

Is kangaroo really a more sustainable choice?

A number of prominent experts and environmental groups have recently endorsed the kangaroo industry. So, exactly why is eating kangaroo 'good for you AND good for the environment,' as the current marketing slogan states?



Joanne Isaac

A recent report from the United Nations¹ concludes that raising animals for food generates more greenhouse gases (GHG) than all the cars and trucks in the world combined. Similarly, water consumption by livestock is highlighted as another key sustainability issue. Stock contribute to both water depletion and pollution. So, does this mean that you can't eat meat to be an environmentalist? Well, perhaps not – if you're partial to the flavour and idea of eating kangaroo, as increasing numbers of people are.

A report commissioned by Greenpeace² suggests that eating more kangaroo can help cut Australia's GHG emissions, while more recent research similarly indicates that removing large numbers of cattle and sheep and replacing them with kangaroos could contribute as much as 10 per cent to Australia's emissions reduction target of 30 per cent by 2020.³

Better gasses

First of all, why are kangaroos better in terms of their GHG emissions? Cows and sheep have a specialised digestive system that houses methane-producing bacteria that ferment the vegetation they eat. Methane is a very potent greenhouse gas, hence scientists' need to include agricultural stock's significant contribution in climate impact calculations. Kangaroos, however, have a different set of microbes to help their digestion and as a result produce minimal amounts of methane.

In addition, reducing livestock in favour of kangaroos could also significantly reduce emissions of nitrous oxide, which has 296 times the global warming potential of carbon dioxide, and is created from the initial production of livestock feed (as nitrogen-based fertilisers are added to the soil) and as a result of the storage and treatment of animal waste.

Traditional livestock also require large amounts of supplemental water; no small issue given that much of Australia is still facing severe drought, with things only predicted to get worse under climate change. Kangaroos on the other hand have evolved on the driest inhabited continent on Earth and can survive for relatively long periods without consuming much water at all.

Welfare and ethics?

A survey of consumer attitudes towards kangaroo meat published by the Rural Industries and Research and Development Corporation (RIDIC)⁴ suggests that concerns about welfare and ethics deter some consumers from choosing kangaroo. However, compared to eating unsustainable fish or factory farmed meat, it could be argued that kangaroo is a more ethical choice. Kangaroos are not farmed,

1 Food and Agriculture Organization of the United Nations (2006). Livestock's long shadow. United Nations, Rome. <http://www.fao.org/docrep/010/a0701e/a0701e00.htm>

2 Diesendorf M (2007). Paths to a low carbon future. <http://www.greenpeace.org/australia/resources/reports/climate-change/paths-to-a-low-carbon-future>

3 Wilson GR and Edwards MJ (2008). Native wildlife on rangelands to minimize methane and produce lower-emission meat: kangaroos versus livestock. *Conservation Letters* 1(3), 119–128. doi: 10.1111/j.1755-263X.2008.00023.x.

4 Rural Industries Research and Development Corporation (2008). Consumer attitudes to kangaroo meat products. <http://www.rirdc.gov.au/reports/NAP/08-026.pdf>

but are killed in their natural habitat by professional shooters who operate under specific conditions laid out in the Code of Practice.⁵

Kangaroos, therefore, do not face the unnatural conditions of some intensively farmed animals, such as veal calves and pigs, nor do they endure a stressful road trip to the slaughterhouse (reducing their total contribution to Australia's GHG emissions as a result of 'food miles'⁶). Shooters must aim for a 'sudden and painless death' via a direct shot to the brain; it is inevitable some animals will not be killed outright, and there is also the issue of dealing with pouch-young and young-at-foot when the mother has been shot; these scenarios are also covered in the Code of Practice.

Ray Borda, the Managing Director of Australia's largest supplier of kangaroo, Macro Meats, says, 'there is no way an illegally shot kangaroo could be sold through Macro Meats. All kangaroos come from licensed shooters with a government-issued tag. We also run our own lab tests to ensure standards of animal welfare are met; high pH levels can indicate to us if an animal has been stressed prior to death.'

Is there enough supply?

But what about the sustainability of the kangaroos themselves? The RIDIC survey also indicates that the public are concerned that eating kangaroo could result in the decline of Australia's iconic species. However, the kangaroo experts are not worried: 'there is no evidence that any of the harvested species are declining in Australia. The long term data shows that numbers now are very similar to 20 years ago,' says Dr Euan Ritchie, a scientist at James Cook University, who recently conducted a large scale survey of macropods across northern Australia.

Dr Ritchie adds 'I don't know of any kangaroo biologist who thinks populations [of harvested species] are in decline, or considers that the harvest is unsustainable at present.'

Currently four species are harvested on the mainland; the red kangaroo, eastern and western grey kangaroos and the common wallaroo. The quota (number of kangaroos allowed to be killed) is calculated by government scientists, reviewed annually and is dependent upon current population trends. Typically the quota is about 15–20 per cent of the total population.



Macro Meats' roo product is carefully inspected by the Australian Quarantine Inspection Service under the Code of Practice for the new industry. Macro Meats

However, Dr Ritchie's study does suggest that climate change will influence many of the factors that limit kangaroo populations, including water, climate and fire regimes. 'The annual census means that any population declines will be detected quickly, and this will be particularly important in the future as the climate changes,' he says.

Professor Iain Gordon, from CSIRO Sustainable Ecosystems, agrees. 'We do need to closely

harvest. Given that there are hundreds of millions of sheep and cattle run in Australia, replacing even a portion of them would require a significant increase in kangaroo numbers.

Ray Borda disputes such claims, saying, 'the annual quota is fixed and depends on kangaroo numbers. Regardless of whether the demand for meat goes up or down, when an area has reached its annual quota it is shut down.'

It has even been suggested that Australia could entirely replace its beef industry with kangaroo. Dr Ritchie agrees, saying, 'it is a possibility; kangaroos produce less meat than cows but they breed faster and can reproduce in drought conditions which cattle can't. Also, if we got rid of the livestock, there would be more resources to support a much higher number of kangaroos.'

A well managed partial stocking approach is more likely and Professor Gordon says, 'with RMIT University in Melbourne, CSIRO is investigating the benefits of including kangaroo harvesting as part of traditional livestock enterprises in Queensland. From an ecological perspective there are certainly potential benefits, however, given Australia is one of the world's largest beef exporters, any move in this direction would need further research to consider the impact on our traditional meat producing industries.'

● **Joanne Isaac**



Kangaroo meat is gaining in popularity with shoppers as its benefits and versatility are more widely appreciated. Joanne Isaac

monitor the response of the population, especially given the large variation in reproduction of kangaroos with changes in rainfall.'

Some conservation groups have also expressed concern that the demand for kangaroo meat is currently exceeding supply and will result in an unsustainable

More information:
Kangaroo Industry Association of Australia,
www.kangaroo-industry.asn.au/index.html

⁵ See www.environment.gov.au/biodiversity/trade-use/wild-harvest/kangaroo/index.html

⁶ Food miles is a term which refers to the number of miles food produce travels from 'plough to plate', that is from the place of production to consumption.