The real deal on agave syrup, coconut sugar and rice syrup;
Nicole Senior checks out crispy, crunchy carrots in Taste of Health;
Anneka Manning shares her amazing carrot cake recipe in Family Baking;
Rice - enjoy it but keep portions moderate and look for lower GI varieties says Dr Alan Barclay;
New SunRice Low GI Brown rice has GI Symbol;
Foraging for food.

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Food for Thought

Sweet celebrities.
Chrissy Freer, author of the delicious Supergrains, recently quizzed us about rice syrup as magazine editors keep asking her to use it in recipes for ‘healthy’ baking. ‘Is it actually a ‘healthier’ alternative to sugar or just another fashionable sweetener being touted as sugar free and better for you?’ she asked. Rice syrup just like table (granulated) sugar, honey and maple syrup belongs in the nutritive sweetener camp. ‘Nutritive’ doesn’t mean these sweeteners are ‘nourishing’ in the good for you sense, it means they provide you with (per level teaspoon) around 4–5g carbs and 15–20 calories. Are some ‘healthier’ than others? Well, some do deliver a smidgen more nutrition than just calories – less refined sweeteners like raw sugar, quality honey and pure maple syrup also provide very small amounts of calcium, potassium and magnesium as does the low GI sugar, LogiCane. But they still have those calories so you still have to keep your intake moderate. Here we check out the real deal on three of today’s ‘celebrity’ sweeteners.

Agave syrup/nectar is extracted from the agave plant - Mexico’s famous succulent that also gives us aguamiel, pulque, and tequila (from the blue agave). It’s mostly fructose which is why it has a low GI – light standard agave syrup (GI28) is 70–78% fructose; light premium agave syrup (GI22) is 78–85% fructose. It’s about 1½ times sweeter than sugar so you use less, which is just as well as it is on the pricy side. Delicious drizzled over pancakes, porridge, plain yoghurt, French toast. For recipes, check out Michael Moore’s Blood Sugar; The Family – he uses it instead of sugar in baking and desserts to help manage his BGLs.

Coconut syrup/sugar, a traditional sweetener from South-East Asia comes from the nectar of coconut palm flower buds (which means those buds won’t grow into coconuts). It is about 75% sucrose and the rest is glucose and fructose which could make it a useful substitute for cane sugar if you are looking for one and cost doesn’t count. These days it’s widely promoted as a ‘great tasting, mineral rich, low GI (35) cane sugar alternative’. Dr Oz recommends it as
a replacement for table sugar saying that: ‘Switching from regular sugar to coconut palm sugar could prevent the blood sugar crashes that make you hungry and then cause you to gain weight.’(www.doctoroz.com/videos/coconut-palm-sugar-best-new-sugar-alternative)

We asked SUGiRS Manager Fiona Atkinson about the GI35 for coconut sugar that Dr Oz quoted, as this figure is all over the internet but failed the peer review process to make it into the official international GI database. ‘That’s an old value from the Philippines and it was not tested according to the ISO method,’ she said. ‘We have recently tested coconut sugar for a company, but the results must remain confidential until they give us permission to publish them. I can say that although the GI was certainly not 35, it was low for what is essentially a sucrose-based sugar.’ Because of the high sucrose content, we are guessing it is more likely to be similar to CSR LoGiCane, the low GI sugar which has a GI of 50. Coconut syrup is ‘fab’ on pancakes or drizzled over coconut cake according to food writer Kate McGhie who also uses coconut sugar in Thai cooking and general baking such as muffins and has coconut vinegar in her pantry.

**Brown rice syrup** (rice syrup) is the darling of the ‘fructophobe’ quit-sugar/sugar-free lobby and is around 45% maltose, 3% glucose, and 52% maltotriose (a trisaccharide consisting of three glucose molecules joined together). The jar of Pureharvest organic brown rice syrup in front of me is produced according to the manufacturer by: ‘fermenting whole brown rice with special enzymes that break down the natural starch content of the grain. The resulting material is then cooked until it reaches the consistency of syrup’. Their website says: ‘it provides a slower, constant release of energy over a longer time and is recommended for diabetics.’ In fact it hasn’t been GI tested and we think that it’s more likely to be high GI. Why? Well, we know that the GI for maltose is 105. Although the GI of maltotriose is unknown, our guesstimate is, that like maltodextrin, it will be similar to glucose (100). Chrissy has used rice syrup when baking or on toast, waffles or pancakes and in making muesli bars and biscuits. PS: No diabetes organisation we know of recommends it for people with diabetes.

**What’s New?**

**Diet soft drinks – is it the drink or what you eat with it that’s the problem?**

An opinion article published by Cell Press in *Trends in Endocrinology & Metabolism* (www.ncbi.nlm.nih.gov/pubmed/23850261) reviews evidence on the negative impact of artificial sweeteners on health, raising red flags about all sweeteners – even those that don't have any calories. ‘It is not uncommon for people to be given messages that artificially-sweetened products are healthy, will help them lose weight or will help prevent weight gain,’ says author Susan E. Swithers of Purdue University. ‘The data to support those claims are not very strong, and although it seems like common sense that diet sodas would not be as problematic as regular sodas, common sense is not always right.’

‘Rather than just focus on soft drinks whether artificially or naturally sweetened,’ says Dr Alan Barclay, ‘let’s look at the whole shebang – people’s dietary patterns: what people who drink soft drinks regularly are eating with them. ‘Generally speaking, we tend to drink soft drinks with certain types of foods like potato chips, pizza, hamburgers, or we mix them with alcohol like bourbon or vodka (and help ourselves to crisps and salty nuts). People are still eating pretty poorly overall and unless they change their dietary patterns they are not going to see any benefits.'
The bottom line re diet soft drinks and weight benefits: ‘If you chose an artificially sweetened product to reduce your overall energy intake in the context of a very healthy diet with plenty of fruits, veggies, whole grains etc... you probably would see some overall benefits. But if you’re simply swapping from one to the other and still having deep fried chicken and a large chips, you probably aren’t going to see any real belt tightening benefits.’

Exercise, even in small doses, changes the expression of our DNA.

“Our study shows the positive effects of exercise, because the epigenetic pattern of genes that affect fat storage in the body changes’, says Charlotte Ling, Associate Professor at Lund University Diabetes Centre. We inherit our genes and they cannot be changed. The genes, however, have methyl groups attached which affect what is known as gene expression – whether the genes are activated or deactivated. The methyl groups can be influenced in various ways, through exercise, diet and lifestyle, in a process known as DNA methylation. This is epigenetics. In this study, the researchers investigated what happened to the methyl groups in the fat cells of 23 slightly overweight, healthy men aged around 35 who had not previously engaged in any physical activity, when they regularly attended spinning and aerobics classes over a six-month period.

“They were supposed to attend three sessions a week, but they went on average 1.8 times’, says Tina Rönn, Associate Researcher at Lund University. Using technology that analyses 480,000 positions throughout the genome, they could see that epigenetic changes had taken place in 7,000 genes (an individual has 20,000 genes). They then went on to look specifically at the methylation in genes linked to type 2 diabetes and obesity. ‘We found changes in those genes too, which suggests that altered DNA methylation as a result of physical activity could be one of the mechanisms of how these genes affect the risk of disease’, says Rönn, adding that this has never before been studied in fat cells and that they now have a map of the DNA methylome in fat. – A Six Months Exercise Intervention Influences the Genome-wide DNA Methylation Pattern in Human Adipose Tissue, PLOS Genetics (www.plosgenetics.org/article/info:doi/10.1371/journal.pgen.1003572), June 2013

What’s new?

#1 Edible walls: Sydney Design 2013, Powerhouse Museum 3–18 August (www.sydneydesign.com.au/2013/event/edible-walls). Edible walls are about growing things in spaces that have previously been ignored. Bringing together design, technology, sustainability, environment and education, researchers and students from the University of Technology, Sydney will build a series of edible walls at the Powerhouse Museum as part of the Sydney Design 2013 exhibition. Several leading Australian green wall companies will also showcase vertical garden designs that can turn small and otherwise difficult-to-use outdoor spaces into mini vertical fruit and vegetable gardens. PS: We hope the urban foragers don't forage your crop for their table.

#2 Healthy Kids Lunch Boxes BakeClass: Saturday 10 August, 9.30–12.30 – a three-hour workshop where you will discover how easy (and enjoyable) it is to fill lunch boxes with Anneka Manning’s ‘better for you’ sweet and savoury snacks that you will feel good about serving and your kids (and their friends) will enjoy. You can find out more about this workshop at www.bakeclub.com.au/bake-classes.aspx.

#3 Nutritionism (Allen and Unwin/Columbia University Press): From the fear of ‘bad nutrients’ such as fat and cholesterol, to the celebration of supposedly health-enhancing vitamins and omega-3 fats, our understanding of food and health has been dominated by a reductive scientific focus on nutrients according to Dr Gyorgy Scrinis. In this book he argues that this ‘nutritionism' has narrowed our appreciation of food quality, while promoting
confusion and nutritional anxieties. His alternative? A food quality paradigm based on respecting traditional dietary patterns and reducing technological processing. ‘It may offend nutritionists and will upset the food industry, but it could also herald a delicious revolution in our ability to eat well.’ (Rosemary Stanton)

There’s certainly food for thought in this provocative critique of the science of nutrition. The problem of course in such a comprehensive book is fact checking. We wonder, for example, where he plucked the ‘71’ for the GI of carrots from. Certainly not the GI database. Finding errors and out-of-date information in a topic one knows well (and there are several in his critique of GI) does make one question the reliability of his facts in other areas. And that’s a pity, because we are certainly not fans of the ‘ideology of nutritionism’ here at GI News.

Nicole’s Taste of Health

Carrot tops.
We’ve just planted some winter veg and the crop I’m most looking forward to harvesting is the Dutch carrots. Even though we usually buy carrots nude from the supermarket, I confess I love the look of the green tops – and they’re a great indicator of freshness. And they make harvesting fun too: just grab and pull. One of my favourite ways to eat this sunshine-y root vegetable is roasted whole with a short length of stem still on (just brush with oil and bake). With the water content reduced by the oven, the caramelisation of the natural sugars create a kind of magic in your mouth and one of the many reasons I shall never be a raw foodist!
Which reminds me of another favourite way to enjoy them: with a drizzle of extra virgin olive oil and honey (and a sprinkle of cumin if you like a little spice). (The photo is from The Low GI Family Cookbook, Hachette Australia and Da Capo Lifelong Press.)

Carrots are one of the most popular vegetables in our kitchen and for good reasons. For a start they are very versatile: they are delicious raw or cooked, and can blend in to most dishes whether it is a stir fry, casserole, grill or salad. It’s really no wonder you’ll find them in most people’s refrigerator. I love them in soup at the moment and marvel how well they go with chicken and chickpeas, or in the slow cooker with beef and lentils. There’s another kind of magic that happens when carrots are cooked long and slow and turn to velvet but still hold their shape: so comforting. But of course carrots also shine in summer salads and the trick to a super salad is to slice the carrot in long slender strips or ribbons. You can do strips or batons with a sharp knife but you’ll look like a pro if you use a julienne blade on a V-slicer that produces willowy, regular lengths that look gorgeous and perform a texture tango in your mouth. Another idea is to use a vegetable peeler to slice long ribbons and do the same with zucchini to create a two-colour ribbon salad that only need your favourite chopped herbs and a knockout vinaigrette dressing.

Aside from all this, carrots are really good for you. They even give their name to a family of phytochemicals called carotenoids: carrots are rich in a particular type called beta-carotene that gives them their orange colour. But carrots were purple or dull yellow 5000 years ago in Afghanistan where they are thought to originate, but these ‘heirloom’ varieties are now available again and look simply spectacular on your plate. Being root vegetables, carrots of any colour are high in fibre for digestive health. They also have impressive amounts of vitamin K for healthy bones, vitamin C for immunity and potassium to maintain ideal blood pressure. And if that wasn’t enough, munching on carrots is good for the teeth and gums too because they massage the gums and increase production of saliva which rinses out the mouth and helps to protect against decay.
Raw or cooked, carrots won’t send your blood glucose on a roller coaster ride either. End of story. Why? Well, not only are they low GI (39), they have very few carbs. In fact, to get a hefty portion of carbs from carrots you’d have to crunch through at least 5 cups or 750g (about 1½lb) at a sitting – a pretty awesome achievement even for carrot lovers.

Everybody knows carrot juice (GI43) is uber-healthy so next time you’re wandering about town and need an energy and hydration hit, try carrot, apple and ginger juice. While you miss the benefits of fibre in juice form, it’s so much better than a soft drink (soda).

Nicole Senior is an Accredited Practising Dietitian and Nutritionist, author, speaker, consultant, and commentator with an interest in how we can learn to love good food that’s good for us.

In the GI News Kitchen

Family Baking, Anneka Manning, author of Bake Eat Love. Learn to Bake in 3 Simple Steps and founder of Sydney’s BakeClub (www.bakeclub.com.au), shares her delicious ‘better-for-you’ recipes for snacks, desserts and treats the whole family will love. Through both her writing and cooking school, Anneka teaches home cooks to bake in practical and approachable yet inspiring ways that assure success in the kitchen.

Carrot Cake.
This cake is one of those that naturally has an enticing balance of ingredients that complement each other perfectly. Loads of grated carrot (which is the secret to this cake's moist nature), cinnamon and nutmeg to lend a hint of spice and walnuts for crunch. Makes about 20 pieces.
Preparation time: 15 minutes; Cooking time: 50-55 minutes

Sunflower oil, to grease
300g (1 3/4 cups) plain wholemeal spelt flour (See Baker’s Tip)
2 tsp bicarbonate of soda
1 1/2 tsp ground cinnamon
1 teaspoon ground nutmeg
220g (1 cup) raw sugar
100g (3½oz) walnuts, toasted and coarsely chopped (see Baker’s Tips)
3 eggs, at room temperature
1 cup sunflower oil
500g (about 5 medium) carrots, peeled and coarsely grated
1 teaspoon icing sugar, to dust

Preheat the oven to 180°C/350°F. Brush a square 20cm cake tin with oil to grease. Line the base with non-stick baking paper.
Sift the flour, bicarbonate of soda, baking powder, cinnamon and nutmeg into a large bowl. Add the raw sugar and walnuts and stir to combine.
Put the eggs and oil in a medium bowl and use a fork to whisk until well combined. Stir in the grated carrot. Add to the dry ingredients and use a large metal spoon or spatula to fold together until just combined. Spoon the mixture into the prepared cake pan and spoon the surface with the back of a spoon.
Bake in preheated oven for 50-55 minutes or until cooked when tested in the centre with a
skewer. **Stand** the cake in the tin for 5 minutes before turning onto a wire rack to cool completely. Sprinkle with the icing sugar and serve cut into slices. This cake will keep in an airtight container in a cool place (but not in the fridge) up to 4 days.

**Per piece**
1050 kJ/250 calories; 4 g protein; 16 g fat (includes 2 g saturated fat); 22 g available carbs; 3 g fibre

**Baker’s Tips**
- The wholemeal spelt flour can be replaced with 150g (1 cup) wholemeal plain flour and 120g (3/4 cup) plain flour.
- The walnuts can be replaced with pecans.

American dietitian and author of *Good Carbs, Bad Carbs*, **Johanna Burani**, shares favourite recipes with a low or moderate GI from her Italian kitchen. For more information, check out Johanna's website ([www.eatgoodcarbs.com](http://www.eatgoodcarbs.com)). The photographs are by Sergio Burani. His food, travel and wine photography website is [www.photosbysergio.com](http://www.photosbysergio.com).

**Roasted summer grape tomatoes.**
If vegetables were ever in a parade, tomatoes would be the marching band, color guard and the festival queen! This recipe elevates the humble grape tomato to its rightful position of peerless distinctive taste. Don’t be fooled by the simplicity of this recipe; the burst of flavor these tomatoes leave in your mouth is what sweet dreams are made of. I’ve divided the recipe into four generous 1-cup portions – anything less would be a tease. Serves 4.

8 cups grape tomatoes, washed
4 large fresh garlic cloves, sliced
1/4 cup extra virgin olive oil
2 tsp sea salt
1 tsp freshly ground black pepper
8 sprigs fresh rosemary

**Preheat** the oven to 400°F (200°C). Place the tomatoes and the garlic in a large baking pan in one layer). Drizzle the oil evenly over them and sprinkle the salt and pepper. Mix. **Roast** for 20 minutes, stirring once. Add the rosemary, stir, and return to the oven for 10 minutes. Serve hot or at room temperature as a side dish or over pasta or fish or mixed in with eggs. Great on grainy toast.

**Per serve**
220kJ/900 calories; 4g protein; 14g fat (includes 2g saturated fat); 19g available carbs; 4g fibre

Here’s how you can cut back on the food bills and enjoy fresh-tasting, easily prepared, seasonal, satisfying and delicious low or moderate GI meals that don’t compromise on quality and flavour one little bit with our Money Saving Meals ([www.moneysavingmeals.com.au](http://www.moneysavingmeals.com.au)) including this Slow-cooked lamb shank and barley soup with gremolata reproduced with permission from Chrissy Freer’s new book, *Supergrains* (Murdoch Books)
**Slow-cooked lamb shank and barley soup with gremolata.**

Here at *GI News* we think this is the perfect hearty winter soup for a family meal with leftovers for lunch (how good is that?). To cut back the fat (I did when testing it this week), trim all the visible fat off the lamb shanks and pancetta. And as my butcher only ever has large lamb shanks, I just used two. It was plenty. I didn’t use any salt and pepper to season as it’s full of flavour with the gremolata (and the little red chilli I couldn’t resist chopping and adding). Serves 6.

2 tbs olive oil
4 small lamb shanks (or 2 larger ones), french trimmed
100g (3½oz) sliced pancetta, rind removed, diced
2 carrots, peeled and diced
2 celery stalks, trimmed and diced
1 large brown onion, finely chopped
2 garlic cloves, crushed
2 tsp finely chopped rosemary
4 cups chicken stock
400g (14oz) can chopped tomatoes
1/3 cup pearl barley, briefly rinsed
2 fresh bay leaves (or 1 dried)

**Gremolata**

1/4 cup chopped flat-leaf parsley
2 tsp finely grated lemon zest
1 garlic clove, crushed

Heat half the oil in a stockpot or large saucepan over medium–high heat. Add lamb and cook, turning, for 4–5 minutes or until well browned. Transfer to a plate and carefully wipe the base of the pan.

Heat the remaining oil in the stockpot. Add the pancetta, carrots, celery and onion and cook, stirring, for 8 minutes or until soft.

Add the garlic and rosemary and cook for 1 minute more, then return the lamb to the stockpot. Add the stock, tomatoes, pearl barley and bay leaves to the stockpot. Cover and bring to the boil, then reduce heat to low and simmer, covered, for 2 hours or until the meat falls from the bone. Use tongs to transfer the lamb to a plate. Remove the meat from the bones and coarsely shred. Skim and discard any excess fat from the surface of the soup, then add the shredded meat and season to taste with sea salt and freshly ground black pepper if you wish.

To make the gremolata, combine all ingredients in a small bowl. Serve the soup sprinkled with gremolata.

**Per serve**

1030 kJ/ 245 calories; 16 g protein; 14 g fat (includes 4 g saturated fat); 12 g available carbs; 4 g fibre

**We Are What We Ate**

A-foraging we will go.

Foraging is back in fashion. Danish chef Rene Redzepi’s passion for foraging and using
native ingredients put Noma on the map and triggered a small culinary revolution. Most ‘urban foraging’ is for extras not survival – it’s for flavour foods like herbs and greens or seasonal fare like mushrooms or picking overhanging fruit from other people’s yards ... In this piece reproduced with permission, Dr Alyssa Crittenden and colleagues talk about the Hadza hunter–gatherers who live in a savanna–woodland habitat in Northern Tanzania and forage to live.

**What do they forage for?** ‘Approximately 300 individuals, of a total population of 1000, practice a strictly hunting and gathering way of life. Their diet can be conveniently categorized into five main categories: tubers, berries, meat, baobab, and honey. We showed the Hadza photos of these foods and asked them to rank them in order of preference. For both women and men the most preferred food was honey and the least preferred food was tubers. Baobab was ranked third by women and men. There were sex differences on the other two foods: women ranked berries second and meat fourth, while men ranked meat second and berries fourth. In addition, though both sexes ranked honey first, men did so significantly more often.’

**Who forages for what?** ‘Men usually go foraging alone. They hunt only with bow and arrows, poisoned arrows in the case of larger game. They always have their bow and arrows with them, even when they carry an axe to access honey. While on walkabout they often feed themselves on berries and baobab. They take back to camp mainly meat and honey, as well as some baobab. They may eat much of the honey they find but take back to camp about half of their haul on average, and about 9/10 of their meat. Grown men rarely dig tubers.

Tubers comprise part of the Hadza diet year round and can often be located three to four feet underground. They are collected almost exclusively by the women (see photo above) who use fire-hardened digging sticks to extract them from the often hard-packed soil. They usually roast some of their tubers when they finish digging and take the remainder (about 3/4 of their haul) back to camp to feed others. Typically the women go foraging in groups of three to eight women plus nurslings and some older children and collect baobab fruit and gather a variety of berries as well as digging for tubers.

Children and adolescents are active foragers and are capable of collecting up to 50% of their daily energy requirement above the age of 5 years, depending on the season and availability. Young foragers tend to focus early collection on fruit and tubers, and although boys and girls spend considerable time digging tubers up until the age of 10 or 12 years, boys tend to abandon the group foraging parties at this age and begin solo hunting trips to hone their skills, while girls master the art of tuber digging.’

- Juvenile foraging among the Hadza: Implications for a human life history ([https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxhbHlzc2Fjcm10dGVuZGVufGd4OjYxODY2OWI1NDQ4MTUzXWM](https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxhbHlzc2Fjcm10dGVuZGVufGd4OjYxODY2OWI1NDQ4MTUzXWM))

**GI Symbol News with Dr Alan Barclay**

**Rice - enjoy it, but don't overdo it and opt for lower GI varieties.**

The Chinese were the first to cultivate rice more than 8000 years ago, and over the milenia,
it has spread all around the world. It is such a success story as a crop that today it is
considered to be the staple food for over half the world’s population and is the second most
cultivated cereal crop in the world. Perhaps fittingly, rice is one of our main symbols of life
and fertility: the tradition of throwing rice at weddings (now more commonly symbolised by
confetti) stems from this belief. In many parts of the world, people eat rice for breakfast,
lunch and dinner (in fact it can be around 20% or more of their daily calories), so perhaps
unsurprisingly, in a number of languages the word for rice is the same as the word for food:
“have you had rice?” in some cultures literally means “have you eaten?”

What about nutrition? Rice is a carbohydrate-rich food and is also a moderate source of
protein (not complete, so it needs to be complemented with other sources like beans and
lentils, dairy or meat). Brown rice in addition is a good source of fibre, B group vitamins
(niacin and thiamin) and a source of minerals like magnesium, zinc and iron. To produce
white rice, the bran layer is removed by milling, and this unfortunately reduces the amounts
of fibre, vitamins and minerals. Believe it or not, white rice does not contain sufficient
thiamine to enable the body to use the carbohydrate as a source of energy, leading to the
development of beriberi if the diet doesn’t contain alternative sources. All rice is gluten free,
and the current popularity of gluten free diets may be increasing sales of rice – at least in
Australia where sales are up by nearly 4% over the past year.

What about your BGLs? While there are very good reasons to consume brown rice rather
than white, managing your blood glucose isn’t necessarily one of them. This is because it is
the kind of starch in rice that is the main factor that affects the GI – not the size or colour of
the grain – and the starch is found in the endosperm, not the bran. So polishing a grain of rice
will not necessarily make it high GI; and brown rice is not necessarily low GI. What we now
know is that the low or lower GI rices have a high proportion of amylose
(http://link.springer.com/article/10.1007%2Fs12284-011-9073-z) – a kind of starch that
resists gelatinisation. Over the years, many varieties of rice have been GI tested and low or
lower GI varieties are being identified and becoming increasingly available. One such variety
is Doongara, a high amylose long grain rice developed and grown in Australia.

- SunRice Low GI White (formerly Doongara Clever) rice (GI53) is a versatile rice
suitable for many dishes. Because it is hard to overcook, as it is a more forgiving
grain, allowing you to overcook the rice for up to 5 minutes beyond the ideal cook
time of 12 minutes, resulting in fluffy rice every time. However, we suggest you stick
to the cooking times recommended!
- SunRice Low GI Brown rice (GI54) is a specially developed Doongara long grain rice
with a delicious nutty flavour and a chewy texture. It can be used across a wide range
of dishes including salads, stir fries, casseroles, curries or as a side dish.

How much? Remember to keep portions moderate, because even when you choose a low GI
rice, eating too much can have a marked effect on your blood glucose. Remember, 1 cup of
cooked rice is equivalent to around 45g carbs or 3 exchanges.

Cauliflower and chickpea curry
2 tsp vegetable oil • 1 onion, finely chopped • 2 tbs rogan josh curry paste or other medium-
hot curry paste • 400g/14oz canned chopped tomatoes • 1½ cups vegetable stock • 1
cauliflower medium size, cut into florets • 400g/14oz can chickpeas, rinsed, drained • ½
bunch coriander, chopped • ½ cup natural yoghurt
To serve: 2 cups cooked SunRice Low GI Brown Rice
In a saucepan heat oil over medium heat. Add onions and cook gently until soft (about 5 minutes). Add curry paste, stir while cooking for 2 minutes. Add tomatoes and stock then simmer for 5 minutes. Add cauliflower and chickpeas and simmer until cauliflower is just cooked. Season to taste with salt and pepper. Mix the yoghurt and coriander. Place in a large bowl and spoon the yoghurt mixture on top. Serve with rice. Serves 4

The GI Symbol, making healthy low GI choices easy choices

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GI Update with Prof Jennie Brand-Miller

Prof Jennie Brand-Miller answers your questions.

I don’t understand how you can bake sweet foods like cakes or desserts that don’t have sugar in them (I’m not talking about artificial sweeteners here). What makes them sweet? Can you explain?
I can see why it is a confused and confusing area. We have to go back to carbohydrate 101 for this. Sugar is a carbohydrate. So is starch. They are nature’s reserves created by energy from the sun, carbon dioxide and water. The simplest form of carbohydrate is a single-sugar molecule called a monosaccharide (mono meaning one, saccharide meaning sweet).

- Glucose is a monosaccharide that occurs in food as glucose itself and also as the building block of starch. Fructose and galactose are also monosaccharides.

If two monosaccharides are joined together, the result is a disaccharide (two single-sugar molecules – di meaning two).
Sucrose, or table sugar (refined sucrose from sugar cane), is a disaccharide. Every molecule of sucrose yields one molecule of fructose and one molecule of glucose. Thus 10 grams of sucrose (or 2 teaspoons) yields 5 grams of fructose and 5 grams of glucose. Lactose (glucose + galactose), the sugar in milk, and maltose (glucose + glucose) are also disaccharides.

As the number of monosaccharides in the chain increases, the carbohydrate becomes less sweet. Rice syrup for example which is less sweet than table sugar is 45% maltose (glucose + glucose), 3% glucose, and 52% maltotriose (a trisaccharide consisting of glucose + glucose + glucose molecules). So, you can see that it’s still chemically very much a ‘sugar’ but it is described as being ‘sugar-free’ by sugar-free/quit-sugar diet advocates because it does not contain any fructose. Maltodextrins are oligosaccharides (oligo meaning a few). They taste only a little sweet.

What about GI? Table sugar which as I have said is refined sucrose has a GI of between 60 and 65. Remember, sucrose is a disaccharide (double sugar) composed of one glucose molecule coupled to one fructose molecule. So, when we consume sucrose, only half of what we’ve eaten is actually glucose; the other half is fructose. While the blood glucose response to glucose is high (GI 100), it is very modest to fructose (GI 19), because fructose is absorbed and taken directly to the liver where it is immediately used as the source of energy. This explains why the blood glucose response to 50 grams of sucrose is approximately half that of 50 grams of corn syrup or maltodextrins – where the molecules are all glucose.

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