

## **Bjorn Lomborg, take those organic food claims with a grain of salt**

By Bjorn Lomborg, *The Australian*, 16 October 2016

With more than 17 million hectares devoted to growing certified organic produce — more than any other nation — Australia is a “green food” economic powerhouse.

There’s big money being made in organic dairy, fruit, vegetables and processed foods. Australian organics exports more than doubled in value between 2012 and 2014, and the entire industry is worth more than \$1.7 billion.

On the surface, it seems like the whole planet gains from this enterprise: organic farming, we assume, is better for consumer health, animals and the planet. As with many assumptions, this one deserves further scrutiny.

An industry report reveals most Australian organics consumers made the switch because they “became aware of the impact food, fibre or cosmetics may have on their health”. Indeed, 16 per cent bought organics “because of a health crisis”.

In this, Australians are not alone. An organic label makes us believe produce is healthier. Consumers in one study were given two sets of identical food items, with one falsely marked organic and one not. They declared the food they believed to be organic to be lower in calories and more nutritious, and were willing to pay 16 per cent to 23 per cent more.

Some may scoff at city-dwellers insisting on organic kale. Where’s the harm? But people often pay more with the expectation that organics will be better for them, and a substantial minority are motivated by genuine health concerns. Their expectations are wrong.

In 2012, Stanford University’s Centre for Health Policy did the biggest comparison of organic and conventional foods. The study found no robust evidence that organics were more nutritious. A new review by Italian researchers published in the journal *Food Science & Technology* summarises the state of knowledge: “Scientific studies do not show that organic products are more nutritious and safer than conventional foods.”

But health concerns are not the only motivator for Australian consumers. Thirty-seven per cent of organics consumers cite “improved animal welfare”. We have a mental image of organic farms as more caring. Surely the animals must be better off.

This is not the case. A five-year study on dairy farms by Oregon University showed organic “health outcomes (for cows) are similar to conventional dairies”. The Norwegian Scientific Committee for Food Safety found “no difference in objective disease occurrence”.

Organic pigs and poultry may enjoy better access to open areas, but this also increases their loads of parasites and pathogens, and vulnerability to predators.

In Denmark, conventionally raised piglets have a mortality rate of 25 per cent, but 33 per cent of organic piglets die; clearly organic is not better for the 8 per cent of extra dead piglets. And the organic regulation against feeding bee colonies with pollen supplements in low-pollen periods, along with regulations against proper disinfection, leads to lower bee welfare.

Many Australians, of course, buy organics out of concern for the planet. Sixty-eight per cent of consumers say it is “environmentally friendly”.

If we think of organics in terms of a field, this claim is true. The largest European study showed that for a single field, organic farming uses less energy, emits less greenhouse gas, nitrous oxide and ammonia, and causes less nitrogen leeching than a conventional field.

But there is a catch. Each organic field produces much, much less produce than a conventional field, and this is true for the developed and the developing world.

So, to produce the same amount of wheat, spinach or strawberries, you need much more land. That means organic produce results in the emission of as many greenhouse gases as conventional produce; and about 10 per cent more nitrous oxide, ammonia and acidification. It leads to 49 per cent more nitrogen leaching. And most damning: to produce equivalent quantities, organic farms need to occupy 84 per cent more land, land that cannot be used for forests or nature reserves.

If US agricultural production were entirely organic it would mean we would need to convert an area bigger than California entirely to farmland, the same as eradicating all parkland and wild lands in the lower 48 states.

But surely organics avoid pesticides? Well, this depends on your definition. Organic farming can use many pesticides, if they’re deemed natural. Australian organics industry marketing material sometimes refers to these as “natural biological and environmentally friendly inputs”.

Pyrethrin is one organic pesticide; it is extremely toxic to fish, highly toxic to bees, and the *Journal of Pesticide Reform* warns it is “associated with increased cancer risks among farmers”. Copper sulfate is another natural input that is highly toxic to fish, may be poisonous to sheep and chickens at normal application rates and resulted in liver disease in vineyard sprayers in France.

Conventional food, of course, has higher pesticide contamination. But it’s easy to over-estimate the risks. A rough upper estimate by the US Food and Drug Administration’s office of toxicology suggests all conventional pesticide residues may cause an extra 20 cancer deaths a year in America. In other words, deaths caused by pesticides are exceedingly rare; a similar number of deaths each year are the result of Americans being mauled by cows. Translated to here, pesticide residue likely kills fewer than two Australians a year.

Moreover, we should compare this to the impact of organics. The world’s largest study on the costs of ceasing to use pesticides took place in Denmark. This represents only part of the total cost of going organic (since that would also involve abandoning chemical fertiliser, which would be expensive). The total cost was estimated at 3 per cent of gross domestic product.

It’s likely the cost to Australia for a similar organics-only policy would be in the same ballpark, which would mean \$50bn annually. That is billions less for schools, hospitals, roads and general welfare.

There’s a direct human toll. Research consistently shows that a reduction in national income means more deaths. People can afford less healthcare, don’t buy a new, safer car as often, and society spends less on safety and prevention.

When a nation becomes \$20 million poorer annually, on average it will result in one additional premature death. Losing \$50bn means more than 2500 additional, avoidable deaths in Australia, every year. And this is only the cost for going pesticide-free.

Organics is a rich world phenomenon, with 90 per cent of sales in North America and Europe. Despite a fivefold increase in sales on the past 15 years, just 1 per cent of global cropland is organic. That's because almost half of humanity depends on food grown with synthetic fertilisers, prohibited by organics.

Norman Borlaug received the Nobel prize for leading the green revolution that gave food to the world's poorest. He pointed out organic farming on a global scale would leave billions starving.

Unpick assumptions about organic food and what is left is the world's wealthy spending more to feel good. While that is just as valid as spending it on holidays, we should resist any implied moral superiority.

Organics are not healthier or better for animals. Growing produce organically causes more nitrous oxide, ammonia, acidification, and nitrogen leaching. It takes up more land.

When we shop, we are rightly dubious of many advertising claims from big industry. Despite its great PR, organics is really no different. We should approach organic products with a healthy dose of scepticism.

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