze on.

"I have a policy of not spraying at the top of a tree," she says.

"I'm not very tall, so I probably spray to about two-and-a-half meters, and the possums just eat the top. Quite convenient really."

Provided by University of Melbourne

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