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Is South Africa ‘feeding its people toxins’, as the IFP alleges?

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Calling for a probe into “a possible crime against humanity”, a South African political party wants to halt the use of a weed-killer on major food crops. But do claims by the Inkatha Freedom Party about the widely used chemical glyphosate hold up?

Researched by [Vinayak Bhardwaj](#)

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Cancer risk due to weedkiller glyphosate deemed low but testing is irregular

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About 100 activists protested against biotechnology company Monsanto and genetically modified food in Durban in May 2016. Photo: AFP/RAJESH JANTILAL

“Why is South Africa poisoning its people?” asked Prince Mangosuthu Buthelezi, the leader of the [Inkatha Freedom Party \(IFP\)](#), in a statement released late last year.

This was after the party lodged a complaint with the [South African Human Rights Commission](#), a constitutional office set up to investigate the abuse of human rights.

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In the letter written to the commission, the IFP included a number of claims about genetic modifications to maize and soya and their effect on human health. But they specifically zeroed in on a chemical called **glyphosate**.

Glyphosate is sprayed on commercially grown food crops that are genetically engineered to resist its effects. So while spraying it with glyphosate kills weeds, it does not kill the crops. (Note: **RoundUp** is the most common brand name under which glyphosate is sold in South Africa.)

The IFP wrote that because the World Health Organisation classified glyphosate as “**probably carcinogenic**” (cancer-causing), “South Africa is feeding its people toxins, thus feeding the cancer pandemic”.

Does glyphosate contribute to cancer in humans? And if so, does glyphosate occur at high enough levels in South Africa’s food crops to likely cause cancer?

4 categories of cancer-causing agents

Central to the IFP’s complaint is the 2015 classification by the WHO’s **International Agency for Cancer Research** of glyphosate as “probably carcinogenic”.

Cancer-causing agents are **classified** into four broad categories:

- **Group 1.** Things that cause cancer in humans, for example, tobacco smoke.
- **Group 2:**
 - **2A.** Things that “probably” cause cancer, for example, the former pesticide DDT,
 - **2B.** Things that are “possibly” cancer-causing, mainly lab chemicals.
- **Group 3.** Things that cannot be classified as whether they can cause cancer or not, for example, caffeine,
- **Group 4.** Things that “probably do not” cause cancer in humans.

So according to this classification scheme, glyphosate’s potential to cause cancer in humans is quite high.

The evidence in humans was from **studies of exposure**, mostly agricultural, in the USA, Canada and Sweden. It showed some evidence of a link between glyphosate and a cancer of the immune system called **non-Hodgkin lymphoma**.

“Bear in mind, this evaluation is based mainly on environmental exposures, meaning farmers who have been exposed to glyphosate through their jobs,” Vernique Terrasse, a press officer at the International Agency for Research on cancer, explained to Africa Check. “Therefore, we cannot comment on the exposure due to food residue.”

‘Glyphosate unlikely to pose cancer risk’

But the UN’s Food and Agriculture Organization (FAO), working with scientists from the WHO, **reached a different conclusion**.

They **looked at all the available studies** on glyphosate and cancer. While there was some evidence in isolated studies of a link between non-Hodgkin lymphoma



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and exposure to glyphosate, this disappeared in studies of large groups of people.

Activists dressed as crop-sprayers protest EU plans to relicense glyphosate, the controversial weed-killer, in May 2016. Photo: AFP/John Thys

The joint meeting also evaluated studies where animals were fed the equivalent of glyphosate **humans would typically eat**. Even at levels 2,000 times higher than that there was no cancer-causing effect in the “overwhelming majority” of animal studies conducted.

The joint meeting concluded that glyphosate is unlikely to pose a cancer risk to humans when they are exposed to it either through food or farming.

Why the different conclusions?

While the two conclusions may seem to contradict each other, they looked at different issues, **Gu Baogen** from the pest and pesticide management team at the FAO explained.

The difference is that the first finding was based on a “hazard evaluation”, which looked at how likely the pure form of a substance is to cause harm to individual people, whereas the second finding rested on a “risk assessment”, which measured the effects of the day-to-day exposure to the substance.

Baogen said that as long as there is less than 5 mg of glyphosate per kilogramme of maize and less than 20 mg/kg of soya – the maximum residual limits set by the FAO – humans would be fine when eating glyphosate-containing crops.

Are South Africans exposed to glyphosate in food?

South Africa’s department of health has set a maximum glyphosate limit of 2 mg/kg in maize and 10 mg/kg in soya, below the international limits. The deputy director in the department’s directorate of food control, Maryke Herbst, **told Africa Check** this.

When the department’s **forensic chemistry laboratory tested** 40 samples of maize meal in 2012/13, “no glyphosate was detected”, the director of forensic pathology services at the department of health, Alida Grove, told Africa Check. We requested the results but the department did not provide them.

Given glyphosate’s “lower risk profile” and that “in general” the maximum limits have not been exceeded, the health department “has not prioritised glyphosate as a high risk active that needs to be frequently monitored”, director of communications, Ria Grobler, told us. She also told us that the department would, from time to time, reassess this situation.

The department of agriculture, forestry and fisheries’ Thilivali Nepfumbada told us the department does not check for glyphosate in maize or soya sold to consumers “because that is beyond our mandate and is a food safety issue”.

Nepfumbada said the department’s role is mainly in ensuring that pesticides are used properly – looking at how they are chemically made, what labels are on them, whether farmers are using them as recommended and how they are stored.

Conclusion: Claim unlikely to be true

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While the World Health Organisation's cancer agency stated that glyphosate was "possibly carcinogenic" based on studies of individual people exposed to the chemical, a comprehensive review of studies looking at its effect on animals and humans later found that glyphosate was unlikely to cause cancer.

South Africa's department of health limits the amount of glyphosate to less than 2 mg/kg in maize and 10 mg/kg in soya, roughly half of what the internationally accepted maximum limits are. However, the health department generally does not see the potential harm from glyphosate as a "high priority" risk and therefore only conducts tests from time to time.

In 2013/14, the health department's forensic chemistry laboratory detected no glyphosate food samples tested.

Still, without regular testing and publicly available information about glyphosate levels in food, the claim that South Africa may be "feeding its people cancer-causing toxins" is difficult to reject completely.

Edited by Anim van Wyk

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