

Biodiversity at

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"If we forget that packaged eggs or hamburger came from animals, a cotton shirt from a plant, a wooden chair from a tree, then we have lost that connection with nature."

Professor David Suzuki,
Geneticist and writer

Bushfood goes global

The fledgling Australian bushfoods industry is now exploring new ingredients based on Australia's native plant and animal biodiversity, gathered and prepared for thousands of years by Indigenous Australians.

Tangy quandongs and buttery macadamia nuts (excellent in icecream) come from the rainforests, aromatic lemon myrtle from our woodlands, pepperleaf and berries (great for flavouring fish and

kangaroo) from the Southern Highlands and spicy bush tomatoes from the desert, to mention just a few. Who knows what delicacies still wait to be discovered in the Australian landscape?

Pest-busters

Everything we eat today is descended from a wild plant or animal. Most have long since left their wild past behind, including the ability to withstand pressure from diseases, frosts and drought. Global warming and other threatening processes, however, are putting more pressure on crops. Our food supplies will rely on a regular infusion of wild genes in future to keep crops hardy and disease-free.

Here in Australia, we are able to produce enough bread to feed ourselves, thanks to genes taken from wheat plants that still grow in the wild. Genes from the native Middle Eastern wheat plants *Agropyron elongatum* and *Aegilops unbellulata* were introduced into three Australian wheat varieties. This has given our wheat resistance to the devastating diseases caused by leaf and stem rust viruses. We can't make these genes



the dinner table

in a laboratory – they are the result of millions of years of evolution and adaptation to the environment.

Sweet rewards

Other genes taken from a wild grass native to South-East Asia called *Saccharum spontaneum* have been used to enhance sugarcane crops. In the 1920s a mystery disease almost wiped out sugarcane but the native genes gave the sugarcane resistance to the disease – and also doubled the amount of sugar that the plant could yield.

Dollars from genes

One of the great benefits of protecting biodiversity is that it provides a pool of genes to improve our crops. Wild genes can provide resistance to disease, improve production and protect against long-term changes in temperatures and rainfall. In 1980 alone, the United States Department of Agriculture estimated that wild genes increased agricultural profits by US \$1 billion.

Everything we eat has a great genetic tradition. A typical roast lamb dinner is the pinnacle of thousands of years of careful breeding and selection to create a perfect meal.

People making a difference

In Kempsey, in northern NSW, the Djigay Student Association has been working on a Traditional Food Tree Park where edible food plants from around Australia are being grown. A computer database is being put together which will include scientific and common names as well as the Aboriginal names for food plants and their traditional uses. Information will also describe processing and cultivation details and where possible, how the plant use is important to both past and present Aboriginal culture. The park is supported by local Aboriginal communities and is already achieving modest successes with local tour companies including it on their itineraries, and bushfood plants offered for sale.

The National Association for Sustainable Agriculture Australia
www.nasaa.com.au

