

# GLYPHOSATE

A Chemical to Understand



## Report by Tim Low for the Invasive Species Council

A response to the International Agency for Research on Cancer (**IARC**) declaring that glyphosate is a probably carcinogen

### CONTACT US

- web: [invasives.org.au](http://invasives.org.au)
- email: [contact@invasives.org.au](mailto:contact@invasives.org.au)



[@ISCAustralia](https://twitter.com/ISCAustralia)



[facebook.com/  
invasivespeciescouncil](https://facebook.com/invasivespeciescouncil)



[OUR WORK](#) ▾

[ABOUT US](#) ▾

[HOW TO HELP](#) ▾

[News](#) ▾



[SUBSCRIBE](#)

## OUR WORK

We're protecting Australia's cherished natural places and wildlife from invasive species, one of the top three threats facing our native plants, animals.

## ABOUT US

The Invasive Species Council campaigns for better laws and protections for our native plants and animals from weeds, pests and feral invaders.

A large fire is burning in a field of tall grass. The fire is intense, with bright orange and yellow flames reaching high into the air. The background shows a line of trees under a clear sky. A person is visible in the distance, near the base of the fire.

# Gamba Grass

*(Andropogon gayanus)*

Grows 4 m tall

Has massively increased fire-fighting costs around Darwin

< Note the man

## 4. What would a ban mean?

**After the first American court case, Greenpeace urged the Australian Government to suspend sales of glyphosate.<sup>38</sup> Many Australian experts have since voiced concerns, but without calling for a ban – although that could change in future.**

Weed control officers in some Australian cities have objected to further use of glyphosate and some local governments are using or considering alternatives.<sup>39</sup> Fairfield City Council is now spraying sports fields with products whose active ingredients are dicamba, prosulfuron and Iodosulfuron-methyl-sodium,<sup>40</sup> which are not convincingly linked to cancer.

In 2004 the US Agricultural Health Study linked dicamba to lung cancer, but in 2017, with more data, it was concluded no link existed (Bonner et al. 2017). When the APVMA assessed prosulfuron it noted that 'Although an increased incidence of tumours was seen in a rat two-year dietary study, they were considered likely incidental and not treatment related' (APVMA 2012). The forerunner of the APVMA noted that iodosulfuron causes severe eye irritation in rabbits and weight loss



Marianne Bate, of the Narrow Neck Bushcare Group in the Blue Mountains, applies glyphosate to a drilled hole in the trunk of a holly tree, a woody weed that is impractical to control without use of herbicides.

Although these chemicals may turn out to be safer than glyphosate, some researchers warn that replacements are likely to be worse. A pesticide expert at the University of Sydney, Professor Ivan

The concern here is 'regrettable substitutions', whereby a replacement chemical is no better or even worse. Bisphenol A (BPA) is a controversial compound used in plastics, including

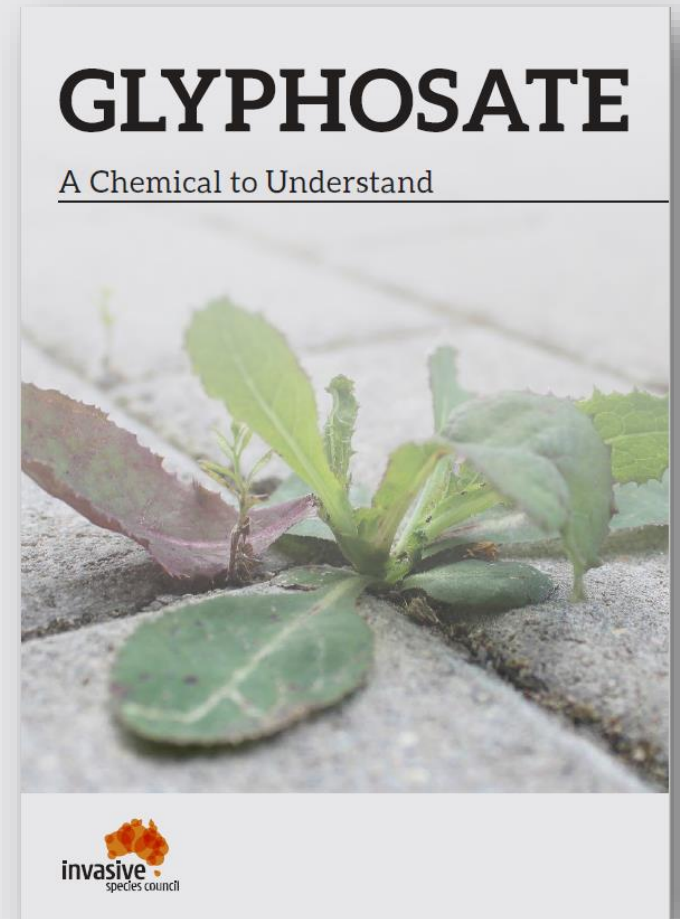
Herbicides  
don't  
disturb  
the soil

# 5. Some conclusions

**The widely used herbicide glyphosate has received intense international criticism, some warranted, some not. Glyphosate plays a major role in the control of agricultural and environmental weeds, but its use carries health risks. It could well be a carcinogen, but if used correctly, current research suggests it is unlikely to cause cancer in humans.**

**I took risks in writing this**

The Invasive Species Council has produced this report in an attempt to reconcile the conflicting findings, and to consider the outcomes if Australia bans glyphosate. The views expressed in the report are those of its author, Tim Low, not those of the council.



# 5. Some conclusions

A ban on glyphosate would have serious environmental consequences. Weed invasions would increase in areas of native vegetation including national parks, and erosion would increase on farms.

Would a ban on glyphosate be a win for the environment?

## CONTACT US

- web: [invasives.org.au](http://invasives.org.au)
- email: [contact@invasives.org.au](mailto:contact@invasives.org.au)



@ISCAustralia



[facebook.com/  
invasivespeciescouncil](https://facebook.com/invasivespeciescouncil)

## What experts have said

Expert opinions about glyphosate are diverse. Here are comments from all the Australian experts who could be found quoted in media articles. The more negative opinions appear towards the end.

Professor Ivan Kennedy is an expert in risk assessment and environmental fate of pesticides at the University of Sydney:<sup>21</sup>

'The International Agency for Research on Cancer made a bad mistake in claiming glyphosate was a probable cause of cancer. There is no convincing evidence for this and much evidence gathered over 40 years about it as the safest herbicide known. Any replacement will be more likely to be damaging to human health.'

## My Goal was not to praise glyphosate

## Striving to be open about the evidence

Cancer epidemiologist Bruce Armstrong is emeritus professor at the University of Sydney:<sup>23</sup>

'I think they (local councils) should stop using it where, at the moment, there is a practical alternative.'

'And they need to look at all of their uses and ask the question, "Is there a way in which we can avoid needing to use this"?''

# “today’s world abounds in carcinogens”

Those who use it glyphosate according to safety instructions are likely to face greater risks from other carcinogens such as sunshine, alcohol and salami.

Cancer is such a feared disease that many people might suppose that any cancer risk is reason to ban a chemical. But today’s world abounds in carcinogens. IARC hazard assessments (see Table 1) show it is less certain that glyphosate causes cancer than it is about sunshine, alcohol, salami (and other processed meats), salted fish and wood dust.<sup>12</sup>

Table 1. Hazard assessments by the International Agency for Research on Cancer

Group 1: Carcinogenic to humans	Group 2A: Probably carcinogenic to humans
Benzene	Creosotes
Coal, indoor emissions from household combustion of	Frying, emissions from high-temperature
Coal-tar pitch	Glyphosate
Engine exhaust, diesel	Hairdresser or barber (occupational exposure as a)
Estrogen therapy, postmenopausal	Night shift work
Ethanol in alcoholic beverages	Red meat (consumption of)
Leather dust	Very hot beverages at above 65 °C (drinking)
Nickel compounds	
Outdoor air pollution	
Painter (occupational exposure as a)	
Processed meat (consumption of)	
Salted fish, Chinese-style	
Solar radiation	
Welding fumes	
Wood dust	



**International Agency for Research on Cancer (IARC)**

**VS**

**Australian Pesticides and Veterinary Medicines  
Authority (APVMA)**

# 1. Hazard assessment versus risk assessment

**The danger posed by a chemical can be assessed in two ways. A hazard assessment simply asks if a substance is capable of causing harm. A risk**

Under questioning in the Australian Senate, the Chief Executive Officer of the APVMA, Chris Parker, said he agreed with the IARC that glyphosate

needed to dissolve it, plus the detergents needed to allow the chemical to penetrate the leaf – the concentrate is a toxic cocktail. to be

The concern here is 'regrettable substitutions', whereby a replacement chemical is no better or even worse. Bisphenol A (BPA) is a controversial

In Perth one council trialled alternative methods on clovers and other small weeds growing beside a gravel trail, achieving some success with mulch, steam, pelargonic acid, pine oil, and salt and vinegar.<sup>54</sup> There was no suggestion that these methods will work against larger weeds. Trials are ongoing.

Newer chemicals (eg Atrazine) may be more dangerous; none are well studied

Non-chemical alternatives don't work

# Misleading Reporting

*The Guardian*: 'Monsanto's push to make use of glyphosate herbicides so pervasive that traces are commonly found in our food and even our bodily fluids, is just one example of how several corporate giants are creating lasting human health and environmental woes around the world.'

*My report*: 'the US President's Cancer Panel (Reuben 2010) ... noted 'traces of nearly 300 pollutants in newborns' bodies, such as chemicals used in fast-food packaging, flame retardants present in household dust, and pesticides.'

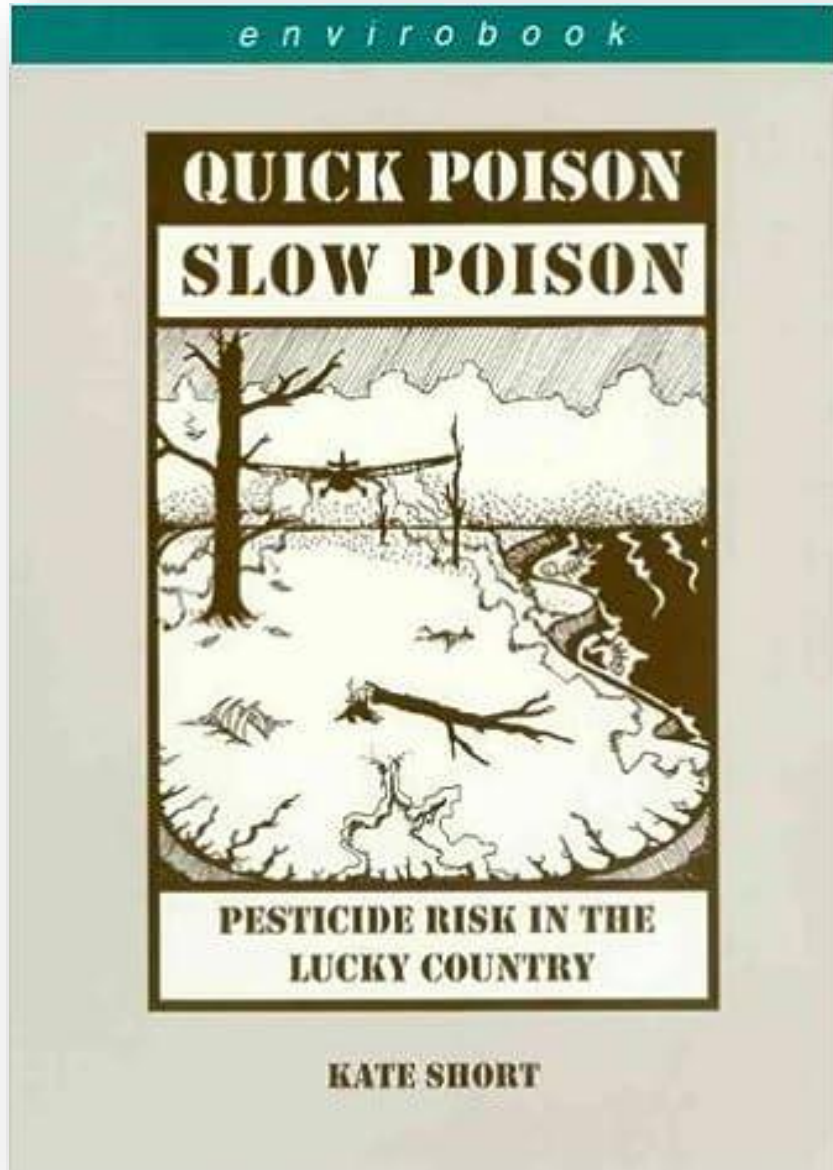
**Opinion**  
Monsanto

Who is paying for Monsanto's crimes? We  
are

*Carey Gillam*

Sat 30 Mar 2019 21:00

A US court ordered Monsanto to pay \$80m in damages because



"Kate Hughes, has campaigned against organochlorine pesticides, writing the book *Quick Poison, Slow Poison: Pesticide Risk in the Lucky Country* (1994), but she does not oppose glyphosate. ...

Without glyphosate the Macdonald River near her home would, she wrote, be 'virtually over-run' with invasive weeds (Hughes 2016).

## Support the Guardian

Fund independent journalism with \$5 per month

Support us →

# The Guardian

A decade of making a difference

[News](#)[Opinion](#)[Sport](#)[Culture](#)[Lifestyle](#)[More](#)

**Environmental investigations**  
Environment

## War of the weedkiller: why environmentalists are concerned about moves to ban Roundup

Many say herbicide is an essential tool in preserving biodiversity but others say it's a 'delusion' to think weed control is only possible with 'poison'

Supported by



About this content



Advertisement



Peter Dixon is a board member of the Australian Association of Bush Regenerators (AABR) - a group with more than 700 members promoting ecological restoration.

According to Dixon, the group's members are not worried about getting cancer, but they are worried about moves to ban glyphosate.

Jane Bremmer, a campaigner at the National Toxics Network, said glyphosate was prolific in the environment, dangerous, and court cases around the world had shown the herbicide was carcinogenic.

“I don't know how that evidence can be ignored,” she says. “It's an absolute delusion to suggest that you can only control weeds with poison.”

# Wet Tropics Management Authority response to concerns over glyphosate use in World Heritage Area

Recent media reports about the use of glyphosate in the Wet Tropics World Heritage Area (the Area) have inaccurately suggested that the Wet Tropics Management Authority (the Authority) has allowed inappropriate use of the herbicide within the Area.

The Authority's Executive Director, Scott Buchanan, said the Authority works to protect the World Heritage listed Area guided by the best science available.



“According to a report from the Invasive Species Council glyphosate is not as dangerous as some media reports imply,” Mr Buchanan said.

In a media statement released in November last year the Council stated: “Glyphosate is the main chemical used to control environmental weeds in Australia, so a ban would have serious consequences for nature conservation.”

# GLYPHOSATE

A Chemical to Understand



**Report by  
Tim Low  
for the  
Invasive Species Council**

Google “glyphosate” and “ISC”

## CONTACT US

- web: [invasives.org.au](http://invasives.org.au)
- email: [contact@invasives.org.au](mailto:contact@invasives.org.au)



[@ISCAustralia](https://twitter.com/ISCAustralia)



[facebook.com/  
invasivespeciescouncil](https://facebook.com/invasivespeciescouncil)