

How many people can Australia feed?

Written by Bill Bellotti, Professor and Director Food Systems Program, Global Change Institute, The University of Queensland



Australia might have been 'built on the sheep's back' but we can't eat off it. [Stanley Zimny/Flickr](#),
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Population growth has profound impacts on Australian life, and sorting myths from facts can be difficult. This article is part of our series, [Is Australia Full?](#), which aims to help inform a wide-ranging and often emotive debate.

Australia feeds a lot of people. As a big country with a relatively small population, we have just over two arable hectares per person, one of the [highest ratios in the world](#). Our diverse soils and climate provide a wide variety of fresh food all year round.

Historically we produce far more than we consume domestically. We sell [around 65% of farm production](#) overseas, making Australia a leading food-exporting nation. We therefore contribute to the food security not just of Australia, but of many other nations.

However, despite being a net food exporter, Australia also imports foods such as coffee, chocolate, processed fruit and vegetables, and key ingredients used in baking our daily bread. We are part of a global food system.

How will a swelling population, projected to reach [between 36.8 million and 48.3 million](#) by 2061, affect our food security? Are we set up to weather the storm of climate change, the degradation of our natural resources, and competition for land and water use from mining and urban expansion?

By the numbers

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Current Australian government policy is to increase agricultural production and food exports, with a specific focus on [developing Australia's north](#).

In addition to providing food and nutrition security, the Australian food sector is a key driver of public health, environment, the economy and employment. The [gross value of production](#) from Australia's 135,000 farmers varies between A\$55 billion and A\$64 billion a year, with exports accounting for between A\$45 billion and A\$48 billion.

Horticultural production (fruit, nuts and vegetables) will swell as Australian growers move to satisfy growing Asian demand.

Australian food processing companies add a further A\$32 billion of value from 150 large food processors. We exported A\$26 billion worth of processed food and beverages in 2015-16 and imported A\$16.8 billion, resulting in a [trade surplus of A\\$9.1 billion](#) (rounded to one decimal place).

The food retail sector has an annual turnover around A\$126 billion, with about [70% of Australians](#) shopping at Woolworths or Coles. It's also worth noting that considerable land and water resources are devoted to non-food commodities such as forestry, cotton and wool, and to environmental outcomes such as carbon sequestration or biodiversity plantings.

One in seven Australian jobs (1.6 million) are in the [farm-dependent economy](#), and food and beverage processing employs around [one-third of all Australian manufacturing workers](#), with promising growth prospects. Many jobs are seasonal and based in the regions. Farm and food enterprises rely on foreign workers for many key tasks, resulting in the food sector being [particularly sensitive](#) to changes in temporary work visas.

How to feed more people

If Australia reaches its [projected population of between 36.8 million and 48.3 million by 2061](#), could we feed everyone?

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For the sake of this exercise, let's leave aside food we import, and assume that Australia will continue to export [65% of the food we produce](#).

Currently, our exports feed (at least in part) 36.6 million people outside Australia. If we add that to our domestic population, 61 million people will eat Australian food in 2017.

If we apply the same assumptions to projected high and low Australian populations for 2061, we arrive at a total (domestic plus export) population fed by Australian production of 92 million to 121 million, or an increase of 51-98%.

Could Australia double the number of people we feed by 2061? The answer is yes, but not simply by doubling the amount of food we produce. [Three broad strategies](#) will need to be integrated to reach this target:

1.

Increase food productivity. We need to aim for 2% growth in annual food production by increasing investment research and development for food and agriculture. For comparison, between 1949 and 2012 we have averaged 2.1% annual growth, although from [2000-12 that slumped to 0.6%](#)

. Achieving this productivity target will be difficult, given the challenge of climate change and other constraining factors.

2.

Reduce food waste. We currently waste around [30% of the food we produce](#). Reducing food waste benefits the environment and the economy. This strategy requires ongoing improvements in supply chain efficiency, changes in marketing, and consumer education.

3.

Change our eating patterns. Moving towards sustainable diets will improve public health and environment outcomes. Reducing overconsumption (a contributor to obesity), eating more vegetables and less discretionary “junk” foods represent [initial steps](#) in this direction.

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The next few decades will present unprecedented challenges and opportunities for the Australian food sector. Placing the consumer at the centre of healthy, sustainable and ethical food systems will be increasingly important, whether that consumer lives in Brisbane or Beijing. New ways of connecting consumers to producers will become commonplace, creating more informed and empowered consumers, and rewarding innovation.

Research highlighting the [interconnections between food, health and environment](#) will be required to support Australia's claims to being a clean, green provider of food.

It's easy to conclude that Australia can feed many more people than we currently do, but the real issue is to do this while ensuring our food system is healthy, sustainable and fair. Ultimately, exporting the research, technology and education that underpin our future food system will benefit far more people than those directly consuming food produced in Australia.

You can read other articles in the Is Australia Full? series [here](#).

Bill Bellotti does not work for, consult, own shares in or receive funding from any company or organisation that would benefit from this article, and has disclosed no relevant affiliations beyond the academic appointment above.

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