

TRAFFIC LIGHT FOOD LABELS

This web page supports the letter on Traffic Light food labels in *Medical Journal of Australia* 1st January 2007 [1]. Correspondence: trevor.beard@utas.edu.au

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1. WHY BRITAIN HAS TRAFFIC LIGHT FOOD LABELS

The preventable epidemic diseases

Modern industrial societies have alarming epidemics of overweight, obesity and Type 2 diabetes [2, 3], and those who reach middle age have a 90% risk of high blood pressure before they die [4]. High blood pressure and obesity are two of the main risk factors for serious epidemics of heart disease, chronic heart failure, stroke and kidney failure.

There is an international scientific consensus that these epidemics are almost 100% preventable. They are attributed to:

1. DIETARY excess (too much fat, saturated fat, sugar and salt)
2. LIFESTYLE errors (inadequate physical exercise and/or excess alcohol)

Two of the main obstacles to prevention

National dietary guidelines worldwide have recommended '*moderation*' with four nutrients—fat, saturated fat, sugar and salt. Until now these guidelines have made no difference—the

epidemics of obesity and diabetes are *even worse* today than they were 10 years ago [2]. The two most obvious problems have been:

1. the guidelines are inaccessible—and largely unknown;
2. they have never defined ‘*moderation*’.

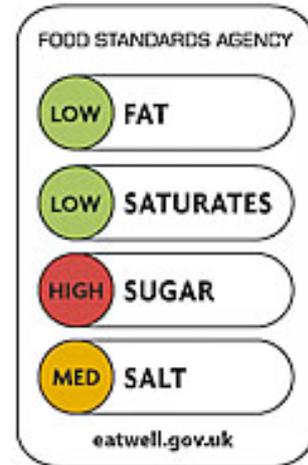
Explicit food labels

The British Food Standards Agency (UK FSA) introduced Traffic Light food labels to correct both faults. When they are mandatory:

1. every shopper will see the lights on every food label;
2. amber lights will define foods to be eaten in ‘*moderation*’.

At present Traffic Light labels are voluntary, but two British supermarket chains already use them on their home brand foods. They show consumers—at a glance—a food’s profile of compliance in each of the four areas where the guidelines call for ‘*moderation*’.

Thus salt content is moderate when its light is amber, high when red and low when green. The same applies to separate lights for fat, saturated fat and sugar. The colours are based on concentration in grams per 100 g or per 100 mL, with boundaries set and kept under evidence-based scientific review by professional experts.



The multiple traffic light

The above picture of a Traffic Light label—borrowed from the UK FSA—shows a food that is low in fat and saturated fat, high in sugar and medium (‘moderate’) in salt.

Producers are naturally reluctant to see red lights on any of their labels, so Traffic Light labels will have very limited use while the scheme remains voluntary. The UK hopes to make them mandatory, but the food regulations will allow this in Britain only when they are mandatory throughout Europe.

2. STRENGTHS AND WEAKNESSES OF TRAFFIC LIGHTS

They make healthy shopping easier

Without Traffic Lights the shopper needs a lesson in reading the Nutrition Information Panel, also the motivation and intelligence to profit from it. Even then it takes time, good eyesight and a reliable memory—for eight different figures—to find foods that are *low or reduced* in fat, saturated fat, sugar and salt.

Food labels with *green, amber or red lights* make the corresponding foods identifiable at a glance by anybody, including:

1. the less educated, and the economically and socially disadvantaged
2. people from a non-English-speaking background
3. print-handicapped and poor readers in general
4. everybody who can’t cope with Nutrition Information Panels or percentages
5. the less-motivated—all the people who find nutrition boring
6. sick and elderly who have little time and/or energy for shopping
7. parents, who can tell demanding children ‘no foods with red lights for fat’

They reward producers of healthier products

We already have healthy foods that would qualify for green Traffic Light labels, and green labels would promote them. Companies that produce healthy foods richly deserve this free advertisement—moreover this is surely by far the most legitimate and trustworthy of all food advertising.

Traffic Light labels would give other companies an incentive to produce healthier foods. The Heart Foundation ‘Tick’ has already demonstrated that it increases sales. Unlike the ‘Tick’, Traffic Lights work at two levels—the high boundary from red to amber (broadly equivalent to the ‘Tick’) and the low one from amber to green. Every boundary change means a market advantage and—the whole purpose of these labels—a public health advantage.

Could they cause confusion?

Many health professionals ask how far we can rely on people to make sense of a label that shows *a mixture of different lights* (as in the example shown above).

In the UK the short answer is apparently self-evident—shoppers tend to look for foods with no red lights (or the fewest red lights). It is natural to see red lights as a warning—the more red lights the bigger the warning. Amber lights still suggest caution, and green lights safety.

It should be obvious that each light refers to *the word printed next to it*, and it should be equally obvious that red is for danger, amber for caution and green for safety.

Thus for **FAT** green means low fat and good health. Amber means fatty enough to need care to avoid weight gain. Red means too fatty for either prevention or treatment of obesity and its complications, such as insulin resistance and Type 2 diabetes.

For **SATURATED FAT** green means low enough to ignore. Amber means rather unsuitable if you have high blood cholesterol or heart problems (or a strong family history of these problems). Red means very unsuitable.

For **SUGAR** green means low in sugar, amber is a mild warning and red a strong warning of sugar-related health problems like obesity.

For **SALT** green means low enough to prevent and/or treat over a dozen salt-related health problems including high blood pressure, swollen ankles, osteoporosis and kidney stones [5]. Amber puts you at risk unless you are careful and red puts you at high risk.

Must they always be negative?

Traffic Light labels are confined at present to the four nutrients for which the Dietary Guidelines call for ‘moderation’, and the UK allows energy as a fifth optional addition.

However they could also promote desirable nutrients, where a green light would mean **HIGH**. The Sanitarium company already uses a front-of-pack ‘Score Sheet’ giving green, amber and red scores for four nutrients, two of which are whole grain content and dietary fibre content.

But there is an argument for avoiding clutter. Many people would give first priority to the major task of controlling the main epidemics of preventable disease—the long overdue ‘moderation’ message. Traffic Lights were designed expressly for that, and their simplicity was intentional.

Foods near the boundaries

When two almost identical foods lie near (for example) the amber/red boundary—but on opposite sides of it—one will have an amber light and the other a red light, even though the difference between them is very small.

Although boundaries are artificial we find them useful in many continuous distributions, such as the distinction between tall and short people, also they can provide motivation for change. The Heart Foundation finds that producers of foods that are slightly above a boundary will reformulate them without hesitation to qualify for the ‘Tick’.

Coloured labels and the colour-blind

About 0.7% of women and 7% of men are colour-blind (about one million adults in 12 million adults), but on the roads they know that the bottom light is green, and British food labels add the words **LOW**, **MED** and **HIGH** corresponding to each colour.

‘Healthy’ foods with red and amber lights

The UK criteria would give red and amber lights to a few foods with redeeming virtues. Examples include (if they have a Nutrition Information Panel) fruit, nuts and cheese.

Fruit. Many fruits have enough sugar to score an amber light with the UK criteria, but moderation would be regarded as the wrong advice for fruit. However the Traffic Lights are meant to be a visual representation of the four dietary guidelines that recommend moderation, and the Australian dietary guidelines recommend moderation only with *added* sugar.

Reporting only part of the total sugar content might look like a disservice to patients with diabetes, but they now take more notice of the glycaemic index. Everyone who needs to check the total sugar content can be shown how to read the Nutrition Information Panel.

Nuts and nut butters. These would have red lights for fat, but the composition of the fat is considered healthy. Nuts are promoted in moderation as an ingredient of a healthy diet, which is an argument for flexible boundaries that give amber lights for most nuts.

Cheese. Most cheeses would have three red lights (for fat, saturated fat and salt), although recognised as a source of calcium. This might be negotiable. If, for example, an expert committee decided that cheese could safely be eaten in moderation by the healthy public (for whom the guidelines are written) it might set boundaries for cheese to give it amber lights for fats and salt, meaning it could be eaten in moderation. Patients who need better control of their fat or salt intake could safely select *green* lights for fat and/or salt.

‘Unhealthy’ foods with four green lights

Diet cola drinks would have green lights for fat, saturated fat, sugar and salt, but phosphoric acid in cola drinks is associated with low bone density, a risk factor for osteoporosis.

The lights refer exclusively to the four nutrients requiring moderation, but they could give the general public the illusion of total endorsement. One answer might be to require permits for Traffic Light labels when products qualify for four green lights.

3. WHY AUSTRALIA NEEDS TRAFFIC LIGHT LABELS

Child health

Overweight. Australian children are heavier than they have ever been, and the percentage of obese children is increasing. More than ever before, children need regular exercise and healthier food.

Whether they need to regain—or maintain—a normal weight, all children need to be protected from foods with red lights for fats or sugar.

Regaining a normal weight is as difficult for children as it is for adults, and requires foods with green lights at all times.

Maintaining a normal weight may be feasible with occasional amber lights, remembering always that foods with amber lights need to be eaten in moderation.

High blood pressure. High blood pressure results from the almost universal rise of blood pressure with age [6]. Risk factors include salt, and the ‘normal’ salt intake of industrial societies raises blood pressure even in children, who have a lower blood pressure at a lower salt intake [7]. Snack foods high in salt are giving children palates that are adapted to salt and making more natural (low salt) foods taste bland by comparison [8]. Their palates recover within four weeks on low salt foods [9] (low enough for green lights).

To give children the best possible chance to grow up—and retire—with a normal blood pressure, the salt guideline in the Australian dietary guidelines [10] recommends low salt

foods throughout life. Low salt foods as defined in the ANZ Food Standards Code (and no others) would have green lights for salt.

Weet-Bix would have an amber light for salt, but Kids' Weet-Bix would have a green light, and yet some of their competitors—targeted at children—are salty enough to have red lights for salt. Traffic Light labels allow parents to identify the salty competitors at a glance.

Adult health (prevention)

The standard population approach [3] is based on gradual change—slow enough to be painless, or escape notice. Some red/amber boundaries might start fairly high, becoming progressively stricter over the years (like the heart Foundation 'Tick'). Population advice for Australians might be along these lines:

- **Red** lights are a warning of the risk of preventable diseases due to nutrient excess. **The more red lights the greater the risk.**
- **Amber** lights are a warning of enough nutrient excess to require moderation.
- **Green** lights indicate the healthiest foods on the market. Four green lights—low fat, saturated fat, sugar and salt—should prevent the preventable diseases.

Adult health (treatment)

A dramatic benefit of Traffic Lights would be to simplify the management of diet-related illness. Patients find it difficult to control saturated fat *even after by-pass surgery*, and green lights for saturated fat would be a revolutionary advance. Green lights for fat and sugar would help obese patients, and green lights for salt would transform the management of hypertension, the vertigo of Meniere's Disorder and over a dozen other salt-related illnesses.

Meals are easier when the whole family shares the same food. *Children of patients have some of their genes*, and a special need to share the patient's healthier food.

4. THE BACKLASH

Kellogg (UK) leads the drive for labels they can live with

The prospect of red lights has thoroughly alarmed the food industry. Although the debate about Traffic Light labels has only just begun in this country, Kellogg (Australia) has adopted an alternative system, the % DI (Percentage Daily Intake) Counter and has already started using it. The groundwork was done by Kellogg (UK).

The UK newspaper *The Guardian* on 28 December 2006 reported the major contribution that Kellogg (UK) is making to the Traffic Light debate. In 2006 the company flew a handful of journalists to its Old Trafford corn flakes factory (opposite the famous cricket ground) and ushered them into the nerve centre of planning for Kellogg's nutrition and labelling policy.

Kellogg's response to the British government's Traffic Light food labels was—by its own admission—a drive to bring in an alternative form of labelling that the food industry can live with.

The alternative has a row of percentages based on GDAs (Guideline Daily Amounts). The Australian version is described in detail below.

Kellogg (UK) has been at the heart of a lobbying campaign against Traffic Light labels that British government regulators are describing as 'the most ferocious we have ever seen'.

The regulators complained that, at every attempt to explain Traffic Lights in other sectors of government in Whitehall, and in political party conferences, they found that Kellogg (UK) 'nearly always seemed to have been a few hours ahead of us lobbying for GDAs. They muddied the waters for us'.

Naturally the food industry would be bitterly opposed to Traffic Lights, because red lights could hardly fail to damage business—during the variable time period it takes to reformulate a product—but in the UK an even more immediate threat is a separate proposal to ban TV advertising before 9 pm of any foods that would have red lights for fat, salt or sugar.

In 2005, cereals that would have qualified for red lights were advertised on TV before 9 pm at an estimated cost of £70 million (about \$175 million).

Heavy expenditure on advertising on prime time TV when children are watching is justified by increased sales, and one effect is that the UK's annual consumption of ready-to-eat breakfast cereals is 6.7 kg per person. Averaged over the whole population, every adult and child in Britain would be eating over half a standard serving of breakfast cereals every day.

What is Kellogg telling us?

Kellogg (UK) can see clearly that Traffic Lights would lead people to buy healthier foods. Breakfast cereals are in the front line because all of this heavy advertising represents them as a healthy choice. Red lights would make a mockery of that. The company is telling us it would expect Traffic Light labels to cripple it financially.

What does it mean?

It would be morally and politically indefensible if an abrupt change of labels crippled large food companies overnight. Sudden change is out of the question—not only in fairness to all concerned, but because nothing can change in public health unless it is politically feasible.

Eventually Traffic Lights need to be mandatory—no company would willingly accept red lights—but in the real world this will have to wait until the food industry has had as much time as it needs to reformulate all of the red-light foods that can be changed.

Meanwhile companies that already make healthier foods have nothing to fear—and everything to gain—from Traffic Light labels. Voluntary Traffic Lights will have the enormous advantage of giving these companies the option of a free advertisement with amber and green lights. **The companies that already make healthier foods deserve the legitimate recognition that Traffic Lights can give them.**

How to use the Percentage Daily Intake Counter

This is the explanation that Kellogg (Australia) prints on a packet of Nutri-Grain (which at present is Australia's second most popular ready-to-eat breakfast cereal):

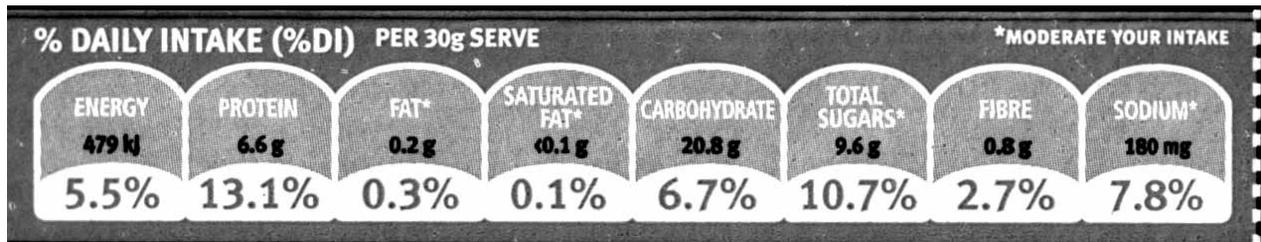
See how Nutri-Grain fits into your day

A varied diet and being active is the key to good health. Research suggests that the best way to do this is to choose a variety of foods and look to moderate your intake of fat, particularly saturated fat, sugar and salt and do regular exercise. However, sometimes getting the balance right can be difficult. To help you cut through the confusion, Kellogg has introduced the Daily Intake (DI) counter on pack.

It's a simple way to learn more about the daily intake of nutrients and energy for the whole day. **The counter shows you what's in a serve of Kellogg's cereal and the percentage (%) it contributes to your daily diet.** So getting the balance right just got easier.

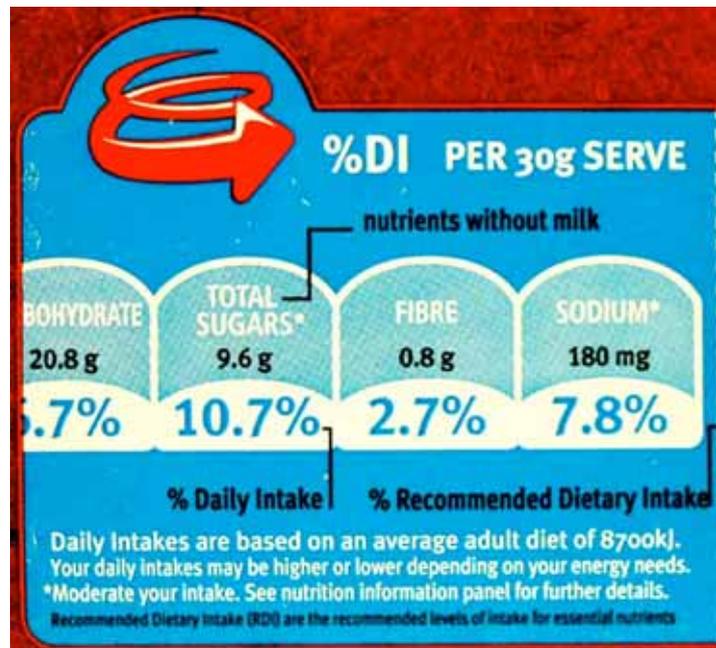
Go to www.kellogg.com.au to calculate the DI based on your own energy needs

The Daily Intake (DI) Counter is a strip of 12 percentages printed on the front of the packet at the top. Eight are the main nutrients and energy (printed in blue), and four are for two vitamins and two minerals (printed in green). On this page the strip of blue figures for Nutri-Grain is printed twice, because the colour version lacks contrast when printed with a laser printer:



The biggest figures in the strip of 8 percentages are for protein and sugar, but only **fat**, **saturated fat**, **sugar** and **sodium** have an asterisk telling you to moderate your intake.

This is clearer in this enlarged portion of the strip that is printed on the back of the packet.



In the blue strip the figures show that people who need an energy intake of 8700 kJ per day get 10.7% of their daily intake of sugar and 7.8% of their sodium from a 30g serve of Nutri-Grain. They have to decide for themselves whether that is acceptable.

Their own energy needs are likely to be different, but they can work out their personal correction factor by visiting the Kellogg website (www.kellogg.com.au).

If they need more information they can see that the enlarged picture above refers them to the Nutrition Information Panel for further details.

THE NUTRITION INFORMATION PANEL

People who need more information will find these figures in the Nutrition Information Panel on the side of the packet, along with the ingredient list:

NUTRITION INFORMATION		
serve size 30g, serves per pack 11		
	per serve	per 100g
Energy (kJ)	479	1596
Protein (g)	6.6	21.9
Fat total (g)	0.2	0.6
saturated (g)	<0.1	0.1
Carbohydrate total (g)	20.8	69.4
sugars	9.6	32.0
sodium (mg)	180	600

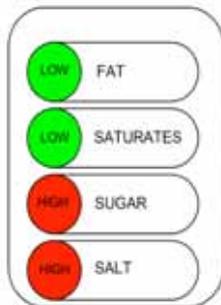
Ingredients: Cereals 44% (wheat flour, oatmeal, maize flour), sugar, wheat gluten, molasses, salt, barley malt extract, minerals (calcium carbonate, iron), mineral salt (sodium bicarbonate), natural colour (paprika, turmeric), vitamins (Vitamin C, niacin, thiamine, vitamin B6, riboflavin, folate).

HEALTH PROFESSIONALS and the technically minded can see from the panel and the ingredient list that Nutri-Grain is less than 50% cereal, and has:

1. **too much sugar** (one-third is sugar)
2. **too much salt** (600 mg/100g, which is 60% of the sodium content of seawater)

Most shoppers are not technically minded, and need help. For help, the choice at present is between the % **DI Counter** and **Traffic Light food labels**.

TRAFFIC LIGHT LABELS for Kellogg Nutri-Grain



By current UK criteria Traffic Light labels would give Nutri-Grain two green lights (for fat and saturated fat), and two red lights (for sugar and salt).

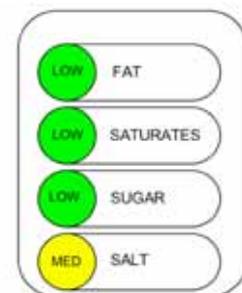
All shoppers—regardless of age, literacy, motivation, attention span, haste or memory—would see the same message that health professionals see in the Nutrition Information Panel. They would see that Nutri-Grain has:

1. **too much sugar** (red light)
2. **too much salt** (red light)

No wonder Kellogg (Australia) acted so quickly

Traffic Lights would show shoppers at a glance that Kellogg's main rival—Sanitarium Weet-Bix—has less salt and far less sugar than Nutri-Grain. The UK criteria would give Weet-Bix three green lights (for fat, saturated fat and sugar (under 5%) and one amber for salt (sodium 290 mg/100g).

Weet-Bix is Australia's best-selling breakfast cereal, and Traffic Lights would make it even harder for Nutri-Grain to compete.



Sanitarium also make Lite-Bix and Kids' Weet-Bix, two low salt versions of Weet-Bix that ought to be better known. Four green lights would give them both—for the first time—the promotion they deserve.

The feasibility of reformulating Nutri-Grain

For salt an amber light would require only a marginal adjustment to below 600 (say 550) mg/100g, but sugar would have to be more than halved, from 32% to below 15%. Feasibility is a question for food technologists, but note that Weet-Bix can achieve a *green* light for sugar and still capture a larger share of the market than Nutri-Grain.

Kellogg (Australia) is no stranger to reformulation, in fact it deserves great credit. Kellogg Just Right Original takes fourth place in rank order in the Top Ten most popular breakfast cereals yet it would have a green light for salt. It has a sodium content of only 30 mg/100g, and still remains the only low salt cereal in all of Australia's Top Ten.

Compare this with Just Right made by Kellogg (UK), which still has 450 mg/100g, reduced only recently from 600 mg/100g, and only in response to persistent pressure from the UK government. Kellogg's astounding achievement in Australia was to reformulate Just Right to a sodium content of 30 mg/100g from 284 mg/100g in two steps. After this Just Right Original moved in rank order of popularity from sixth to fourth place in the Top Ten.

Nevertheless reformulation is expensive in time and money, and risky. In the event of market failure the high cost of reformulation may never be recovered (an imponderable that can only be tested—never predicted).

5. RESOLVING THE CONFLICT

The unequal conflict

The conflict between public health and the immensely powerful political lobby of the food industry is an unequal one. Democracies with a free market have a poor health record as a direct result—normally the food industry wins and health loses [11].

The food industry can afford a well-funded and permanent political lobby. Large companies like United Biscuits and Tate & Lyle are known to have influenced UK government food policy by making and/or withdrawing large donations to political party campaign funds [12]. Kellogg is an important ('gold') sponsor of the Dietitians' Association of Australia, creating a major conflict of interest in the DAA's support for the % DI Counter.

At stake are the health of the whole population and massive long-term savings to the federal health budget. Likely savings from the campaign against childhood obesity alone are massive enough for *economists* to be among its strongest supporters.

But in politics the savings that matter most are those achievable during a government's term in office.

Public health should be evidence-based

Establishing Food Standards of Australia and New Zealand (FSANZ) was a step towards evidence-based decisions on food policy. FSANZ collects and evaluates all the available scientific and economic evidence. It sends successive draft recommendations out for adequate public consultations that canvass and consider the views and special concerns of every stakeholder.

Thus FSANZ comes close to achieving a politically independent assessment of major issues in health, nutrition and food safety, and makes recommendations to the government that are impartial, and seen to be impartial, evidence-based and fair to all stakeholders.

At present the Food Regulation Standing Committee (FRSC) is examining the options for a front-of pack food labelling system. The FRSC will make recommendations to the Ministerial Council after a review by a special working group.

Obviously companies that are keen to avoid red lights would like a quick decision in their favour, making the DI Counter mandatory in preference to the Traffic Light proposal. This would remove the most serious threat to short-term profits that the food industry has faced for many years.

Ultimately FSANZ will regulate front-of pack food labelling however. Despite its name, FRSC can only recommend *policy* on regulation; it has no power to *regulate*.

The need for time

If Traffic Light labels were made mandatory too soon, we have seen that Kellogg expects severe financial damage. It foresees chaos if people could suddenly see at a glance the high fat, sugar and/or salt content of some of Australia's most popular processed foods.

So long as Traffic Lights remain one of the viable options, the food industry needs a generous allowance of time to reformulate a large number of existing products. Reformulation is time-consuming, expensive and commercially risky.

This delay to accommodate the food industry provides the ideal opportunity to gather Australian data for an evidence-based decision. All possible options for front-of-pack food labels can remain voluntary during that period, and available for properly conducted trials.

Thus the time it takes to collect good data is no problem—the food industry also needs time for reformulation.

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