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GI News is published online by the University of Sydney, School of Life and Environmental Sciences and the Charles Perkins Centre, and delivered to the mailboxes of our 97,000 subscribers every month. Our goal is to help people choose the high-quality carbs that are digested at a rate that our bodies can comfortably accommodate and to share the latest scientific findings on food and diet with a particular focus on carbohydrates, dietary fibres, blood glucose and the glycemic index.

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FOOD FOR THOUGHT

A TASTE OF HONEY



To make honey, bees collect nectar from nearby flowering plants; transform it by combining it with specific substances of their own; and deposit it, dehydrate it, store it and leave it in honeycombs to ripen and mature. That's where we come in. Ancient rock art in Spain shows our forebears braving wild bees to steal their honeycomb; Éric Valli's photos document Nepal's Gurung tribesmen harnessed to cliff-hugging bamboo ladders to relieve Himalayan cliff bees of their honeycomb; and on YouTube, there are numerous videos depicting Hadza men following a honeyguide bird to a hive then smoking out the stinging bees before helping themselves to the honeycomb. The take-home: honey has long been highly desirable and *Homo sapiens* goes to great lengths to get it.

What's in honey? Honey, which provided our ancestors with a tasty source of calories from carbohydrates (all sugars), also has traces of bee larvae which add some fat, protein, vitamins, and minerals to the nutritional mix. Today, we know that honey also contains antioxidants.

The sweetness comes mostly from fructose, glucose and sucrose, plus small amounts of maltose, trehalose, turanose (varies depending on nectar source). Most honeys have more fructose than glucose – typically 38 per cent fructose to 30 percent glucose – but that's not set in stone. It all depends on where the bees have been buzzing, which is also why sweetness can vary: some are equal in sweetness to regular granulated sugar; others are up to 50 per cent sweeter. To achieve consistent sweetness and flavour, most commercial honeys are blended from a mixture of honeys derived from different hives and different floral sources.

What about GI? We are often asked whether honey is a better sweetener choice than regular sugar when it comes to blood glucose levels. Again, it depends very much on what blossom the bees were buzzing around, gathering nectar. While most commercial blended varieties have an effect greater than or equal to that of sugar, some honeys have a low glycemic index. The range of glycemic-index values from all the honeys that have been tested over the years runs from GI 32 up to GI 87 and you can check them out on the database at www.glycemicindex.com. When the University of Sydney Glycemic Index Research Service tested pure wildflower (single floral) honeys—red gum, yellow box, ironbark, and others—produced by allowing bees access only to some types of gum trees (eucalypts), they found that these honeys all have a low glycemic index (GI 35 to 53). We would like to think it's possible that all pure wildflower honeys have only modest glycemic effects, but there hasn't been sufficient testing around the world. We do know that Romanian locust honey appears to have the lowest glycemic index value of all the honeys tested to date (GI 32).

Why all the differences in glycemic impact from one honey to another? To maintain a consistent flavor in commercial honeys, some of the more pungent components are removed. We suspect that these removed components are physiologically active and work to slow down absorption into the small intestine. For example, Australian wildflower honeys might contain alpha-glucosidase inhibitors that bees have extracted from the eucalypt flowers. We know that these potent inhibitors exist in many plants, and, indeed, some diabetic medications (e.g., acarbose) are based on pure forms of these inhibitors.

In addition, it appears that the higher the fructose content, the lower the glycemic index is. Five German honeys with fructose content ranging from 38.5 to 43.5 per cent not only had a low glycemic index, but also had a low insulin index – this is a relative ranking of the effect of 240 calories/1000 kilojoules of food on blood insulin concentrations over a two-hour period.

Read more:

- [The Ultimate Guide to Sugars and Sweeteners \(The Experiment Publishing\)](#)
- www.glycemicindex.com (searchable GI database)
- [Buzz: The Nature and Necessity of Bees \(Basic Books\)](#)

- [Éric Valli's honey hunters](#)
- [PHOTO: Drake Eatery, Bondi Beach: Toasted crumpet, honey, ricotta, banana, walnuts \(East Coast Forest Honey – pure, raw, natural honey\)](#) – Kai Leishman

WHAT'S NEW?

HONEY LABELLING – AND MISLEADING LABELLING

Winnie the Pooh had no problems when he wanted a jar of honey. The jar very clearly said “HUNNY” (spelling wasn’t his strong suit), and that is exactly what was in it. These days many jars on supermarket shelves might say “honey” on the label, but what’s inside is in fact honey blended with another sweetener such as corn syrup or rice syrup. The honey has been adulterated and the product labelled in a false and misleading way.

It’s perfectly legal for producers and food companies to market honey blended with other sweeteners, but if they do (usually to cut costs), they are required to label it as a blend – e.g., “blend of honey and corn syrup” or “blend of corn syrup and honey” depending on which ingredient is predominant. If they don’t, they can be prosecuted and fined by the appropriate food regulatory authorities. But of course, the regulatory authorities have to find the adulterated products first. Here in Australia they are on the case. Recent research by Mark Taylor and Xiaoteng Zhou at Macquarie University suggests that many commercial honey brands have been adulterated to increase honey volume and boost profits.

“Honey adulteration is nothing new,” they report in their “Honeygate” story in *The Conversation*. “It has been on the rise since the 1970s when cheap high-fructose corn syrup became widely available ... Some operators adulterate honey with rice sugars that enable them to circumvent the C4 test. Some rice syrup producers openly advertise the fact that their products will not cause adulterated honeys to fail the C4 test. Honey can be adulterated either during or after production. Inadvertent adulteration might happen through overfeeding of sucrose to bees during periods when food sources are limited, or at harvest time. This practice, if done occasionally, can protect colonies at times of low food availability. But if used injudiciously it can also filter through into the finished product.”

Read more:

- [Legislation of honey criteria and standards](#)
- [‘Honeygate’ deepens as new tests reveal 27% of brands are adulterated](#)

IS MANUKA HONEY REALLY A ‘SUPERFOOD’ FOR TREATING COLDS, ALLERGIES AND INFECTIONS?

*Manuka honey isn’t a panacea or a superfood. But it is grossly underutilised as a topical treatment for wounds, ulcers and burns, particularly in the face of the looming global superbug crisis write [Nural Cokcetin](#) (Postdoctoral Researcher, University of Technology Sydney) and [Shona Blair](#) General Manager, itthree institute, University of Technology Sydney in *The Conversation*. Here’s their report.*

Manuka honey is often touted as a “superfood” that treats many ailments, including allergies, colds and flus, gingivitis, sore throats, staph infections, and numerous types of wounds. Manuka can apparently also boost energy, “detox” your system, lower cholesterol,

stave off diabetes, improve sleep, increase skin tone, reduce hair loss and even prevent frizz and split ends. Some of these claims are nonsense, but some have good evidence behind them.

Honey has been used therapeutically throughout history, with records of its cultural, religious and medicinal importance shown in rock paintings, carvings and sacred texts from many diverse ancient cultures. Honey was used to treat a wide range of ailments from eye and throat infections to gastroenteritis and respiratory ailments, but it was persistently popular as a treatment for numerous types of wounds and skin infections.

Medicinal honey largely fell from favour with the advent of modern antibiotics in the mid-20th century. Western medicine largely dismissed it as a “worthless but harmless substance”. But the emergence of superbugs (pathogens resistant to some, many or even all of our antibiotics) means alternative approaches to dealing with pathogens are being scientifically investigated. We now understand the traditional popularity of honey as a wound dressing is almost certainly due to its antimicrobial properties. High sugar content and low pH mean honey inhibits microbial growth, but certain honeys still retain their antimicrobial activity when these are diluted to negligible levels.

Many different types of honey also produce microbe-killing levels of hydrogen peroxide when glucose oxidase (an enzyme incorporated into honey by bees) reacts with glucose and oxygen molecules in water. So, when honey is used as a wound dressing it draws moisture from the tissues, and this reacts to produce hydrogen peroxide, clearing the wound of infection. The antimicrobial activity of different honeys varies greatly, depending on which flowers the bees visit to collect the nectar they turn into honey. While all honeys possess some level of antimicrobial activity, certain ones are up to 100 times more active than others.

How is manuka different to other honey? Manuka honey is derived from the nectar of manuka (*Leptospermum scoparium*) trees, and it has an additional component to its potent antimicrobial activity. This unusual activity was discovered by Professor Peter Molan, in New Zealand in the 1980s, when he realised the action of manuka honey remained even after hydrogen peroxide was removed. The cause of this activity remained elusive for many years, until two laboratories independently identified methylglyoxal (MGO) as a key active component in manuka honey in 2008. MGO is a substance that occurs naturally in many foods, plants and animal cells and it has antimicrobial activity. The activity of manuka honey has been tested against a diverse range of microbes, particularly those that cause wound infections, and it inhibits problematic bacterial pathogens, including superbugs that are resistant to multiple antibiotics. Manuka honey can also disperse and kill bacteria living in biofilms (communities of microbes notoriously resistant to antibiotics), including ones of *Streptococcus* (the cause of strep throat) and *Staphylococcus* (the cause of Golden staph infections). Crucially, there are no reported cases of bacteria developing resistance to honey, nor can manuka or other honey resistance be generated in the laboratory. It's important to note that the amount of MGO in different manuka honeys varies, and not all manuka honeys necessarily have high levels of antimicrobial activity.

Manuka honey and wound healing Honey has ideal wound dressing properties, and there have been numerous studies looking at the efficacy of manuka as a wound dressing. Apart from its broad-spectrum antimicrobial activity, honey is also non-toxic to mammalian cells, helps to maintain a moist wound environment (which is beneficial for healing), has anti-inflammatory activity, reduces healing time and scarring, has a natural debriding action (which draws dead tissues, foreign bodies and dead immune cells from the wound) and also reduces wound odour. These properties account for many of the reports showing the effectiveness of honey as a wound dressing. Honey, and in particular manuka honey, has successfully been used to treat infected and non-infected wounds, burns, surgical incisions, leg ulcers, pressure sores, traumatic injuries, meningococcal lesions, side effects from radiotherapy and gingivitis.

What about eating manuka honey? Most of the manuka honey sold globally is eaten. Manuka may inhibit the bacteria that cause a sore (“strep”) throat or gingivitis, but the main components responsible for the antimicrobial activity won’t survive the digestion process. Nonetheless, honey consumption can have other therapeutic benefits, including anti-inflammatory, anti-oxidant and prebiotic (promoting the growth of beneficial intestinal microorganisms) properties. Although, these properties are not solely linked to manuka honey and various other honeys may also work.

What doesn’t it do? There is a commonly touted belief that eating manuka (or local) honey will help with hay fever because it contains small doses of the pollens that are causing the symptoms, and eating this in small quantities will help your immune system learn not to overreact. But there’s no scientific evidence eating honey helps hay fever sufferers. Most of the pollen that causes hay fever comes from plants that are wind pollinated (so they don’t produce nectar and are not visited by bees). There is some preliminary work showing honey might protect from some side effects of radiation treatment to the head and neck that warrants further investigation. But other claims honey has anti-cancer activity are yet to be substantiated.

There isn’t any robust scientific evidence that manuka lowers cholesterol, treats diabetes or improves sleep. Although one interesting study did show honey was more effective than cough medicine for reducing night time coughs of children, improving their sleep (and their parents’). Manuka honey wasn’t used specifically, but it may well be as helpful.

Claims that anything helps to “detox” are innately ridiculous. Similarly “superfood” is more about marketing than much else, and the cosmetic and anti-ageing claims about manuka are scientifically unfounded.

Final verdict If consumers are buying manuka honey for general daily use as a food or tonic, there is no need to buy the more active and therefore more expensive types. But the right kind of honey is very effective as a wound dressing. So if manuka is to be used to treat wounds or skin infections, it should be active, sterile and appropriately packaged as a medicinal product. The best way to ensure this is to check the product has a CE mark or it’s registered with the Australian Therapeutic Goods Administration (marked with an AUST L/AUST R number).

- [The Conversation: Science or Snake Oil: Is Manuka Honey Really a ‘Superfood’ for Treating Colds, Allergies and Infections?](#)
- [Phenolic Compounds in Honey and Their Associated Health Benefits: A Review](#)
- [Role of Honey in Modern Medicine](#)
- [Honey and Health: A Review of recent clinical research](#)
- [Honey for Acute Cough in Children](#)

HOW HONEY HELPED TO MAKE US HUMAN

Alyssa Crittenden is an anthropologist who studies the evolution of human behavior as it relates to nutrition and reproduction. She has worked with the Hadza who live in northern Tanzania near Lake Eyasi – one of the world’s last remaining hunting and gathering populations — since 2004. In this issue of GI News, we reprint a piece she contributed to GI News in January 2013 on the evolution of the human diet.



The ethnographic cross-cultural evidence of honey consumption, combined with depictions of honey hunting portrayed in rock art around the world, suggest that honey has long been a part of human history. Early humans, and their expanding brains, would have greatly benefited from consuming honey and bee larvae because the human brain needs glucose to fuel the high metabolic demands of neural development and function. The Paleolithic diet likely included meat, plant foods, and honeycomb – one of the sweet secrets to human evolution.

Honey and bee larvae are important foods consumed by many populations of hunters and gatherers worldwide. Foragers in Latin America, Asia, Australia, and Africa include honey and bee larvae as major components of their diet. The Hadza hunter-gatherers, an ethnic group that has traditionally subsisted from hunting and gathering, even list honey as their number one preferred food item!

The Hadza consume honey and larvae of both stingless bees and stinging bees, including the African killer bee. The Hadza locate the hives with the assistance of a wild African bird, the aptly named honey guide (*Indicator indicator*). The honey guide bird and the Hadza honey hunter communicate back and forth through a series of whistles and the bird guides the honey hunter, tree by tree, to the bee hive. Once the honey hunter has located the hive, he pounds wooden pegs into the trunk of the tree, climbs to the top where the hive is located, chops into the tree to expose the hive, and smokes it out by placing burning brush into the opening. Smoking the hive acts to pacify the bees by dulling the senses of the guard bees who protect the opening of the hive. The bees see the smoke as a habitat threat and focus on collecting enough honey to rebuild their hive elsewhere. This allows the hunter to collect the honeycomb without being stung by the killer bees. The honey guide bird patiently waits outside of the hive and as the honey hunter obtains his honeycomb prize, the honey guide bird is rewarded with its delicious prize – wax from the comb and bees.

Read more:

- [The Importance of Honey Consumption in Human Evolution](#). Food and Foodways

- Clip from [documentary on the Hadza](#) (the population with whom Alyssa Crittenden has worked since 2004)

HONEY HUNTING WITH HONEYGUIDES

Writing in *Evolution and Human Behaviour*, Yale anthropologist Brian Wood and his co-researchers describe the evolution of the mutually beneficial relationship between the honeyguide bird and the hunter-gatherer in Africa investigate the origin of this special relationship. “We propose that in a first, commensal phase, honeyguides preyed upon the bee nests and discarded honeycomb that hominins made available through their honey hunting,” he writes. “In a second, mutualistic phase, honeyguides evolved the habit of actively leading hominins to bee nests. Finally, in a third phase of manipulative mutualism, hominins began to actively change the payoffs received by honeyguides – either by actively ‘rewarding’ them or by reducing their immediate payoff. The Hadza we observed did not actively reward honeyguides, but such may occur in other contexts ... Based on within-species mtDNA variation scientists conservatively estimate that *I. indicator* is at least 3 million years old. We think it is reasonable to assume that an initial commensal association between hominins (*Ardipithecus ramidus* or an Australopithecine) and honeyguides arose in the Pliocene.”

The Pliocene Epoch is the epoch in the geologic timescale that extends from 5.333 million to 2.58 million years BP. It is the second and youngest epoch of the Neogene Period in the Cenozoic Era. The Pliocene follows the Miocene Epoch and is followed by the Pleistocene Epoch. [Wikipedia](#)

Read more:

- [Mutualism and manipulation in Hadza–honeyguide interactions](#)

PERSPECTIVES: DR ALAN BARCLAY

SHOULD YOU BE EATING THAT, IT'S FULL OF SUGAR?

Honey is classified as a free sugar by the [World Health Organisation](#): “Free sugars include monosaccharides and disaccharides added to foods and beverages by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates.”

This is because, like all available carbohydrates (sugars and starches), honey provides a [fuel for bacteria in our mouths](#) that may cause tooth decay. Also, while it provides small amounts of the minerals potassium, calcium and magnesium, honey is more energy dense than table sugar (sucrose), providing 94 kilojoules (23 Calories) in a level teaspoon compared to table sugars 67 kilojoules (16 Calories). So, despite popular perception, the typical honey that you will find in your local supermarket is not really any better than table sugar from a human nutrition perspective anyway. However, it does have a unique flavour and texture that makes it ideal for use in a range of delicious recipes.

It's important to remember that the WHO Guidelines recommend that we consume less than 10% of energy from free sugars each day. They do not say that we need to completely avoid all free sugars, or foods and drinks that contain free sugars. For a typical adult consuming 8,700 kJ (2,080 Calories) each day, 10% of energy from free sugars is less than 54g of free sugars, or approximately 13 level teaspoons a day. It's important to note that

these guidelines are for the total day's food and drink intake – not for individual foods or beverages. Evidence-based guidelines for individual foods or drinks are yet to be developed.

There is no need to obsess over every gram of sugars in foods or drinks to achieve the WHO recommendation – focus on the major dietary sources instead. Simply saving sugar sweetened drinks (soft drinks such as soda pop or fizzy drink), cordials, energy and sports drinks), cakes (including muffins, scones and cake-type desserts) and confectionery (lollies, sweets or candy; chocolate) for special occasions (parties, religious festivals) will help most people to achieve this goal based on recent national dietary surveys.

Even people with diabetes do not need to completely avoid sugars – they too simply need to [follow the WHO Guideline and aim to consume less than 10% of energy from free sugars like the rest of us](#). The reason why is simple – essentially all available carbohydrate (starches and sugars) is eventually digested, absorbed and metabolised into glucose – the sugar in blood that is characteristic of diabetes. And much of the excess protein that we eat can also be converted to glucose in our liver and released into our blood. So simply avoiding free sugars won't necessarily improve blood glucose levels – the amount and type (quality) of starch and protein also matters. Finally, a diet proportionately high in saturated fat increases insulin resistance, which in turn affects blood glucose levels. In other words, it's the whole diet that matters when it comes to optimal blood glucose management – focusing on a single ingredient/nutrient isn't enough.

What about the sugars in fruit? Fresh, canned and dried fruits and fruit juices are all sources of sugars and energy, and in theory, if consumed in excess, may contribute to weight gain and tooth decay. The reality is, however, that many people struggle to consume the minimum two serves a day according to recent dietary surveys, and the best available scientific evidence for [whole fruit](#) and [juice](#) do not show an association with weight gain. Both [whole fruits and juice can contribute to tooth decay](#), however.

While limiting our daily free sugars intake to less than 10% of total energy is wise, it does not mean we cannot still enjoy foods and drinks that contain sugars – what we consume, how much we consume, and how frequently we consume foods and drinks that contain sugars is what really counts. History has proven that prohibition doesn't work. Be mindful instead.

Listen to [Alan talk about sugars on Sydney radio station 2GB](#) (Note: there is an advertisement at the beginning of the segment).



Alan Barclay PhD is a consultant [dietitian](#). He is author of *Reversing Diabetes* (Murdoch Books), and co-author of 30-plus scientific publications, *The Good Carbs Cookbook* (Murdoch Books), *Managing Type 2 Diabetes* (Hachette Australia) and *The Ultimate Guide to Sugars and Sweeteners* (The Experiment Publishing). Follow him on [Twitter](#) or check out his [website](#).

KEEPING IT GREEN – EATING FOR BODY AND PLANET

PALM OIL: FRIEND OR FOE?

Palm trees are often associated with tropical beaches, sunsets and vacations, so you may be surprised to learn some species produce an oily fruit, from which we extract palm oil. Oil

from oil palms (*Elaeis guineensis*, and *Elaeis oleifera*) is the world's cheapest and most popular vegetable oil. Its neutral flavour and aroma, long shelf life and good shortening properties make palm oil a common ingredient in many food products such as biscuits and chips. Palm oil is also very versatile and used broadly across personal care products such as laundry detergents, toothpaste and cosmetics, and is also used in plastics and biofuels. In the EU and USA, if palm oil is used it must be listed in the ingredients list but in Australia it can fall under the more generic 'vegetable oil' label or technical names like Palmitate, Sodium Laurel Sulphate or its botanical name *E. guineensis*. You may be consuming more palm oil than you realise.

Does palm oil impact the environment? On the plus side, [palm oil production is the most efficient of all oil crops](#). One acre of oil palm can produce up to eight times more than other oil crops. This is an environmental benefit, however there are significant down sides. There are millions of hectares of available cleared land suitable for sustainable palm oil production in Indonesia. However, businesses can make extra income from selling cleared timber to help offset the costs of establishing a palm oil plantation and deforestation is common adverse environmental result. This occurs in countries like Indonesia and Malaysia where most of the world's palm oil is produced. The United Nations Environment Program estimates 7 million hectares of forests are cut down every year – a massive area roughly the size of Portugal. Deforestation destroys the habitats of animals such as orang-utans, rhinos, tigers and elephants. The slash and burn method is the fastest and cheapest method to clear land; sadly many animals lose their homes or are burned alive. Displaced animals often wander back into plantations where they may be stolen by poachers or killed by plantation workers that consider them to be pests. Burning forests also releases carbon dioxide into the air, contributing to global warming. The bad news is forests in Malaysia and Indonesia often sit on carbon rich peat lands and release even more carbon into the atmosphere when burned – an environmental double whammy.

Unfortunately eliminating palm oil from the food supply won't stop deforestation. [Palm oil production generates more oil than any other major oil crop](#): 6 times more oil than rapeseed (canola) and 10 times more oil than soy. If we switch to another oil this will worsen the deforestation issue. Palm oil also generates much needed income for some of the poorest people in the world, therefore ceasing production would have economic ramifications.

Is palm oil good or bad for our health? Palm oil is not a healthy choice. Palm oil contains a mixture of fats, of which roughly 50% is saturated fat. This type of fat increases the "bad" LDL cholesterol in the blood, which is a risk factor for heart disease. [The Heart Foundation recommends that less than 10% of your total daily energy intake should come from saturated fat](#). However, trans fats are even worse and many (cheap) replacements for palm oil are partially hydrogenated and contain trans fats. Trans fats increase "bad" LDL cholesterol and triglyceride levels, but also reduce the "good" HDL cholesterol. Palm oil is not a nutritional superstar, but at least it doesn't have trans fats and it contains less saturated fat than coconut oil and butter. The best oil choices for health are more unsaturated oils vegetable oils such as olive oil and canola oil, however these are more expensive and do not provide the same technical properties as palm oil.

The most sustainable choice While it is not realistic to stop using palm oil, we should encourage food companies to choose more ethically and sustainably produced palm oil. There is [Certified Sustainable Palm Oil \(CSPO\)](#) that does not involve clearing land where there are high concentrations of endangered species or vulnerable ecosystems. Some companies are making steps in the right direction toward being CSPO by being members of the *Roundtable on Sustainable Palm Oil (RSPO)*.

Palm oil in a nutshell:

- Palm oil is the most commonly used oil in the world, but its production contributes to global warming, deforestation and threatens endangered animal species.
- If using packaged products, look for *Certified Sustainable Palm Oil (CSPO)*.
- For good health, choose products that contain healthier oils like olive, canola or sunflower oil.

Thanks to Rachel Ananin aka [TheSeasonalDietitian.com](#) for her assistance with this article.



In this series we explore how you can reduce your ecological impact through your food choices. We'll help you do your bit for the environment, one mouthful at a time.

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GOOD CARBS FOOD FACTS A TO Z

HONEY

Honey is made by bees after gathering nectar from flowers. It's a beautiful image and a lovely example of the generosity of Mother Nature (or the greed of man, depending on your world view). It's also a great example of how food can be regional. Much like winemakers talk of the "terroir" (soil, climate, topography) influencing the characteristics of wine, the characteristics of honey are influenced by the flowers within gathering distance of the hive.

Honey, as they say, is "so hot right now" due to the trend of growing your own food. From the mega-trend of growing veggies and herbs in your backyard or balcony is emerging the DIY apiculture (bee-keeping) movement. There are now [services](#) such as Sydney's Urban Beehive that will install a hive at your place and help keep your buzzing friends healthy, happy and producing your own honey "à la maison". And there is this [book](#) for beginners on the subject. Small scale beekeeping is also being encouraged to help save our honey bees, which are under threat from all sides: primarily from colony collapse disorder, but there are other problems as well such as varroa mite and in Australia the risk of Asian bees breaching our borders. Suffice to say we're all in trouble if the bees disappear because of their pivotal role in pollinating food crops.

From a health perspective, overall, honey is no better than table sugar and nutritionally they are very similar. However, don't give honey to babies under 12 months. Why? It can become contaminated with the bacteria *clostridium botulinum*, and children under the age of 12

months are particularly sensitive to the toxin produced by the bacteria – botox (yes, the same one used in facial injections for anti-aging treatments).

The clever thing about honey is that besides tasting wonderful it has all kinds of medicinal uses. It’s great for soothing sore throats (traditionally mixed with lemon juice), more effective than over-the-counter medicines for children’s coughs, and special “active” honeys such as Manuka from New Zealand are used to treat wounds.

In terms of culinary uses, the options are many and varied, but sometimes the simple things are the best. Fresh wholegrain toast with honey is a reliable classic, as is porridge with a golden drizzle. Personally, I think peanut butter is wonderful with honey on toast. Chinese honey soy chicken is a lovely dalliance between sweet and savoury and exemplifies how honey goes so nicely with meats of all kinds: honey glazed ham is but one famous example. Naturally honey is gorgeous in baked goods and delicious in hot or cold drinks such as smoothies, cordials, teas and coffee. And here’s one out of the box: it’s delicious with cheese. “The lovely Spanish tradition of eating cheese with honey is worth adopting. *Mel y mato* is a popular Catalan dessert of ‘mato’, a fresh unsalted cheese made from cow’s or goat’s milk (you can substitute ricotta but it won’t be so good) with a dribble of honey ‘mel’ in Catalan.” – Claudia Roden, *The Food of Spain*. – Thanks to dietitian Nicole Senior for this report.

Good Carbs Food Facts	
Honey	
Stars ★	
Glycemic index 61 (based on the average of 17 types of honey)	
Contains FODMAPS	
Gluten free	
Serving size – 1 level teaspoon	
Kilojoules	94
Calories	23
Protein	0.01g
Fats – Total	0.0g
Includes:	
--Saturated fat	0g
–Unsaturated fat	0g
–Cholesterol	0g
Saturated : unsaturated fat ratio	0.0
Carbohydrates – Total	5.9g
<i>Available</i>	5.9g
Includes:	
--Natural sugars	5.9g
–Natural starches	0g
–Added sugars	0g
–Added starches	0g
<i>Unavailable</i>	0g

Includes: –Dietary fibre	0g
Sodium	1mg
Potassium	4mg
Sodium : potassium ratio	0.25
Glycemic load	4
Diabetes exchange	0.5
Ingredients: honey	

IN THE GI NEWS KITCHEN

SPEAKEASY'S HONEY ROASTED BABY CARROTS WITH HOUSE LABNE, HAZELNUT PRALINE, AND FRESH HERBS

[Speakeasy Bar](#) is a warm and welcoming communal space in Bondi Beach that serves simple and delicious food (mostly tapas-style share plates) inspired by Asian and Mediterranean dishes. They use honey from local beekeepers in Bellingen in northern NSW.

Serves 4 as a share plate.

2 bunches baby (Dutch carrots), scrubbed
 ¼ cup (60ml) honey
 Juice 1 orange
 1 tablespoon olive oil
 1 tablespoon paprika
 1–2 teaspoons ground cumin
 Pinch salt

To serve

½ cup labne
 1 tablespoon crumbled hazelnut praline
 Picked leaves fresh herbs such as dill, mint and coriander
 ½ small Spanish onion, thinly sliced in rings and marinated in lemon vinaigrette

Preheat the oven to 180°C/350°F. • Combine the honey, orange juice, olive oil, paprika, cumin and salt in a mixing bowl and toss carrots to coat well with the marinade. • Place the carrots in an oven roasting tray, pour over the marinade and cover with foil. Cook for 20 minutes or longer depending on thickness of the carrots. Serve the carrots with a dollop of labne and the fresh picked herbs and marinated onion rings. Sprinkle over the crumbled hazelnut praline.

Per slice

Energy 970kJ/ 230Cal; protein 4g; fat 10g (includes 3g saturated fat; saturated : unsaturated fat ratio 0.4); available carbohydrate 31g (includes 30g sugars; 1g starches); fibre 6g; sodium 175mg; potassium 450mg; sodium : potassium ratio 0.4

ANNEKA MANNING'S BANANA BREAD

This recipe is a favourite in our house and I love it as much as the kids do. It includes many ingredients such as pure floral honey, bananas, buttermilk and oat bran, that are perfect for 'better-for-you' baking. Makes 20 pieces • Preparation time: 15 minutes • Baking time: 45–

50 minutes

Melted unsalted butter, to grease
100g (3½oz) unsalted butter, softened
½ cup single-origin floral honey
2 eggs
2 large very ripe bananas (about 400g/14oz)
⅓ cup buttermilk
1¼ cups wholemeal spelt flour
½ cup unprocessed oat bran
1½ teaspoons bicarbonate of soda
1½ teaspoons ground cinnamon

Preheat the oven to 180°C (350°F). Grease a 21 x 11cm/8 x 3in (base measurement) loaf pan with melted butter and line the base and the two long sides with a piece of non-stick baking paper. • Combine the butter and honey in a large mixing bowl and beat with electric beaters until well combined and creamy. Add the eggs, one at a time, beating well after each addition until well combined. • Peel and mash the bananas and stir into the mixture with the buttermilk using a spatula or large metal spoon to combine well. • Sift the flour, bicarbonate of soda and cinnamon together into a mixing bowl and return any husks to the bowl. Add the oat bran and stir to combine. Add to the banana mixture and use a large metal spoon or spatula fold in until just combined. • Spoon into the prepared loaf pan and smooth the surface with the back of a spoon. Bake in the preheated oven for 45-50 minutes or until a skewer inserted into the centre comes out clean. Stand in the pan for 5 minutes before turning onto a wire rack to cool. • Store the banana bread in an airtight container in a cool place (but not in the refrigerator) for up to 3 days. • To freeze, wrap individual slices in plastic wrap and then seal in a freezer bag or airtight container before freezing. Alternatively, pack slices in an airtight container and interleave with freezer wrap or non-stick baking paper). Thaw the slices at room temperature or toast straight from the freezer.

Per slice

Energy 500kJ/ 120Cal; protein 2g; fat 5g (includes 3g saturated fat; saturated : unsaturated fat ratio 1.5); available carbohydrate 16g (includes 10g sugars; 6g starches); fibre 2g; sodium 94mg; potassium 111mg; sodium : potassium ratio 0.8



Anneka Manning is an author, food editor, cooking teacher, home economist, mother of two and the founder of BakeClub. With over 27 years' experience, she specialises in teaching the 'why' behind the 'how' of baking, giving home cooks the know-how, understanding and skill to bake with confidence and success, every time. She has written and contributed to a number of books, including *The Low GI Family Cookbook* (Hachette), *Mastering the Art of Baking* (Murdoch Books) and *BakeClass* (Murdoch Books).

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