International table of glycemic index and glycemic load values: 2002[1,2]

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ABSTRACT Reliable tables of glycemic index (GI) compiled from the scientific literature are instrumental in improving the quality of research examining the relation between GI, glycemic load, and health. The GI has proven to be a more useful nutritional concept than is the chemical classification of carbohydrate (as simple or complex, as sugars or starches, or as available or unavailable), permitting new insights into the relation between the physiologic effects of carbohydrate-rich foods and health. Several prospective observational studies have shown that the chronic consumption of a diet with a high glycemic load (GI × dietary carbohydrate content) is independently associated with an increased risk of developing type 2 diabetes, cardiovascular disease, and certain cancers. This revised table contains almost 3 times the number of foods listed in the original table (first published in this Journal in 1995) and contains nearly 1300 data entries derived from published and unpublished verified sources, representing >750 different types of foods tested with the use of standard methods. The revised table also lists the glycemic load associated with the consumption of specified serving sizes of different foods. *Am J Clin Nutr* 2002;76:5–56.

KEY WORDS Glycemic index, carbohydrates, diabetes, glycemic load

INTRODUCTION

Twenty years have passed since the first index of the relative glycemic effects of carbohydrate exchanges from 51 foods was published by Jenkins et al (1) in this Journal. Per gram of carbohydrate, foods with a high glycemic index (GI) produce a higher peak in postprandial blood glucose and a greater overall blood glucose response during the first 2 h after consumption than do foods with a low GI. Despite controversial beginnings, the GI is now widely recognized as a reliable, physiologically based classification of foods according to their postprandial glycemic effect.

In 1997 a committee of experts was brought together by the Food and Agriculture Organization (FAO) of the United Nations and the World Health Organization (WHO) to review the available research evidence regarding the importance of carbohydrates in human nutrition and health (2). The committee endorsed the use of the GI method for classifying carbohydrate-rich foods and recommended that the GI values of foods be used in conjunction with information about food composition to guide food choices. To promote good health, the committee advocated the consumption of a high-carbohydrate diet (≥55% of energy from carbohydrate), with the bulk of carbohydrate-containing foods being rich in nonstarch polysaccharides with a low GI. In Australia, official dietary guidelines for healthy elderly people specifically recommend the consumption of low-GI cereal foods for good health (3), and a GI trademark certification program is in place to put GI values on food labels as a means of helping consumers to select low-GI foods (4). Commercial GI testing of foods for the food industry is currently conducted by many laboratories around the world, including our own. Many recent popular diet books contain extensive lists of the GI values of individual foods or advocate the consumption of low-GI, carbohydrate-rich foods for weight control and good health (5).

Reliable tables of GI compiled from the scientific literature are instrumental in improving the quality of research examining the relation between the dietary glycemic effect and health. The first edition of *International Tables of Glycemic Index*, published in this Journal in 1995 with 565 entries (6), has been cited as a reference in many scientific papers. In particular, these tables provided the basis for the GI to be used a dietary epidemiologic tool, allowing novel comparisons of the effects of different carbohydrates on disease risk, separate from the traditional classification of carbohydrates into starches and sugars. Several large-scale, observational studies from Harvard University (Cambridge, MA) indicate that the long-term consumption of a diet with a high glycemic load (GL; GI × dietary carbohydrate content) is a significant independent predictor of the risk of developing type 2 diabetes (7, 8) and cardiovascular disease (9). More recently, evidence has been accumulating that a low-GI diet might also protect against the development of obesity (10, 11), colon cancer (12), and breast cancer (13). The EURODIAB (Europe and Diabetes) study, involving >3000 subjects with type 1 diabetes in 31 clinics throughout Europe, showed that the GI rating of self-selected diets was independently related to blood concentrations of glycated hemoglobin in men and women (14)

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and to waist circumference in men (15). In addition, higher blood HDL-cholesterol concentrations were observed in patients consuming low-GI diets from the northern, eastern, and western European centers participating in the study (15). Indeed, several studies have shown that the dietary GI is a good predictor of HDL concentrations in the healthy population, whereas the amount and type of fat are not (16–18). Thus, the GI has proven to be a more useful nutritional concept than is the chemical classification of carbohydrate (as simple or complex, as sugars or starches, or as available or unavailable), providing new insights into the relation between foods and health.

In parallel with these advances have been studies documenting the importance of postprandial glycemia per se for all-cause mortality and cardiovascular disease mortality in healthy populations (19). For example, in the Hoorn study there was a significant association between the 8-y risk of cardiovascular death and 2-h postload blood glucose concentrations in subjects with normal fasting glucose concentrations, even after adjustment for known risk factors (20). Multiple mechanisms are probably involved. Recurring, excessive postprandial glycemia could decrease blood HDL-cholesterol concentrations, increase triglyceridemia, and also be directly toxic by increasing protein glycation, generating oxidative stress, and causing transient hypercoagulation and impaired endothelial function (21, 22). If postprandial glycemia is indeed important, then dietary treatment for the prevention or management of chronic diseases must consider both the amount and type of carbohydrate consumed.

An issue that is still being debated, particularly within the United States, is whether the GI has practical applications for the clinical treatment of diabetes and cardiovascular disease. Three intervention studies in adults and children with type 1 diabetes showed that low-GI diets improve glycated hemoglobin concentrations (23–25). In subjects with cardiovascular disease, low-GI diets were shown to be associated with improvements in insulin sensitivity and blood lipid concentrations (23, 26). In addition, evidence from both short-term and long-term studies in animals and humans indicates that low-GI foods may be useful for weight control. Laboratory studies examining the short-term satiating effects of foods have shown that low-GI foods are relatively more satiating than are their high-GI counterparts (10). Compared with low-GI meals, high-GI meals induce a greater rise and fall in blood glucose and a greater rise in blood insulin, leading to lower concentrations of the body's 2 main fuels (blood glucose and fatty acids) in the immediate postabsorptive period. The reduced availability of metabolic fuels may act as a signal to stimulate eating (11). It is also important to emphasize that many low-GI foods are relatively less refined than are their high-GI counterparts and are more difficult to consume. The lower energy density and palatability of these foods are important determinants of their greater satiating capacity. In obese children, the ad libitum consumption of a low-GI diet has been associated with greater reductions in body mass indexes (27). However, some experts have raised concerns about the difficulties of putting advice about GI values into practice and of the potentially adverse effects on food choice and fat intake. For this reason, the American Diabetes Association does not recommend the use of GI values for dietary counseling. However, the European Association for the Study of Diabetes (28), the Canadian Diabetes Association (29), and the Dietitians Association of Australia (30) all recommend high-fiber, low-GI foods for individuals with diabetes as a means of improving postprandial glycemia and weight control.

REVISED INTERNATIONAL TABLE OF GI VALUES

For all clinical and research applications, reliable GI values are needed. Therefore, the purpose of this revised table is to bring together all the relevant data published between 1981 and 2001 (**Table 1**). Unpublished figures from our laboratory and those from others have also been included when the quality of the data could be verified on the basis of the method used [ie, the method is in line with the principles advocated by the FAO/WHO Expert Consultation (2)]. In total, the new table contains nearly 1300 separate entries, representing >750 different types of foods. This number of foods represents an increase of almost 250% over the number provided when the international tables were first published in 1995. As in the original tables, the GI value for each food (with either glucose or white bread used as the reference food), the type and number of subjects tested, the reference food and time period used, and the published source of the data are provided. For many foods there are ≥2 published values; therefore, the mean (±SEM) GIs were calculated and are listed underneath the data for the individual foods. Thus, the user can appreciate the variation for any one food and, if possible, use the GI value for the food found in their country. It is hoped that the table will reduce unnecessary repetition in the testing of individual foods and facilitate wider research and application of the GI. In some cases, the GI values for different varieties of the same type of food listed in the table indicate the glycemic-lowering effects of different ingredients and food processing methods (eg, porridges made from rolled grains of different thicknesses and breads with different proportions of whole grains). This information could assist food manufacturers to develop a greater range of low-GI processed foods.

WHY DO GI VALUES FOR THE SAME TYPES OF FOODS SOMETIMES VARY?

Many people have raised concerns about the variation in published GI values for apparently similar foods. This variation may reflect both methodologic factors and true differences in the physical and chemical characteristics of the foods. One possibility is that 2 similar foods may have different ingredients or may have been processed with a different method, resulting in significant differences in the rate of carbohydrate digestion and hence the GI value. Two different brands of the same type of food, such as a plain cookie, may look and taste almost the same, but differences in the type of flour used, in the moisture content, and in the cooking time can result in differences in the degree of starch gelatinization and consequently the GI values. In addition, it must be remembered that the GI values listed in the table for commercially available processed foods may change over time if food manufacturers make changes in the ingredients or processing methods used.

Another reason GI values for apparently similar foods vary is that different testing methods are used in different parts of the world. Differences in testing methods include the use of different types of blood samples (capillary or venous), different experimental time periods, and different portions of foods (50 g of total rather than of available carbohydrate). Recently, 7 experienced GI testing laboratories around the world participated in a study to determine the degree of variation in GI values when the same centrally distributed foods were tested according to the laboratories' normal in-house testing procedures (31). The results showed that the 5 laboratories that used finger-prick capillary blood samples to

measure changes in postprandial glycemia obtained similar GI values for the same foods and less intersubject variation. Although capillary and venous blood glucose values have been shown to be highly correlated, it appears that capillary blood samples may be preferable to venous blood samples for reliable GI testing. After the consumption of food, glucose concentrations change to a greater degree in capillary blood samples than in venous blood samples. Therefore, capillary blood may be a more relevant indicator of the physiologic consequences of high-GI foods.

Although it is clear that GI values are generally reproducible from place to place, there are some instances of wide variation for the same food. Rice, for example, shows a large range of GI values, but this variation is due to inherent botanical differences in rice from country to country rather than to methodologic differences. Differences in the amylose content could explain much of the variation in the GI values of rice (and other foods) because amylose is digested more slowly than is amylopectin starch (32). GI values for rice cannot be reliably predicted on the basis of the size of the grain (short or long grain) or the type of cooking method. Rice is obviously one type of food that needs to be tested brand by brand locally. Carrots are another example of a food with a wide variation in published GI values; the oldest study showed a GI of 92 ± 20 and the latest study a GI of 32 ± 5. However, the results of an examination of the SEs (20 compared with 5) and the number of subjects tested (5 compared with 8) suggest that the latest value for carrots is more reliable, although differences in nutrient content and preparation methods contributed somewhat to this variation.

An important reason GI values for similar foods sometimes vary between laboratories is because of the method used for determining the carbohydrate content of the test foods. GI testing requires that portions of both the reference foods and test foods contain the same amount of available carbohydrate, typically 50 or 25 g. The available or glycemic carbohydrate fraction in foods, which is available for absorption in the small intestine, is measured as the sum of starch and sugars and does not include resistant starch. Most researchers rely on food-composition tables or food manufacturers' data, whereas others directly measure the starch and sugar contents of the foods.

This difference in the accuracy of measurements of the carbohydrate content might explain some of the variation in reported GI values for fruit and potatoes and other vegetables. Food labels may or may not include the dietary fiber content of the food in the total carbohydrate value, leading to confusion that can markedly affect GI values, especially those for high-fiber foods. Consequently, researchers should obtain accurate laboratory measurements of the available carbohydrate content of foods as an essential preliminary step in GI testing. The available carbohydrate portion of test and reference foods should not include resistant starch, but, in practice, this can be difficult to ensure because resistant starch is difficult to measure. There is also difficulty in determining the degree of availability of novel carbohydrates, such as sugar alcohols, which are incompletely absorbed at relatively high doses.

Measuring the rate at which carbohydrates in foods are digested in vitro has been suggested as a cheaper and less time-consuming method for predicting the GI values of foods (33). However, only a few foods have been subjected to both in vitro and in vivo testing, and it is not yet known whether the in vitro method is a reliable indication of the in vivo postprandial glycemic effects of all types of foods. It is possible that some factors that significantly affect glycemia in vivo, such as the rate of gastric emptying, will not change the rate of carbohydrate digestion in vitro. For example, high osmolality and high acidity or soluble fiber slow down the gastric emptying rate and reduce glycemia in vivo, but they may not alter the rate of carbohydrate digestion in vitro. It is difficult to mimic all of the human digestive processes in a test tube. In fact, research results from our laboratory have shown that GI values measured in vivo can be significantly different for the same foods measured in vitro. Until we know more about the validity of in vitro methods, it is not recommended that they be used in clinical or epidemiologic research applications or for food labeling purposes because of the potential for large over- or underestimates of true GI values.

GUIDE TO THE USE OF THE REVISED TABLE

The GI values listed in the revised table represent high-quality data published in refereed journals or unpublished values generated by Sydney University's Glycemic Index Research Service, often as a result of contract research by industry. The foods have been described as unambiguously as possible by using descriptive data about the food given in the original publication. In some cases, descriptive details were extensive, including the species or variety of plant food, the brand name of the processed food, and the preparation and cooking methods. In other cases, the only description was a single word (eg, potatoes or apple). If the cooking method and cooking time were stated in the original reference, the details are given. The user should bear in mind that countries often have different names for the same food product or, alternatively, the same name for different items. For example, Kellogg's Special K breakfast cereal is a very different product in North America (Kellogg Canada Inc) than in Australia (Kellogg, Sydney, Australia), each of which has a different GI value. Similarly, food names may mean different things in different countries. For example, *biscuits*, *muffins*, and *scones* have different meanings in North America and in Europe. The terms used in the revised table have been selected to be as internationally relevant as possible.

Some research laboratories continue to use white bread as the reference food for measuring GI values, whereas others use glucose (dextrose); therefore, 2 GI values are given for each food. The first value is the GI with glucose as the reference food (GI value for glucose = 100; GI value for white bread = 70), and the second value is the GI for the same food with white bread as the reference food (GI value for white bread = 100; GI value for glucose = 143). When bread was the reference food used in the original study, the GI value for the food was multiplied by 0.7 to obtain the GI value with glucose as the reference food. The table lists the reference food that was originally used to measure the GI value of each food.

The foods in the table are separated into the following food groups: bakery products, beverages, breads, breakfast cereals and related products, breakfast cereal bars, cereal grains, cookies, crackers, dairy products and alternatives, fruit and fruit products, infant formula and weaning foods, legumes and nuts, meal-replacement products, mixed meals and convenience foods, nutritional-support products, pasta and noodles, snack foods and confectionery, sports bars, soups, sugars and sugar alcohols, vegetables (including roots and tubers), and indigenous or traditional foods of different ethnic groups. Within each section, foods are arranged in alphabetical order by common name. This classification of the foods was made on a practical rather than a sci-

entific basis. There are no GI values given for meat, poultry, fish, avocados, salad vegetables, cheese, or eggs because these foods contain little or no carbohydrate and it would be exceedingly difficult for people to consume a portion of the foods containing 50 g or even 25 g of available carbohydrate. Even in large amounts, these foods when eaten alone are not likely to induce a significant rise in blood glucose.

GLYCEMIC LOAD

Both the quantity and quality (ie, nature or source) of carbohydrate influence the glycemic response. By definition, the GI compares equal quantities of carbohydrate and provides a measure of carbohydrate quality but not quantity. In 1997 the concept of GL was introduced by researchers at Harvard University to quantify the overall glycemic effect of a portion of food (7–9). Thus, the GL of a typical serving of food is the product of the amount of available carbohydrate in that serving and the GI of the food. The higher the GL, the greater the expected elevation in blood glucose and in the insulinogenic effect of the food. The long-term consumption of a diet with a relatively high GL (adjusted for total energy) is associated with an increased risk of type 2 diabetes and coronary heart disease (9).

In the revised table, 3 columns of data not given in the 1995 table are included: GL values, a nominal serving size for each food (weight in g or volume in mL), and the carbohydrate content of each food (in g/serving). The GL values are included for most of the foods and were calculated by multiplying the amount of carbohydrate contained in a specified serving size of the food by the GI value of that food (with the use of glucose as the reference food), which was then divided by 100. The nominal serving sizes were chosen after consideration of typical serving sizes in different countries. The carbohydrate content was obtained from the reference paper or, when not available, from appropriate food-composition tables (34–38). For indigenous foods, values were extrapolated from Western foods thought to be closest in composition when the nutrient content was not available.

The purpose of including GL values in the revised table was to allow comparisons of the likely glycemic effect of realistic portion sizes of different foods. The data should be used cautiously because they are not applicable to all situations. Portion sizes vary markedly from country to country and between people in the same country. Researchers and health professionals should therefore calculate their own GL data by using appropriate serving sizes and carbohydrate-composition data. In the interest of future editions of the table, we ask that reliable published and unpublished data be sent to us for consideration.

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TABLE 1
International table of glycemic index (GI) and glycemic load (GL) values: 2002[1]

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
BAKERY PRODUCTS								
Cakes								
1 Angel food cake (Loblaw's, Toronto, Canada)	67	95 ± 7	Type 1 and 2, 9	White bread, 3 h	1	50	29	19
2 Banana cake, made with sugar	47 ± 8	67	Healthy, 8	White bread, 2 h	2	80	38	18
3 Banana cake, made without sugar	55 ± 10	79	Healthy, 7	White bread, 2 h	2	80	29	16
4 Chocolate cake made from packet mix with chocolate frosting (Betty Crocker; General Mills Inc, Minneapolis, MN, USA)	38 ± 3	54	Healthy, 10	Glucose, 2 h	UO[4]	111	52	20
5 Cupcake, strawberry-iced (Squiggles; Farmland, Grocery Holdings, Tooronga, Australia)	73 ± 12	104	Healthy, 10	Glucose, 2 h	UO[4]	38	26	19
6 Lamingtons (sponge dipped in chocolate and coconut) (Farmland, Australia)	87 ± 17	124	Healthy, 10	Glucose, 2 h	UO[4]	50	29	25
7 Pound cake (Sara Lee Canada, Bramalea, Canada)	54	77 ± 8	Type 1 and 2, 10	White bread, 3 h	1	53	28	15
8 Sponge cake, plain	46 ± 6	66	Healthy, 5	Glucose, 2 h	3	63	36	17
9 Vanilla cake made from packet mix with vanilla frosting (Betty Crocker, USA)	42 ± 4	60	Healthy, 10	Glucose, 2 h	UO[4]	111	58	24
10 Croissant (Food City, Toronto, Canada)	67	96 ± 6	Type 1 and 2, 13	White bread, 3 h	1	57	26	17
11 Crumpet (Dempster's Corporate Foods Ltd, Etobicoke, Canada)	69	98 ± 4	Type 1 and 2, 13	White bread, 3 h	1	50	19	13
12 Doughnut, cake type (Loblaw's, Canada)	76	108 ± 10	Type 1 and 2, 10	White bread, 3 h	1	47	23	17
13 Flan cake (Weston's Bakery, Toronto, Canada)	65	93 ± 6	Type 1 and 2, 10	White bread, 3 h	1	70	48	31
14 Muffins								
Apple, made with sugar[5]	44 ± 6	63	Healthy, 8	White bread, 2 h	2	60	29	13
Apple, made without sugar[5]	48 ± 10	69	Healthy, 8	White bread, 2 h	2	60	19	9
Apple, oat, and sultana, made from packet mix (Defiance Milling Co, Acacia Ridge, Australia)	54 ± 4	78 ± 6	Healthy, 9	White bread, 2 h	UO[4]	50	26	14
Apricot, coconut, and honey, made from packet mix (Defiance Milling Co, Australia)	60 ± 4	86 ± 6	Healthy, 9	White bread, 2 h	UO[4]	50	26	16
Banana, oat and honey, made from packet mix (Defiance Milling Co, Australia)	65 ± 11	93 ± 16	Healthy, 10	White bread, 2 h	UO[4]	50	26	17
Bran (Grandma Martin's Muffins; Culinar Inc, Aurora, Canada)	60	85 ± 8	Type 1 and 2, 14	White bread, 2 h	1	57	24	15

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Blueberry (Culinar Inc, Canada)	59	84 ± 8	Type 1 and 2, 10	White bread, 3 h	1	57	29	17
Carrot (Culinar Inc, Canada)	62	88 ± 12	Type 1 and 2, 11	White bread, 3 h	1	57	32	20
Chocolate butterscotch, made from packet mix (Defiance Milling Co, Australia)	53 ± 5	75 ± 7	Healthy, 10	White bread, 2 h	UO[4]	50	28	15
Corn muffin, low-amylose	102	146	Type 2, 9	Glucose, 3 h[6]	4	57	29	30
Corn muffin, high-amylose	49	70	Type 2, 9	Glucose, 3 h[6]	4			
Oatmeal, made from mix (Quaker Oats Co of Canada, Peterborough, Canada)	69	98 ± 15	Type 1 and 2, 9	White bread, 3 h	1	50	35	24
15 Pancakes, prepared from shake mix (Green's General Foods, Glendenning, Australia)	67 ± 5	96	Healthy, 10	Glucose, 2 h	UO[4]	80	58	39
16 Pancakes, buckwheat, gluten-free, made from packet mix (Orgran Natural Foods, Carrum Downs, Australia)	102 ± 11	146	Healthy, 10	Glucose, 2 h	UO[4]	77	22	22
17 Pastry	59 ± 6	84	Healthy, 5	Glucose, 2 h	3	57	26	15
18 Pikelets (Golden brand; Tip Top Bakeries, Chatswood, Australia)	85 ± 14	121	Healthy, 10	Glucose, 2 h	UO[4]	40	21	18
19 Scones, plain, made from packet mix (Defiance Milling Co, Australia)	92 ± 8	131	Healthy, 10	Glucose, 2 h	UO[4]	25	9	7
20 Waffles (Aunt Jemima; Quaker Oats Co of Canada)	76	109 ± 6	Type 1 and 2, 10	White bread, 3 h	1	35	13	10
BEVERAGES								
21 Coca Cola								
Coca Cola, soft drink (Coca Cola Amatil, Sydney, Australia)	53 ± 7	76	Healthy, 10	Bread, 2 h	UO[4]	250 mL	26	14
Coca Cola, soft drink (Atlanta, GA, USA)	63	90	Healthy, 10	Bread, 2 h	5	250 mL	26	16
Mean of 2 types	58 ± 5	83 ± 7						
22 Cordial, orange, reconstituted (Berri Ltd, Berri, Australia)	66 ± 8	94	Healthy, 8	Bread, 2 h	2	250 mL	20	13
23 Fanta, orange soft drink (Coca Cola Amatil, Australia)	68 ± 6	97	Healthy, 7	Bread, 2 h	2	250 mL	34	23
24 Lucozade, original (sparkling glucose drink) (Glaxo Wellcome Ltd, Uxbridge, UK)	95 ± 10	136	Healthy, 5	Glucose, 2 h	3	250 mL	42	40
25 Smoothie, raspberry (Con Agra Inc, Omaha, NE, USA)	33 ± 9	48 ± 13	Healthy, 10	Bread, 2 h	UO[4]	250 mL	41	14
26 Smoothie drink, soy, banana (So Natural Foods, Tarren Point, Australia)[6]	30 ± 3	43	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	22	7
27 Smoothie drink, soy, chocolate hazelnut (So Natural Foods, Australia)[6]	34 ± 3	49	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	25	8
28 Solo, lemon squash, soft drink (Cadbury Schweppes, Sydney, Australia)[6]	58 ± 5	83	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	29	17
29 Up and Go, cocoa malt flavor (soy milk, rice cereal liquid breakfast) (Sanitarium Health Foods, Berkeley Vale, Australia)[6]	43 ± 5	61	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	26	11
30 Up and Go, original malt flavor (soy milk, rice cereal liquid breakfast) (Sanitarium Health Foods, Australia)[6]	46 ± 5	66	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	24	11
31 Xpress, chocolate (soy bean, cereal and legume extract drink with fructose) (So Natural Foods, Australia)[6]	39 ± 2	56	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	34	13
Juices								
32 Apple juice								
Apple juice, pure, unsweetened, reconstituted (Berri Ltd, Berri, Australia)	39 ± 5	55 ± 7	Healthy, 10	Bread, 2 h	UO[4]	—	—	—
Apple juice, unsweetened	40	57	Type 2, 7	Glucose, 5 h[6]	6	—	—	—
Apple juice, unsweetened (Allens, Toronto, Canada)	41	59 ± 8	Type 2, 6	Bread, 3 h	7	—	—	—
Mean of 3 studies	40 ± 1	57 ± 1	—	—	—	250 mL	29	12

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
33 Apple juice, pure, clear, unsweetened (Wild About Fruit, Wandin, Australia)	44 ± 2	63	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	30	13
34 Apple juice, pure, cloudy, unsweetened (Wild About Fruit, Australia)	37 ± 3	53	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	28	10
35 Apple and cherry juice, pure, unsweetened (Wild About Fruit, Australia)	43 ± 3	61	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	33	14
36 Carrot juice, freshly made (Sydney, Australia)[6]	43 ± 3	61	Healthy, 9	Glucose, 2 h	UO[4]	250 mL	23	10
37 Cranberry juice cocktail (Ocean Spray, Melbourne, Australia)	52 ± 3	74	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	31	16
38 Cranberry juice cocktail (Ocean Spray Inc, Lakeville-Middleboro, MA, USA)	68 ± 3	97	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	36	24
39 Cranberry juice drink, Ocean Spray (Gerber Ltd, Bridgewater, UK)	56 ± 4	80	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	29	16
40 Grapefruit juice, unsweetened (Sunpac, Toronto, Canada)	48	69 ± 5	Type 2, 13	Bread, 3 h	7	250 mL	22	11
41 Orange juice								
Orange juice (Canada)	46 ± 6	66	Healthy, 6	Glucose, 2 h	3	—	—	—
Orange juice, unsweetened, reconstituted (Quelch; Berri Ltd, Carlton, Australia)	53 ± 6	76	Healthy, 8	Bread, 2 h	2	—	—	—
Mean of 2 studies	50 ± 4	71 ± 5	—	—	—	250 mL	26	13
42 Pineapple juice, unsweetened (Dole Packaged Foods, Toronto, Canada)	46	66 ± 3	Type 2, 13	Bread, 3 h	7	250 mL	34	16
43 Tomato juice, canned, no added sugar (Berri Ltd, Berri, Australia)[6]	38 ± 4	54	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	9	4
44 Yakult, fermented milk drink with *Lactobacillus casei* (Yakult, Dandenong, Australia)	46 ± 6	66	Healthy, 7–10	Bread, 2 h	8	65 mL	12	6
Sports drinks								
45 Gatorade (Spring Valley Beverages Pty Ltd, Cheltenham, Australia)	78 ± 13	111	Healthy, 7–10	Bread, 2 h	8	250 mL	15	12
46 Isostar (Novartis Consumer Health, Nyon, Switzerland Australia)	70 ± 15	100	Healthy, 7–10	Bread, 2 h	8	250 mL	18	13
47 Sports Plus (Berri Ltd, Australia)	74 ± 6	106	Healthy, 7–10	Bread, 2 h	8	250 mL	17	13
48 Sustagen Sport (Mead Johnson, Rydalmere, Australia)	43 ± 9	61	Healthy, 7–10	Bread, 2 h	8	250 mL	49	21
Drinks made from drinking mix powders								
49 Build-Up nutrient-fortified drink, vanilla with fiber, (Nestlé, Sydney, Australia)	41 ± 4	59	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	33	14
50 Complete Hot Chocolate mix made with hot water (Nestlé, Australia)	51 ± 3	73	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	23	11
51 Hi-Pro energy drink mix, vanilla, containing soy protein and whey powder (Harrod foods, Sefton, Australia) mixed in reduced-fat (1.5%) cow milk	36 ± 3	51	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	19	7
52 Malted milk powder in full-fat cow milk (Nestlé, Australia)	45 ± 3	64	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	26	12
53 Milo (chocolate nutrient-fortified drink powder)								
Milo (Nestlé, Australia) dissolved in water	55 ± 3	79 ± 4	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	16	9
Milo (Nestlé, Auckland, New Zealand) dissolved in water	52 ± 5	74 ± 7	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	16	9
Mean of 2 studies	54 ± 2	77 ± 3						
Milo (Nestlé, Australia) dissolved in full-fat cow milk	35 ± 2	50	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	25	9
Milo (Nestlé, New Zealand) dissolved in full-fat cow milk	36 ± 3	51	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	26	9
Mean of 2 studies	36 ± 1	51	—	—	—	—	—	—
54 Nutrimeal, meal replacement drink, Dutch Chocolate (Usana, Salt Lake City, UT, USA)	26 ± 3	37	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	17	4

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
55 Quik (sweet drink powder)								
Quik, chocolate (Nestlé, Sydney, Australia), dissolved in water	53 ± 5	76 ± 8	Healthy, 9	Bread, 2 h	UO[4]	250 mL	7	4
Quik, chocolate (Nestlé, Australia), dissolved in 1.5%-fat milk	41 ± 4	59	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	11	5
Quik, strawberry (Nestlé, Australia), dissolved in water	64 ± 8	92 ± 12	Healthy, 9	Bread, 2 h	UO[4]	250 mL	8	5
Quik, strawberry (Nestlé, Australia), dissolved in 1.5%-fat milk	35 ± 3	50	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	12	4
BREADS								
56 Bagel, white, frozen (Lender's Bakery, Montreal, Canada)	72	103 ± 5	Type 1 and 2, 13	Bread, 3 h	1	70	35	25
57 Baguette, white, plain (France)	95 ± 15	136	Type 2, 3	Glucose, 3 h	9	30	15	15
58 French baguette with chocolate spread (France)	72 ± 8	101	Healthy, 14	Glucose, 2 h	UO[7]	70	37	27
59 French baguette with butter and strawberry jam (France)	62 ± 7	89	Healthy, 14	Glucose, 2 h	UO[7]	70	41	26
60 Pain au lait (Pasquier, France)	63 ± 10	90	Healthy, 12	Glucose, 2 h	UO[7]	60	32	20
61 Bread stuffing, Paxo (Campbell Soup Co Ltd, Toronto, Canada)	74	106 ± 10	Type 1 and 2, 10	Bread, 3 h	1	30	21	16
Barley breads								
62 Coarse barley kernel bread, 75–80% kernels								
75% kernels	27	39 ± 7	Type 2, 5	Bread, 3 h	10	30	20	5
80% scalded intact kernels (20% white-wheat flour)	34	48 ± 10	Healthy, 10	Bread, 1.5 h	11	30	20	7
80% intact kernels (20% white-wheat flour)	40	57 ± 10	Healthy, 10	Bread, 1.5 h	11	30	20	8
Mean of 3 studies	34 ± 4	48 ± 9	—	—	—	—	—	—
63 Barley kernel bread, 50% kernels								
50% kernels (Canada)	43	62 ± 4	Type 2, 5	Bread, 3 h	10	30	20	9
50% kibbled barley (Australia)	48	69 ± 7	Healthy, 8	Bread, 2 h	12	30	20	10
Mean of 2 studies	46 ± 2	66 ± 3	—	—	—	30	20	9
64 Sunflower and barley bread (Riga bakeries, Sydney, Australia)	57 ± 6	81	Healthy, 8	Bread, 2 h	13	30	11	6
65 Barley flour breads								
100% barley flour (Canada)	67	96 ± 6	Type 2, 6	Bread, 3 h	10	30	13	9
Whole-meal barley flour (80%) bread (20% white-wheat flour) (Sweden)	67	95 ± 15	Healthy, 10	Bread, 2 h	11	30	20	13
Whole-meal barley bread, flat, thin, soft (50% regular barley flour, 50% high-fiber barley flour) (Sweden)	50	71 ± 11	Healthy, 8	Bread, 2 h	14	30	15	7
Whole-meal barley bread, flat, thin, soft (20% regular barley flour, 80% high-fiber barley flour) (Sweden)	43	61 ± 7	Healthy, 8	Bread, 2 h	14	30	11	5
66 Whole-meal barley flour (80%) and white-wheat flour (20%) bread fermented or with added organic acids or salts (Sweden)								
Whole-meal barley flour bread (used as reference for the 5 breads below)[8]	70	100	Healthy, 11	Whole-meal barley bread, 2 h	15	30	20	14
Whole-meal barley flour bread with sourdough (lactic acid)[8]	53	76	Healthy, 11	Whole-meal barley bread, 2 h	15	30	20	10
Whole-meal barley flour bread with lactic acid[8]	66	94	Healthy, 11	Whole-meal barley bread, 2 h	15	30	19	12
Whole-meal barley flour bread with calcium lactate[8]	59	84	Healthy, 11	Whole-meal barley bread, 2 h	15	30	20	12
Whole-meal barley flour bread with sodium propionate[8]	65	93	Healthy, 11	Whole-meal barley bread, 2 h	15	30	20	13

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Whole-meal barley flour bread with higher dose sodium propionate[8]	57	82	Healthy, 11	Whole-meal barley bread, 2 h	15	30	19	11
Buckwheat bread								
67 Buckwheat bread, 50% dehusked buckwheat groats and 50% white-wheat flour (Sweden)	47	67 ± 10	Healthy, 10	Bread, 2 h	16	30	21	10
Fruit bread								
68 Bürgen fruit loaf (Tip Top Bakeries, Australia)	44 ± 5	63 ± 7	Healthy, 10	Bread, 2 h	17	30	13	6
69 Fruit and spice loaf, thick sliced (Buttercup Bakeries, Moorebank, Australia)	54 ± 6	77	Healthy, 10	Glucose, 2 h	UO[4]	30	15	8
70 Continental fruit loaf, wheat bread with dried fruit (Australia)	47 ± 6	67	Healthy, 8	Bread, 2 h	2	30	15	7
71 Happiness (cinnamon, raisin, and pecan bread) (Natural Ovens, Mannitowoc, WI, USA)	63 ± 5	89 ± 7	Healthy, 10	Bread, 2 h	UO[4]	30	14	9
72 Muesli bread, made from packet mix in bread making machine (Con Agra Inc, USA)	54 ± 6	77 ± 9	Healthy, 10	Bread, 2 h	UO[4]	30	12	7
73 Hamburger bun (Loblaw's, Canada)	61	87 ± 5	Type 1 and 2, 12	Bread, 3 h	1	30	15	9
74 Kaiser rolls (Loblaw's, Canada)	73	104 ± 5	Type 1 and 2, 12	Bread, 3 h	1	30	16	12
75 Melba toast, Old London (Best Foods Canada Inc, Etobicoke, Canada)	70	100 ± 6	Type 1 and 2, 11	Bread, 3 h	1	30	23	16
Gluten-free bread								
76 Gluten-free multigrain bread (Country Life Bakeries, Dandenong, Australia)	79 ± 13	113	Healthy, 10	Glucose, 2 h	UO[4]	30	13	10
77 Gluten-free white bread (gluten-free wheat starch) (UK)								
Unsliced	71	101 ± 22	Type 2, 11	White bread, 3 h	18	30	15	11
Sliced	80	114 ± 21	Type 2, 12	White bread, 3 h	18	30	15	12
Mean of 2 studies	76 ± 5	108 ± 7	—	—	—	30	15	11
78 Gluten-free fiber-enriched								
Unsliced (gluten-free wheat starch, soya bran) (UK)	69	99 ± 12	Type 2, 12	White bread, 3 h	18	30	13	9
Sliced (gluten-free wheat starch, soya bran) (UK)	76	109 ± 13	Type 2, 12	White bread, 3 h	18	30	13	10
Mean of 2 studies	73 ± 4	104 ± 5	—	—	—	30	13	9
Oat bread								
79 Coarse oat-kernel bread, 80% intact oat kernels and 20% white-wheat flour (Sweden)	65	93 ± 11	Healthy, 10	Bread, 2 h	11	30	19	12
Oat-bran bread								
80 50% Oat bran (Australia)	44	63 ± 10	Healthy, 8	Bread, 2 h	12	30	18	8
81 45% Oat bran and 50% wheat flour (Sweden)	50	72 ± 10	Healthy, 10	Bread, 1.5 h	19	30	18	9
Mean of 2 studies	47 ± 3	68 ± 5	—	—	—	30	18	9
Rice bread								
82 Rice bread, low-amylose Calrose rice (Pav's Allergy Bakery, Ingleburn, Australia)	72 ± 9	103 ± 10	Healthy, 12	Bread, 2 h	8	30	12	8
83 Rice bread, high-amylose Doongara rice (Pav's Allergy Bakery, Australia)	61 ± 9	88 ± 13	Healthy, 12	Bread, 2 h	8	30	12	7
Rye bread								
84 Rye-kernel (pumpernickel) bread								
Coarse rye-kernel bread, 80% intact kernels and 20% white-wheat flour (Sweden)	41	58 ± 8	Healthy, 10	Bread, 2 h	11	30	12	5
Rye-kernel bread, pumpernickel (Canada)	41	58	Diabetic, number NS	Glucose, time NS	20	30	12	5
Whole-grain pumpernickel (Holtzheuser Brothers Ltd, Toronto, Canada)	46	66 ± 7	Type 1 and 2, 9	Bread, 3 h	1	30	11	5
Rye-kernel bread, pumpernickel (80% kernels) (Canada)	55	78 ± 3	Type 1 and 2, 14	Bread, 3 h	21	30	12	7

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Cocktail, sliced (Kasselar Food Products, Toronto, Canada)	55	79 ± 3	Type 2, 9	Bread, 3 h	22	30	12	7
Cocktail, sliced (Kasselar Food Products, Canada)	62	88 ± 13	Type 1, 6	Bread, 3 h	22	30	12	8
Mean of 6 studies	50 ± 4	71 ± 7	—	—	—	30	12	6
85 Whole-meal rye bread								
Whole-meal rye bread (Canada)	41	58	Type 2, number NS	Glucose, time NS	23	—	—	—
Whole-meal rye bread (Canada)	62	89 ± 6	Type 1 and 2, 14	Bread, 3 h	21	—	—	—
Whole-meal rye bread (Canada)	63	90 ± 7	Type 2, 9	Bread, 3 h	22	—	—	—
Whole-meal rye bread (Canada)	66	94 ± 10	Type 1, 6	Bread, 3 h	22	—	—	—
Mean of 4 studies	58 ± 6	83 ± 8	—	—	—	30	14	8
Specialty rye breads								
86 Blackbread, Riga (Berzin's Specialty Bakery, Sydney, Australia)	76 ± 14	109	Healthy, 7	Glucose, 2 h	24	30	13	10
87 Bürgen Dark/Swiss rye								
Bürgen Dark/Swiss rye (Tip Top Bakeries, Australia)	55 ± 12	79	Healthy, 9	Glucose, 2 h	25	—	—	—
Bürgen Dark/Swiss rye (Tip Top Bakeries, Australia)	74 ± 6	106	Type 2, 14	Glucose, 2 h	25	—	—	—
Mean of 2 studies	65 ± 10	93 ± 14	—	—	—	30	10	7
88 Klosterbrot whole-meal rye bread (Dimpflmeier Bakery Ltd, Canada)	67	95 ± 6	Type 1 and 2, 10	Bread, 3 h	1	30	13	9
89 Light rye (Silverstein's Bakery, Toronto, Canada)	68	97 ± 6	Type 1 and 2, 12	Bread, 3 h	1	30	14	10
90 Linseed rye (Rudolph's Specialty Bakery Ltd, Canada)	55	78 ± 8	Type 1 and 2, 9	Bread, 3 h	1	30	13	7
91 Roggenbrot, Vogel's (Stevns and Co, Sydney, Australia)	59 ± 5	84	Healthy, 8	Bread, 2 h	13	30	14	8
92 Schinkenbrot, Riga (Berzin's Specialty Bakery, Sydney, Australia)	86 ± 15	123	Healthy, 7	Glucose, 2 h	24	30	14	12
93 Sourdough rye								
Sourdough rye (Canada)	57	83	Type 2, 13	Bread, 3 h	26	—	—	—
Sourdough rye (Australia)	48	69	Healthy, 10	Glucose, 2 h	UO[4]	—	—	—
Mean of 2 studies	53 ± 5	76 ± 7	—	—	—	30	12	6
94 Volkornbrot, whole-meal rye bread (Dimpflmeier Bakery Ltd, Canada)	56	80 ± 5	Type 1 and 2, 10	Bread, 3 h	1	30	13	7
Wheat bread								
95 Coarse wheat-kernel bread, 80% intact kernels and 20% white-wheat flour (Sweden)	52	74 ± 7	Healthy, 10	Bread, 2 h	11	30	20	10
96 Cracked wheat kernel (bulgur) bread								
50% cracked wheat kernel (Canada)	58	83 ± 4	Type 2, 6	Bread, 3 h	10	30	20	12
75% cracked wheat kernels (Canada)	48	69 ± 4	Type 2, 6	Bread, 3 h	10	30	20	10
Mean of 2 studies	53 ± 3	76 ± 4	—	—	—	30	20	11
Spelt wheat bread								
97 White spelt wheat bread (Slovenia)[9]	74	105	Healthy, 6	Bread, 3 h	27	30	23	17
98 Whole-meal spelt wheat bread (Slovenia)[9]	63	91	Healthy, 6	Bread, 3 h	27	30	19	12
99 Scalded spelt wheat-kernel bread (Slovenia)[9]	67	96	Healthy, 6	Bread, 3 h	27	30	22	15
100 Spelt multigrain bread (Pav's bakery, Australia)	54 ± 10	77 ± 14	Healthy, 12	Bread, 2 h	UO[4]	30	12	7
101 White-wheat-flour bread								
White flour (Canada)	69 ± 5	99	Healthy, 10	Glucose, 2 h	3	30	14	10
White flour (USA)	70	100	Type 2, 5; IGT, 6[10]	Bread, 3 h	28	30	14	10
White flour (Sunblest; Tip Top Bakeries, Australia)	70	100	Healthy, 10	Bread, 2 h	UO[4]	30	14	10
White flour (Dempster's Corporate Foods Ltd, Canada)	71	101 ± 9	Type 1 and 2, 12	Bread, 3 h	1	30	14	10
White flour (South Africa)	71 ± 7	101	Healthy, 7	Glucose, 2 h	29	30	13	9

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
White flour (Canada)	71	102 ± 5	Type 2, 6	Bread, 3 h	30	30	14	10
Mean of 6 studies	70 ± 0	101 ± 0	—	—	—	30	14	10
102 White-wheat-flour bread, hard, toasted (Italian)	73	104 ± 5	Type 2, 17	Glucose, 3 h	31	30	15	11
103 Wonder, enriched white bread (Interstate Brands Companies, Kansas City, MO, USA)								
Wonder, enriched white bread	71 ± 9	101 ± 13	Healthy, 10	Bread, 2 h	UO[4]	—	—	—
Wonder, enriched white bread	72 ± 4	103	Healthy, 10	Glucose, 2 h	UO[4]	—	—	—
Wonder, enriched white bread	77 ± 3	110	Healthy, 10	Glucose, 2 h	UO[4]	—	—	—
Mean of 3 studies	73 ± 2	105 ± 3	—	—	—	30	14	10
104 White Turkish bread (Turkey)	87	124	Type 2, 52; healthy, 31	Glucose, 2 h	32	30	17	15
White bread with enzyme inhibitors								
105 White bread + acarbose (200 mg) (Mexico)								
White bread + acarbose (200 mg) (Mexico)	18	26 ± 13	Type 2, 12	Bread, 3 h	33	30	17	3
White bread + acarbose (200 mg) (Mexico)	50	70 ± 5	Healthy, 10	Bread, 3 h	33	30	17	8
Mean of 2 groups of subjects	34 ± 16	48 ± 22	—	—	—	30	17	6
106 White bread roll + 3 mg trestatin (pancreatic α-amylase inhibitor) (Switzerland)[7]	48	69	Type 2, 6	Bread, 4 h[11]	34	30	12	6
107 White bread roll + 6 mg trestatin (Switzerland)[8]	29	42	Type 2, 6	Bread, 4 h[11]	34	30	12	4
White bread with soluble fiber								
108 White bread + 15 g psyllium fiber (*Plantago psyllium*)								
White bread + 15 g psyllium fiber (*Plantago psyllium*) (Mexico)	41	59 ± 10	Type 2, 12	Bread, 3 h	33	30	17	7
White bread + 15 g psyllium fiber (*Plantago psyllium*) (Mexico)	65	93 ± 24	Healthy, 10	Bread, 3 h	33	30	17	11
Mean of 2 groups of subjects	53 ± 12	76 ± 17	—	—	—	30	17	9
109 White bread eaten with vinegar as vinaigrette (Sweden)	45	64	Healthy, 10	Bread, 1.6 h	35	30	15	7
110 White bread eaten with powdered dried seaweed *Nori alga* (Spain)	48	68	Healthy, 12	Bread, 2 h	36	30	15	7
111 White bread containing Eurylon high-amylose maize starch (France)[12]	42	60 ± 6	Healthy, 8	Bread, 2.8 h[12]	37	30	19	8
White fiber-enriched bread								
112 White, high-fiber (Dempster's Corporate Foods Ltd, Canada)	67	96 ± 6	Type 1 and 2, 13	Bread, 3 h	1	—	—	—
113 White, high-fiber (Weston's Bakery, Toronto, Canada)	69	98 ± 5	Type 1 and 2, 12	Bread, 3 h	1	—	—	—
Mean of 2 studies	68 ± 1	97 ± 1	—	—	—	30	13	9
White resistant starch-enriched bread								
114 Fibre white (Nature's Fresh, Auckland, New Zealand)	77 ± 10	110	Healthy, 14	Glucose, 2 h	25	30	15	11
115 Wonderwhite (Buttercup Bakeries, Australia)	80 ± 8	114	Healthy, 8	Bread, 2 h	13	30	14	11
116 Whole-meal (whole-wheat) wheat-flour bread								
Whole-meal flour (Canada)	52	74 ± 15	Type 2, 9	Bread, 3 h	38	30	12	6
Whole-meal flour (Canada)	64	92 ± 11	Type 2, 6	Bread, 3 h	10	30	12	8
Whole-meal flour (Canada)	65	93	Diabetic, number NS	Glucose, time NS	20	30	12	8
Whole-meal flour (Canada)	67	95 ± 7	Type 2, 11	Bread, 3 h	22	30	12	8
Whole-meal flour (Canada)	67	96 ± 5	Type 1 and 2, 14	Bread, 3 h	21	30	12	8
Whole-meal flour (Canada)	69	98 ± 5	Type 1, 5	Bread, 3 h	22	30	12	8

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Whole-meal flour (Canada)	71	102 ± 6	Type 2, 6	Bread, 3 h	30	30	12	8
Whole-meal flour (Canada)	72 ± 6	103	Healthy, 10	Glucose, 2 h	3	30	12	8
Whole-meal flour (USA)[8]	73	104	Type 2, 8	Glucose, 3 h	4	30	14	10
Whole-meal flour (South Africa)	75 ± 9	107	Healthy, 8	Glucose, 2 h	29	30	13	9
Whole-meal flour (Tip Top Bakeries, Australia)	77 ± 9	110	Healthy, 8	Glucose, 2 h	39	30	12	9
Whole-meal flour (Tip Top Bakeries, Australia)	78 ± 16	111	Healthy, 7	Glucose, 2 h	24	30	12	9
Whole-meal flour (Kenya)	87	124 ± 40	Type 2, 9	Bread, 2.5 h	40	30	13	11
Mean of 13 studies	71 ± 2	101 ± 3	—	—	—	30	13	9
117 Whole-meal Turkish bread	49	70	Type 2, 52; healthy, 31	Glucose, 2 h	32	30	16	8
Specialty wheat breads								
118 Bürgen Mixed-Grain bread (Australia)								
Bürgen Mixed-Grain (Tip Top Bakeries, Chatswood, Australia)	34 ± 4	49	Healthy, 10–12	Bread, 2 h	17	—	—	—
Bürgen Mixed-Grain	45 ± 12	64	Healthy, 10	Glucose, 2 h	25	—	—	—
Bürgen Mixed-Grain	69 ± 6	99	Type 2, 13	Glucose, 2 h	25	—	—	—
Mean of 3 studies	49 ± 10	71 ± 15	—	—	—	30	11	6
119 Bürgen Oat Bran and Honey Loaf with Barley (Tip Top Bakeries, Australia)	31 ± 3	44	Healthy, 8	Bread, 2 h	13	30	10	3
120 Bürgen Soy-Lin, kibbled soy (8%) and linseed (8%) loaf (Tip Top Bakeries, Australia)	36 ± 4	51	Healthy, 10–12	Bread, 2 h	17	30	9	3
121 English Muffin bread (Natural Ovens, USA)	77 ± 7	109 ± 11	Healthy, 10	Bread, 2 h	UO[4]	30	14	11
122 Healthy Choice Hearty 7 Grain (Con Agra Inc, USA)	55 ± 6	79	Healthy, 10	Glucose, 2 h	UO[4]	30	14	8
123 Healthy Choice Hearty 100% Whole Grain (Con Agra Inc, USA)	62 ± 6	89	Healthy, 10	Glucose, 2 h	UO[4]	30	14	9
124 Helga's Classic Seed Loaf (Quality Bakers, Sydney, Australia)	68 ± 9	97	Healthy, 10	Glucose, 2 h	UO[4]	30	14	9
125 Helga's traditional whole-meal bread (Quality Bakers, Australia)	70 ± 14	100	Healthy, 8	Glucose, 2 h	UO[4]	30	13	9
126 Hunger Filler, whole-grain bread (Natural Ovens, USA)	59 ± 8	84 ± 12	Healthy, 10	Bread, 2 h	UO[4]	30	13	7
127 Molenberg (Goodman Fielder, Auckland, New Zealand)								
Molenberg	75 ± 10	107	Healthy, 15	Glucose, 2 h	25	—	—	—
Molenberg	84 ± 8	120	Type 2, 14	Glucose, 2 h	25	—	—	—
Mean of 2 studies	80 ± 5	114 ± 7	—	—	—	30	14	11
128 9-Grain Multi-Grain (Tip Top Bakeries, Australia)	43 ± 5	61	Healthy, 10–12	Bread, 2 h	17	30	14	6
129 Multigrain loaf, spelt wheat flour (Australia)	54 ± 10	77	Healthy, 7–10	Bread, 2 h	8	30	15	8
130 Multigrain (50% kibbled wheat grain) (Australia)	43	61 ± 7	Healthy, 8	Bread, 2 h	12	30	14	6
131 Nutty Natural, whole-grain bread (Natural Ovens, USA)	59 ± 7	85 ± 11	Healthy, 10	Bread, 2 h	UO[4]	30	12	7
132 Performax (Country Life Bakeries, Dandenong, Australia)	38 ± 3	55 ± 4	Healthy, 10	Bread, 2 h	UO[4]	30	13	5
133 Ploughman's Whole-grain, original recipe (Quality Bakers, Australia)	47	67 ± 4	Healthy, 8	Bread, 2 h	12	30	14	7
134 Ploughman's Whole-meal, smooth milled (Quality Bakers, Australia)	64 ± 10	91	Healthy, 12	Bread, 2 h	UO[4]	30	13	9
135 Semolina bread (Kenya)	64	92 ± 7	Type 2, 10	Bread, 3 h	41	—	—	—
136 Sourdough wheat (Australia)	54	77	Healthy, 10	Glucose, 2 h	UO[4]	30	14	8
137 Soy and linseed bread (made from packet mix in bread maker) (Con Agra Inc, USA)	50 ± 6	71 ± 9	Healthy, 10	Bread, 2 h	UO[4]	30	10	5

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
138 Stay Trim, whole-grain bread (Natural Ovens, USA)	70 ± 10	101 ± 15	Healthy, 10	Bread, 2 h	UO[4]	30	15	10
139 Sunflower and barley bread, Riga brand (Berzin's Specialty Bakery, Australia)	57 ± 6	81	Healthy, 8	Bread, 2 h	13	30	13	7
140 Vogel's Honey and Oats (Stevns and Co, Australia)	55 ± 5	79	Healthy, 8	Bread, 2 h	13	30	14	7
141 Vogel's Roggenbrot (Stevns and Co, Australia)	59 ± 5	84	Healthy, 8	Bread, 2 h	13	30	14	8
142 Whole-wheat snack bread (Ryvita Co Ltd, Poole, Dorset, UK)	74	105 ± 8	Type 1 and 2, 11	Bread, 3 h	1	30	22	16
143 100% Whole-grain bread (Natural Ovens, USA)	51 ± 11	73 ± 15	Healthy, 10	Bread, 2 h	UO[4]	30	13	7
144 White-wheat-flour flatbread (Sweden)	79	113 ± 13	Healthy, 8	Bread, 2 h	14	30	16	13
Unleavened bread								
145 Lebanese bread, white (Seda Bakery, Sydney, Australia)	75 ± 9	107	Healthy, 10	Glucose, 2 h	UO[4]	30	16	12
146 Middle Eastern flatbread	97 ± 29	139	Healthy, 12	Glucose, 2 h	42	30	16	15
147 Pita bread, white (Canada)	57	82 ± 10	Type 1 and 2, 7	Bread, 3 h	1	30	17	10
148 Wheat-flour flatbread (India)	66 ± 9	94	Type 2, 6	Glucose, 2 h	43	30	16	10
149 Amaranth:wheat (25:75) composite flour flatbread (India)	66 ± 10	94	Type 2, 6	Glucose, 2 h	43	30	15	10
150 Amaranth:wheat (50:50) composite flour flatbread (India)	76 ± 20	109	Type 2, 6	Glucose, 2 h	43	30	15	11
BREAKFAST CEREALS AND RELATED PRODUCTS								
151 All-Bran (high-fiber, extruded wheat-bran cereal)								
All-Bran (Kellogg's, Pagewood, Australia)[13]	30	43 ± 3	Healthy, 7	Bread, 3 h	44	30	15	4
All-Bran (Kellogg's, Battle Creek, MI, USA)	38	54	Healthy, 8	Glucose, 3 h[14]	45	30	23	9
All-Bran (Kellogg's Inc, Etobicoke, Canada)	50	72 ± 5	Type 2, 6	Bread, 3 h	30	30	23	9
All-Bran (Kellogg's Inc, Canada)	51 ± 5	73	Healthy, 6	Glucose, 2 h	3	30	23	9
Mean of 4 studies	42 ± 5	60 ± 7	—	—	—	—	—	—
152 All-Bran Fruit 'n Oats (Kellogg's, Australia)	39	56	Healthy, 10–12	Bread, 2 h	17	30	17	7
153 All-Bran Soy 'n Fibre (Kellogg's, Australia)	33 ± 3	47 ± 4	Healthy, 10	Bread, 2 h	UO[4]	30	14	4
154 Amaranth (*Amaranthus esculentum*) popped, eaten with milk and nonnutritive sweetener (India)	97 ± 19	139	Healthy, 6	Glucose, 3 h	43	30	19	18
Barley porridge								
155 Whole-meal barley flour porridge (100% regular barley) (flour:water, 1:3), boiled 2.5 min (Sweden)	68	97 ± 16	Healthy, 8	Bread, 2 h	14	50 (dry)	34	23
156 Whole-meal high-fiber barley flour porridge (50% regular barley flour: 50% high-fiber barley flour) (Sweden)	55	78 ± 8	Healthy, 8	Bread, 2 h	14	50 (dry)	15	8
157 Barley porridge made from steamed thin (0.5 mm) dehulled barley flakes (Sweden)	62	88 ± 6	Healthy, 10	Bread, 2 h	46	50 (dry)	28	17
158 Barley porridge made from steamed thick (1.0 mm) dehulled barley flakes (Sweden)	65	93 ± 9	Healthy, 10	Bread, 2 h	46	50 (dry)	28	18
159 Bran Buds (Kellogg's Inc, Canada)[15]	58	83 ± 11	Type 1 and 2, 8	Bread, 3 h	1	30	12	7
160 Bran Buds with psyllium (Kellogg's Inc, Canada)[15]	47	67 ± 4	Type 1 and 2, 13	Bread, 3 h	1	30	12	6
161 Bran Chex (Nabisco Brands Ltd, Toronto, Canada)[15]	58	83 ± 6	Type 1 and 2, 10	Bread, 3 h	1	30	19	11
162 Bran Flakes (Kellogg's, Australia)	74	106	Healthy, 12	Bread, 2 h	UO[4]	30	18	13
163 Cheerios (General Mills Inc, Etobicoke, Canada)[15]	74	106 ± 9	Type 1 and 2, 10	Bread, 3 h	1	30	20	15
164 Chocapic (Nestlé, France)	84 ± 9	120	Healthy, 13	Glucose, 2 h	UO[7]	30	25	21

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subject (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
165 Coco Pops (cocoa-flavored puffed rice)								
Coco Pops (Kellogg's, Australia)	77 ± 8	110	Healthy, 8	Bread, 2 h	2	—	—	—
Coco Pops (Kellogg's, Australia)	77 ± 3	110	Healthy, 10	Glucose, 2 h	UO[4]	—	—	—
Mean of 2 studies	77	110	—	—		30	26	20
166 Corn Bran (Quaker Oats Co of Canada)[15]	75	107 ± 6	Type 1 and 2, 10	Bread, 3 h	1	30	20	15
167 Corn Chex (Nabisco Brands Ltd, Canada)[15]	83	118 ± 11	Type 1 and 2, 9	Bread, 3 h	1	30	25	21
168 Cornflakes								
Cornflakes (Kellogg's, Auckland, New Zealand)	72 ± 16	103	Healthy, 11	Glucose, 2 h	25	30	25	18
Cornflakes (Kellogg's, Australia)	77	110	Healthy, 6	Glucose, 2 h	47	30	25	20
Cornflakes (Kellogg's Inc, Canada)	80 ± 6	114	Healthy, 6	Glucose, 2 h	3	30	26	21
Cornflakes (Kellogg's Inc, Canada)	86	123 ± 5	Type 2, 7	Bread, 3 h	30	30	26	22
Cornflakes (Kellogg's, USA)[7]	92	130	Type 2, 9	Glucose, 3 h	4	30	26	24
Mean of 5 studies	81 ± 3	116 ± 5	—	—	—	30	26	21
169 Cornflakes, high-fiber (Presidents Choice; Sunfresh Ltd, Toronto, Canada)[15]	74	105 ± 6	Type 1 and 2, 9	Bread, 3 h	1	30	23	17
170 Cornflakes, Crunchy Nut (Kellogg's, Australia)	72 ± 4	103	Healthy, 10	Glucose, 2 h	UO[4]	30	24	17
171 Corn Pops (Kellogg's, Australia)	80 ± 4	114	Healthy, 10	Glucose, 2 h	UO[4]	30	26	21
172 Cream of Wheat (Nabisco Brands Ltd, Canada)[15]	66	94 ± 4	Type 1 and 2, 9	Bread, 3 h	1	250	26	17
173 Cream of Wheat, Instant (Nabisco Brands Ltd, Canada)[15]	74	105 ± 8	Type 1 and 2, 9	Bread, 3 h	1	250	30	22
174 Crispix (Kellogg's Inc, Canada)[15]	87	124 ± 5	Type 1 and 2, 12	Bread, 3 h	1	30	25	22
175 Energy Mix (Quaker, France)	80 ± 7	112	Healthy, 14	Glucose, 2 h	UO[7]	30	24	19
176 Froot Loops (Kellogg's, Australia)	69 ± 9	98 ± 13	Healthy, 10	Bread, 2 h	UO[4]	30	26	18
177 Frosties, sugar-coated cornflakes (Kellogg's, Australia)	55	79	Healthy, 12	Bread, 2 h	UO[4]	30	26	15
178 Fruitful Lite (Hubbards, New Zealand)	61 ± 20	86	Healthy, 9	Glucose, 2 h	25	30	20	12
179 Fruity-Bix, berry (Sanitarium, Auckland, New Zealand)	113 ± 10	161	Healthy, 10	Glucose, 2 h	25	30	22	25
180 Golden Grahams (General Mills Inc, Canada)[15]	71	102 ± 12	Type 1 and 2, 9	Bread, 3 h	1	30	25	18
181 Golden Wheats (Kellogg's, Australia)	71 ± 8	101 ± 11	Healthy, 10	Bread, 2 h	UO[4]	30	23	16
182 Grapenuts								
Grapenuts (Post, Kraft General Foods Inc, Toronto, Canada)[15]	67	96 ± 9	Type 1 and 2, 11	Bread, 3 h	1	30	19	13
Grapenuts (Kraft Foods Inc, Port Chester, NY, USA)	75 ± 6	107 ± 8	Healthy, 10	Bread, 2 h	UO[4]	30	22	16
Mean of 2 studies	71 ± 4	102 ± 6	—	—	—	30	21	15
183 Grapenuts Flakes (Post, Kraft General Foods Inc, Canada)[15]	80	114 ± 8	Type 1 and 2, 10	Bread, 3 h	1	30	22	17
184 Guardian (Kellogg's, Australia)	37 ± 9	53	Healthy, 10–12	Bread, 2 h	17	30	12	5
185 Healthwise for bowel health (Uncle Toby's, Wahgunyah, Australia)	66 ± 9	94	Healthy, 10	Glucose, 2 h	UO[4]	30	18	12
186 Healthwise for heart health (Uncle Toby's, Australia)	48 ± 5	69	Healthy, 10	Glucose, 2 h	UO[4]	30	19	9
187 Honey Rice Bubbles (Kellogg's, Australia)	77 ± 4	110	Healthy, 10	Glucose, 2 h	UO[4]	30	27	20
188 Honey Smacks (Kellogg's, Australia)	71 ± 10	101	Healthy, 10–12	Bread, 2 h	17	30	23	11
189 Hot cereal, apple and cinnamon (Con Agra Inc, USA)	37 ± 6	53 ± 8	Healthy, 10	Bread, 2 h	UO[4]	30	22	8
190 Hot cereal, unflavored (Con Agra Inc, USA)	25 ± 5	36 ± 7	Healthy, 10	Bread, 2 h	UO[4]	30	19	5
191 Just Right (Kellogg's, Australia)	60 ± 15	86	Healthy, 10–12	Bread, 2 h	17	30	22	13
192 Just Right Just Grains (Kellogg's, Australia)	62 ± 11	88 ± 16	Healthy, 10	Bread, 2 h	UO[4]	30	23	14
193 Komplete (Kellogg's, Australia)	48 ± 5	68 ± 7	Healthy, 10	Bread, 2 h	UO[4]	30	21	10

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
194 Life (Quaker Oats Co, Canada)[15]	66	94 ± 8	Type 1 and 2, 9	Bread, 3 h	1	30	25	15
195 Mini Wheats, whole wheat (Kellogg's, Australia)	58 ± 8	83	Healthy, 8	Bread, 2 h	13	30	21	12
196 Mini Wheats, blackcurrant (Kellogg's, Australia)	72 ± 10	103	Healthy, 10–12	Bread, 2 h	17	30	21	15
Muesli	—	—	—	—	—	30	21	12
197 Muesli, NS (Canada)	66 ± 9	94	Healthy, 6	Glucose, 2 h	3	30	24	17
198 Alpen Muesli (Wheetabix, France)	55 ± 10	77	Healthy, 14	Glucose, 2 h	UO[7]	30	19	10
199 Muesli, gluten-free (Freedom Foods, Cheltenham, Australia) with 1.5%-fat milk	39 ± 6	56	Healthy, 9	Glucose, 2 h	UO[4]	30	19	7
200 Muesli, Lite (Sanitarium, New Zealand)	54 ± 12	77	Healthy, 10	Glucose, 2 h	25	30	18	10
201 Muesli, Natural (Sanitarium, New Zealand)	57 ± 9	81	Healthy, 10	Glucose, 2 h	25	30	19	11
202 Muesli, Natural (Sanitarium, Australia)	40 ± 6	57	Healthy, 10	Glucose, 2 h	UO[4]	30	19	8
Mean of 2 studies	49 ± 9	69 ± 12	—	—	—	30	20	10
203 Muesli, No Name (Sunfresh Ltd, Toronto, Canada)[15]	60	85 ± 12	Type 1 and 2, 9	Bread, 3 h	1	30	18	11
204 Muesli, Swiss Formula (Uncle Toby's, Australia)	56 ± 8	80	Healthy, 8	Bread, 2 h	2	30	16	9
205 Muesli, toasted (Purina, Sydney, Australia)	43 ± 4	61	Healthy, 8	Bread, 2 h	2	30	17	7
206 Nutrigrain (Kellogg's, Australia)	66 ± 12	94	Healthy, 8	Bread, 2 h	2	30	15	10
207 Oat 'n Honey Bake (Kellogg's, Australia)	77 ± 11	111 ± 16	Healthy, 10	Bread, 2 h	UO[4]	30	17	13
208 Oat bran								
Oat bran, raw (Quaker Oats Co, Canada)[15]	50	72 ± 6	Type 1 and 2, 11	Bread, 3 h	1	10	5	2
Oat bran, raw	59	84	Type 2, ≤13	Bread, 3 h	26	10	5	3
Mean of 2 studies	55 ± 5	78 ± 6	—	—	—	10	5	3
209 Porridge made from rolled oats								
Porridge (Uncle Toby's, Australia)[13]	42	60 ± 5	Healthy, 7	Bread, 3 h	44	250	21	9
Porridge (Canada)[16]	49 ± 8	70	Healthy, 6	Glucose, 2 h	3	250	23	11
Traditional porridge oats (Lowan Whole Foods, Box Hill, Australia)	51 ± 8	73 ± 12	Healthy, 10	Bread, 2 h	UO[4]	250	21	11
Porridge (Hubbards, New Zealand)	58 ± 9	82	Healthy, 10	Glucose, 2 h	25	250	21	12
Porridge (Australia)	58 ± 4	83	Healthy, 7	Bread, 2 h	48	250	21	12
Porridge (Canada)	62	88	Diabetic, number NS	Glucose, time NS	20	250	23	14
Porridge (Canada)	69	98 ± 9	Type 2, 6	Bread, 3 h	30	250	23	16
Porridge (USA)[6]	75	107	Type 2, 8	Glucose, 3 h	4	250	23	17
Mean of 8 studies	58 ± 4	83 ± 5	—	—	—	250	22	13
210 Whole-meal oat-flour porridge (flour:water, 1:3), boiled 2.5 min (Sweden)	74	106 ± 19	Healthy, 8	Bread, 2 h	14	50 (dry)	32	24
211 Oat porridge made from thick (1.0 mm) dehulled oat flakes (Sweden)	55	78 ± 9	Healthy, 10	Bread, 2 h	46	250	27	15
212 Oat porridge made from roasted thin (0.5 mm) dehulled oat flakes (Sweden)	69	99 ± 10	Healthy, 10	Bread, 2 h	46	250	27	19
213 Oat porridge made from roasted thick (1.0 mm) dehulled oat flakes (Sweden)	50	72 ± 9	Healthy, 10	Bread, 2 h	46	250	27	14
214 Oat porridge made from roasted and steamed thin (0.5 mm) dehulled oat flakes (Sweden)	80	114 ± 12	Healthy, 10	Bread, 2 h	46	250	27	22
215 Oat porridge made from steamed thick (1.0 mm) dehulled oat flakes (Sweden)	53	76 ± 8	Healthy, 10	Bread, 2 h	46	250	27	14
216 Instant porridge								
Quick Oats (Quaker Oats Co, Canada)	65	93	Type 2, 6	Bread, 3 h	49	—	—	—
One Minute Oats (Quaker Oats Co, Canada)[15]	66	94 ± 10	Type 1 and 2, 7	Bread, 3 h	1	—	—	—
Mean of 2 studies	66 ± 1	94 ± 1	—	—	—	250	26	17
217 Pop Tarts, double chocolate (Kellogg's, Australia)	70 ± 2	100	Healthy, 10	Glucose, 2 h	UO[4]	50	36	25
218 Pro Stars (General Mills Inc, Canada)[15]	71	102 ± 7	Type 1 and 2, 10	Bread, 3 h	1	30	24	17

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
219 Puffed wheat								
Puffed Wheat (Quaker Oats Co, Canada)[15]	67	96 ± 7	Type 1 and 2, 10	Bread, 3 h	1	30	20	13
Puffed Wheat (Sanitarium, Sydney, Australia)	80 ± 11	114	Healthy, 8	Glucose, 2 h	38	30	21	17
Mean of 2 studies	74 ± 7	105 ± 9	—	—	—	30	21	16
220 Raisin Bran (Kellogg's, USA)	61 ± 5	87 ± 7	Healthy, 10	Bread, 2 h	UO[4]	30	19	12
221 Red River Cereal (Maple Leaf Mills, Toronto, Canada)	49	70 ± 5	Type 1 and 2, 9	Bread, 3 h[13]	1	30	22	13
222 Rice Bran, extruded (Rice Growers Co-Operative Ltd, Leeton, Australia)	19 ± 3	27	Healthy, 8	Bread, 2 h	48	30	14	3
223 Rice Bubbles (puffed rice)								
Rice Bubbles (Kellogg's, Australia)[13]	81	116 ± 11	Healthy, 7	Bread, 3 h	44	—	—	—
Rice Bubbles (Kellogg's, Australia)	85 ± 3	121	Healthy, 10	Glucose, 2 h	UO[4]	—	—	—
Rice Bubbles (Kellogg's, Australia)	95	136	Healthy, 6	Glucose, 2 h	47	—	—	—
Mean of 3 studies	87 ± 4	124 ± 6	—	—	—	30	26	22
224 Rice Chex (Nabisco Brands Ltd, Canada)[15]	89	127 ± 5	Type 1 and 2, 11	Bread, 3 h	1	30	26	23
225 Rice Krispies (Kellogg's Inc, Canada)[15]	82	117 ± 5	Type 1 and 2, 12	Bread, 3 h	1	30	26	22
226 Shredded wheat	—	—	—	—	—	30	25	22
Shredded Wheat (Canada)	67 ± 10	96	Healthy, 6	Glucose, 2 h	3	30	20	13
Shredded Wheat (Nabisco Brands Ltd, Canada)[15]	83	118 ± 6	Type 1 and 2, 14	Bread, 3 h	1	30	20	17
Mean of 2 studies	75 ± 8	107 ± 11	—	—	—	30	20	15
Special K (formulation of this cereal varies in different countries)								
227 Special K (Kellogg's, Australia)	54 ± 4	77	Healthy, 8	Bread, 2 h	13	30	21	11
228 Special K (Kellogg's, USA)	69 ± 5	98 ± 7	Healthy, 10	Bread, 2 h	UO[4]	30	21	14
229 Special K (Kellogg's, France)	84 ± 12	118	Healthy, 12	Glucose, 2 h	UO[7]	30	24	20
230 Soy Tasty (flaked grains, soy nuts, dried fruit) (Sanitarium, Australia)	60 ± 5	86	Healthy, 10	Glucose, 2 h	UO[4]	30	20	12
231 Soytana, Vogel's, soy and linseed bran crunch with sultanas (20.1 g fiber/100 g) (Specialty Cereals, Mt Kuring-gai, Australia)	49 ± 3	70	Healthy, 10	Glucose, 2 h	UO[4]	45	25	12
232 Sultana Bran (Kellogg's, Australia)	73 ± 13	104	Healthy, 7–10	Bread, 2 h	8	30	19	14
233 Sustain (Kellogg's, Australia)[13]	68	97 ± 9	Healthy, 7	Bread, 3 h	44	30	22	15
234 Team (Nabisco Brands Ltd, Canada)[15]	82	117 ± 9	Type 1 and 2, 10	Bread, 3 h	1	30	22	17
235 Thank Goodness (Hubbards, New Zealand)	65 ± 18	93	Healthy, 11	Glucose, 2 h	25	30	23	15
236 Total (General Mills Inc, Canada)[15]	76	109 ± 6	Type 1 and 2, 10	Bread, 3 h	1	30	22	17
237 Ultra-bran, Vogel's, soy and linseed extruded wheat bran cereal (30.2 g fiber/100 g) (Specialty Cereals, Australia)	41 ± 4	59	Healthy, 10	Glucose, 2 h	UO[4]	30	13	5
238 Wheat-bites (Uncle Toby's, Australia)	72 ± 11	103	Healthy, 8	Bread, 2 h	13	30	25	18
239 Wheat biscuits (plain flaked wheat)								
Vita-Brits (Uncle Toby's, Australia)[13]	61	87 ± 14	Healthy, 7	Bread, 3 h	44	30	20	12
Vita-Brits (Uncle Toby's, Australia)	68 ± 6	97	Healthy, 10	Glucose, 2 h	UO[4]	30	20	13
Weet-Bix (Sanitarium, Australia)	69	99	Healthy, 12	Bread, 2 h	UO[4]	30	17	12
Weet-Bix (Sanitarium, Australia)	69 ± 4	99	Healthy, 10	Glucose, 2 h	UO[4]	30	17	12
Weetabix (Weetabix of Canada Ltd, Thornhill, Canada)[15]	74	105 ± 8	Type 1 and 2, 11	Bread, 3 h	1	30	22	16
Weetabix (Weetabix of Canada Ltd)	75 ± 10	107	Healthy, 6	Glucose, 2 h	3	30	22	16
Whole-wheat Goldies (Kellogg's, Australia)	70 ± 4	100	Healthy, 10	Glucose, 2 h	UO[4]	30	20	14
Mean of 7 studies	70 ± 2	96 ± 4	—	—	—	30	19	13
Wheat biscuits (flaked wheat) with additional ingredients								
240 Good Start, muesli wheat biscuits (Sanitarium, Australia)	68 ± 4	96	Healthy, 10	Glucose, 2 h	UO[4]	30	20	14
241 Hi-Bran Weet-Bix, wheat biscuits with extra wheat bran (Sanitarium, Australia)	61 ± 4	87	Healthy, 10	Glucose, 2 h	UO[4]	30	17	10

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
242 Hi-Bran Weet-Bix with soy and linseed (Sanitarium, Australia)	57 ± 3	81	Healthy, 10	Glucose, 2 h	UO[4]	30	16	9
243 Honey Goldies (Kellogg's Australia)	72 ± 3	103	Healthy, 10	Glucose, 2 h	UO[4]	30	21	15
244 Lite-Bix, plain, no added sugar (Sanitarium, Australia)	70 ± 3	97	Healthy, 10	Glucose, 2 h	UO[4]	30	20	14
245 Oat bran Weet-Bix (Sanitarium, Australia)	57 ± 4	82	Healthy, 10	Glucose, 2 h	UO[4]	30	20	11
246 Sultana Goldies (Kellogg's Australia)	65 ± 6	93	Healthy, 10	Glucose, 2 h	UO[4]	30	21	13
BREAKFAST CEREAL BARS								
247 Crunchy Nut Cornflakes bar (Kellogg's, Australia)	72 ± 6	102 ± 8	Healthy, 10	Bread, 2 h	UO[4]	30	26	19
248 Fibre Plus bar (Uncle Toby's, Australia)	78 ± 9	111	Healthy, 8	Bread, 2 h	13	30	23	18
249 Fruity-Bix bar, fruit and nut, wheat biscuit cereal with dried fruit and nuts with yogurt coating (Sanitarium, Australia)	56 ± 4	80	Healthy, 10	Glucose, 2 h	UO[4]	30	19	10
250 Fruity-Bix bar, wild berry, wheat biscuit cereal with fruit and covered with yogurt coating (Sanitarium, Australia)	51 ± 4	73	Healthy, 10	Glucose, 2 h	UO[4]	30	19	9
251 K-Time Just Right bar (Kellogg's, Australia)	72 ± 4	103	Healthy, 10	Glucose, 2 h	UO[4]	30	24	17
252 K-Time Strawberry Crunch bar (Kellogg's, Australia)	77 ± 5	110	Healthy, 10	Glucose, 2 h	UO[4]	30	25	19
253 Rice Bubble Treat bar (Kellogg's, Australia)	63 ± 11	90 ± 15	Healthy, 10	Bread, 2 h	UO[4]	30	24	15
254 Sustain bar (Kellogg's, Australia)	57 ± 10	82 ± 15	Healthy, 10	Bread, 2 h	UO[4]	30	25	14
CEREAL GRAINS								
Amaranth								
255 Amaranth (*Amaranthus esculentum*) popped, eaten with milk and nonnutritive sweetener (India)	97 ± 19	139	Type 2, 6	Glucose, 3 h	43	30	22	21
Barley								
256 Pearl barley								
Barley, pearled (Canada)	22	32 ± 3	Type 2, 12	Bread, 3 h	22	—	—	—
Barley (Canada)	22	31	Type 2, 13	Bread, 3 h	26	—	—	—
Barley, pot, boiled in salted water 20 min (Gouda's foods, Concord, Canada)	25 ± 2	36	Healthy, 10	Glucose, 2 h	UO[4]	—	—	—
Barley (Canada)	27	39 ± 6	Type 2, 4	Bread, 3 h	10	—	—	—
Barley, pearled (Canada)	29	41 ± 10	Type 1, 7	Bread, 3 h	22	—	—	—
Mean of 5 studies	25 ± 1	36 ± 2	—	—	—	150	42	11
257 Barley (*Hordeum vulgare*) (India)								
Barley (*Hordeum vulgare*) (India)	37	53	Type 2, 14	Bread, 3 h	50	—	—	—
Barley (*Hordeum vulgare*) (India)	48	69	Healthy, 18	Bread, 3 h	50	—	—	—
Mean of 2 groups of subjects	43 ± 6	61 ± 8				150	42	26
258 Barley, cracked (Malthouth, Tunisia)	50	72 ± 7	Type 1 and 2, 10	Bread, 3 h	1	150	42	21
259 Barley, rolled (Australia)	66 ± 5	94	Healthy, 8	Bread, 2 h	48	50 (dry)	38	25
260 Buckwheat								
Buckwheat (Canada)	49	70 ± 6	Type 2, 12	Bread, 3 h	22	—	—	—
Buckwheat (Canada)	51 ± 10	73	Healthy, 5	Glucose, 2 h	3	—	—	—
Buckwheat (Canada)	63	90 ± 8	Type 1, 6	Bread, 3 h	22	—	—	—
Mean of 3 studies	54 ± 4	78 ± 6	—	—	—	150	30	16
261 Buckwheat groats, hydrothermally treated, dehusked, boiled 12 min (Sweden)	45	64 ± 10	Healthy, 10	Bread, 2 h	16	150	30	13
Corn and maize								
262 Maize (*Zea mays*), flour made into chapatti (India)	59	85	Healthy, 18	Bread, 3 h	50	—	—	—
263 Maize meal porridge, gruel (Kenya)	109	156 ± 15	Type 2, 13	Bread, 2.5 h	40	—	—	—
264 Cornmeal								
Cornmeal, boiled in salted water 2 min (McNair Products Co Ltd, Toronto, Canada)	68	97 ± 5	Type 1 and 2, 12	Bread, 3 h	1	150	13	9

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Cornmeal + margarine (McNair Products Co Ltd, Canada)	69	99 ± 10	Type 1 and 2, 12	Bread, 3 h	1	150	12	9
Mean of 2 studies	69 ± 1	98 ± 1	—	—	—	150	13	9
265 Sweet corn								
Sweet corn, honey and pearl variety (New Zealand)	37 ± 12	53	Healthy, 9	Glucose, 2 h	25	150	30	11
Sweet corn, on the cob, boiled 20 min (Australia)	48	69	Healthy, 6	Glucose, 2 h	47	150	30	14
Sweet corn (Canada)	59 ± 11	84	Healthy, 5	Glucose, 2 h	3	150	33	20
Sweet corn (USA)	60	86	Healthy, 16	Bread, 3 h	51	150	33	20
Sweet corn (USA)	60	85	Type 2, 5; IGT, 6[10]	Bread, 3 h	28	150	33	20
Sweet corn (South Africa)	62 ± 5	89	Healthy, 7	Glucose, 2 h	29	150	33	20
Mean of 6 studies	53 ± 4	78 ± 6	—	—	—	150	32	17
266 Sweet corn, whole kernel, canned, diet-pack, drained, featherweight (USA)	46	66	Type 2, 20	Bread, 3 h	52	150	28	13
267 Sweet corn, frozen, reheated in microwave (Green Giant Pillsbury Ltd, Toronto, Canada)	47	67 ± 4	Type 1 and 2, 9	Bread, 3 h	1	150	33	16
268 Taco shells, cornmeal based, baked (Old El Paso Foods Co, Toronto, Canada)	68	97 ± 9	Type 1 and 2, 10	Bread, 3 h	1	20	12	8
Couscous								
269 Couscous, boiled 5 min								
Couscous, boiled 5 min (Near East Food Products Co, Leominster, MA, USA)	61	87 ± 7	Type 1 and 2, 9	Bread, 3 h	1	—	—	—
Couscous, boiled 5 min (Tunisia)	69	99 ± 6	Type 1 and 2, 9	Bread, 3 h	1	—	—	—
Mean of 2 studies	65 ± 4	93 ± 6	—	—	—	150	35	23
Millet								
270 Millet, boiled (Canada)	71 ± 10	101	Healthy, 5	Glucose, 2 h	3	150	36	25
271 Millet flour porridge (Kenya)	107	153 ± 14	Type 2, 13	Bread, 2 h	40	—	—	—
Rice, white								
272 Arborio, risotto rice, boiled (Sun Rice brand, Rice Growers Co-Op, Leeton, Australia)	69 ± 7	99	Healthy, 10	Glucose 2 h	UO[4]	150	53	36
273 White (*Oryza sativa*), boiled (India)	69 ± 15	99	Type 2, 6	Glucose, 3 h	43	150	43	30
274 Rice, boiled white, type NS								
Type NS, eaten alone (France)	45	64	Type 2, 30	Glucose, 3 h[14]	53	150	30	14
Type NS (India)	48	68	Healthy, 6	Wheat chapatti, 2 h[17]	54	150	38	18
Type NS (Canada)	51	73	Diabetic NS	Glucose, time NS	20	150	42	21
Type NS (France)	52	74 ± 9	Type 2, 6	Bread, 3 h	55	150	36	19
Type NS (Canada)	56	80 ± 5	Type 2, 6	Bread, 3 h	30	150	42	23
Type NS (Pakistan)	69	98	Type 2, 22	Wheat chapatti, 3 h[17]	56	150	38	26
Type NS (Canada)	72 ± 9	103	Healthy, 7	Glucose, 2 h	3	150	42	30
Type NS, boiled in salted water (India)	72	103	Healthy, 8	Bread, 3 h	57	150	38	27
Type NS, boiled 13 min (Italy)	102	146	Healthy, 14	Glucose, 2 h	58	150	30	31
Type NS (Kenya)	112	160 ± 34	Type 2, 10	Bread, 2 h	40	150	42	47
Type NS, boiled (France)	43	61	Type 2, 14	Glucose, 3 h[14]	53	150	30	13
Type NS, boiled (France)	47	66	Type 2, 16	Glucose, 3 h[14]	53	150	30	14
Mean of 12 studies	64 ± 7	91 ± 9	—	—	—	150	36	23
275 Type NS, boiled in salted water, refrigerated 16–20 h, reheated (India)	53	76	Healthy, 8	Bread, 3 h	57	150	38	20
276 Type NS, boiled 13 min, then baked 10 min (Italy)	104	149	Healthy, 14	Glucose, 2 h	58	150	30	31
277 Long grain, boiled								
Long grain, boiled 5 min (Canada)	41	58 ± 4	Type 2, 13	Bread, 3 h	59	150	40	16
Long grain, white, unconverted, boiled 15 min (Mahatma brand; Riviana Foods, Wetherill Park, Australia)	50	71	Healthy, 6	Glucose, 2 h	47	150	43	21
Gem long grain (Dainty Food Inc, Toronto, Canada)	55	79	Type 2, 10	Bread, 3 h	60	150	40	22
Long grain, white (Uncle Bens, Auckland, New Zealand)	56 ± 7	80	Healthy, 14	Glucose, 2 h	25	150	43	24

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Long grain, boiled 25 min (Surinam)	56 ± 2	80	Type 2, 3	Glucose, 3 h	9	150	43	24
Gem long grain (Dainty Food Inc, Canada)	57	82	Type 1, 6	Bread, 3 h	60	150	40	23
Long grain, boiled 15 min	58	83 ± 5	Type 1, 5; type 2, 13	Bread, 3 h	59	150	40	23
Gem long grain (Dainty Food Inc, Canada)	60	86 ± 6	Type 2, 13	Bread, 3 h	22	150	40	24
Gem long grain (Dainty Food Inc, Canada)	60	86 ± 11	Type 1, 6	Bread, 3 h	22	150	40	24
Long grain, white, boiled 7 min (Star brand; Gouda foods, Concord, Canada)	64 ± 3	91	Healthy, 10	Glucose, 2 h	UO[4]	150	40	26
Mean of 10 studies	56 ± 2	80 ± 3	—	—	—	150	41	23
Rice, long grain, quick-cooking varieties								
278 Long grain, parboiled 10 min cooking time (Uncle Ben's; Masterfoods, Belgium)	68 ± 6	97	Healthy, 10	Glucose, 2 h	UO[4]	150	37	25
279 Long grain, parboiled, 20 min cooking time (Uncle Ben's; Masterfoods, Belgium)	75 ± 7	107	Healthy, 10	Glucose, 2 h	UO[4]	150	37	28
280 Long grain, white, precooked, microwaved 2 min (Express Rice, plain, Uncle Ben's; King's Lynn, Norfolk, UK)	52 ± 5	74	Healthy, 10	Glucose, 2 h	UO[4]	150	37	19
Rice, specialty rices								
281 Cajun Style (Uncle Ben's; Effem Foods Ltd, Bolton, Canada)	51	72 ± 13	Type 1 and 2, 8	Bread, 3 h	1	150	37	19
282 Garden Style (Uncle Ben's; Effem Foods Ltd, Canada)	55	79 ± 6	Type 1 and 2, 11	Bread, 3 h	1	150	37	21
283 Long Grain and Wild (Uncle Ben's; Effem Foods Ltd, Canada)	54	77 ± 9	Type 1 and 2, 8	Bread, 3 h	1	150	37	20
284 Mexican Fast and Fancy (Uncle Ben's; Effem Foods Ltd, Canada)	58	83 ± 7	Type 1 and 2, 11	Bread, 3 h	1	150	37	22
285 Saskatchewan wild rice (Canada)	57	81 ± 8	Type 1 and 2, 9	Bread, 3 h	1	150	32	18
286 Broken rice, white, cooked in rice cooker (Lion Foods, Bangkok, Thailand)	86 ± 10	123 ± 14	Healthy, 12	Glucose, 2 h	UO[4]	150	43	37
287 Glutinous rice, white, cooked in rice cooker (Bangsue Chia Meng Rice Mill, Bangkok, Thailand)	98 ± 7	140 ± 10	Healthy, 12	Glucose, 2 h	UO[4]	150	32	31
288 Jasmine rice, white long grain, cooked in rice cooker (Golden World Foods, Bangkok, Thailand)	109 ± 10	156 ± 14	Healthy, 12	Glucose, 2 h	UO[4]	150	42	46
Rice, white low-amylose								
289 Calrose, white, medium grain, boiled (Rice Growers Co-op, Australia)	83 ± 13	119	Healthy, 8	Bread, 2 h	48	150	43	36
290 Sungold, Pelde, parboiled (Rice Growers Co-op, Australia)	87 ± 7	124	Healthy, 8	Bread, 2 h	48	150	43	37
291 Waxy (0–2% amylose) (Rice Growers Co-op, Australia)	88 ± 11	126	Healthy, 7	Bread, 2 h	48	150	43	38
292 Pelde, white (Rice Growers Co-op, Australia)	93 ± 11	133	Healthy, 7	Bread, 2 h	48	150	43	40
293 White, low-amylose, boiled (Turkey)	139	199	Type 2, 52; healthy, 31	Glucose, 2 h	32	150	43	60
Rice, white high-amylose								
294 Bangladeshi rice variety BR16								
Bangladeshi rice variety BR16 (28% amylose)	37	53 ± 7	Type 2, 12	Bread, 3 h	61	150	39	14
Bangladeshi rice variety BR16, white, long grain (27% amylose), boiled 17.5 min	39	55 ± 5	Type 2, 9	Bread, 3 h	62	150	39	15
Mean of 2 studies	38	54 ± 1	—	—	—	150	39	15
295 Doongara, white (Rice Growers Co-op, Australia)								
Doongara, white (Rice Growers Co-op, Australia)	50 ± 6	69	Healthy, 8	Bread, 2 h	63	—	—	—

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Doongara, white (Rice Growers Co-op, Australia)	64 ± 9	91	Healthy, 8	Bread, 2 h	48	—	—	—
Doongara, white (Rice Growers Co-op, Australia)	54 ± 7	75	Healthy, 9	Bread, 2 h	63	—	—	—
Mean of 3 studies	56 ± 4	78 ± 7	—	—	—	150	39	22
296 Koshikari (Japonica), white, short-grain, boiled 15 min then steamed 10 min (Japan)	48 ± 8	68	Healthy, 8	Glucose, 3 h	64	150	38	18
297 Basmati								
Basmati, white, boiled (Mahatma brand, Sydney, Australia)	58 ± 8	83	Healthy, 9	Bread, 2 h	63	150	38	22
Precooked basmati rice in pouch, white, reheated in microwave (Uncle Ben's Express; Masterfoods. Kings Lynn, Norfolk, UK)	57 ± 4	81	Healthy, 10	Glucose, 2 h	UO[4]	150	41	24
Quick-cooking white basmati, cooked 10 min (Uncle Ben's Superior; Masterfoods Olen, Belgium)	60 ± 5	86	Healthy, 10	Glucose, 2 h	UO[4]	150	38	23
298 Rice, brown								
Brown (Canada)	66 ± 5	94	Healthy, 7	Glucose, 2 h	3	150	33	21
Brown, steamed (USA)[8]	50	72	Healthy, 8	Glucose, 3 h[18]	45	150	33	16
Brown (*Oryza sativa*), boiled (South India)[8]	50 ± 19	72	Healthy, 12–15	Glucose, 3 h[18]	65	150	33	16
Mean of 3 studies	55 ± 5	79 ± 6	—	—	—	150	33	18
Calrose brown (Rice Growers Co-op, Australia)	87 ± 8	124	Healthy, 8	Bread, 2 h	48	150	38	33
Doongara brown, high-amylose (Rice Growers Co-op, Australia)	66 ± 7	94	Healthy, 8	Bread, 2 h	48	150	37	24
Pelde brown (Rice Growers Co-op, Australia)	76 ± 6	109	Healthy, 8	Bread, 2 h	48	150	38	29
Parboiled, cooked 20 min (Uncle Ben's Natur-reis; Masterfoods Olen, Belgium)	64 ± 7	91	Healthy, 10	Glucose, 2 h	UO[4]	150	36	23
Sunbrown Quick (Rice Growers Co-op, Australia)	80 ± 7	114	Healthy, 8	Bread, 2 h	48	150	38	31
299 Instant or puffed rice								
Instant rice, white, boiled 1 min (Canada)	46	65 ± 5	Type 2, 13	Bread, 3 h	59	150	42	19
Instant rice, white, cooked 6 min (Trice brand; Australia)	87	124	Healthy, 6	Glucose, 2 h	47	150	42	36
Puffed, white, cooked 5 min (Uncle Ben's Snabbris; Masterfoods Olen, Belgium)	74 ± 5	106	Healthy, 10	Glucose, 2 h	UO[4]	150	42	31
Mean of 3 studies	69 ± 12	98 ± 17	—	—	—	150	42	29
Instant doongara, white, cooked 5 min (Rice Growers Co-op, Australia)	94 ± 7	132	Healthy, 9	Bread, 2 h	63	150	42	35
300 Parboiled rice								
Parboiled rice (Canada)	48	68 ± 6	Type 2, 13	Bread, 3 h	22	150	36	18
Parboiled rice (USA)	72	103	Type 2, 5; IGT, 6[10]	Bread, 3 h	28	150	36	26
Converted, white (Uncle Ben's; Effem Foods Ltd, Canada)	45	64 ± 7	Type 1, 5	Bread, 3 h	22	150	36	16
Converted, white, boiled 20–30 min (Uncle Ben's; Masterfoods USA, Vernon, CA)	38	54	Healthy, 16	Bread, 3 h	51	150	36	14
Converted, white, long grain, boiled 20–30 min (Uncle Ben's; Masterfoods USA)	50	72	Type 2, 20	Bread, 3 h	52	150	36	18
Boiled, 12 min (Denmark)[6]	39	55 ± 10	Type 2, 7	Bread, 2 h	66	150	36	14
Boiled, 12 min (Denmark)	42	60 ± 8	Type 2, 7	Bread, 2 h	66	150	36	15
Boiled, 12 min (Denmark)	43	62 ± 9	Type 2, 11	Bread, 5 h	67	150	36	16
Boiled, 12 min (Denmark)	46	66 ± 5	Type 2, 12	Bread, 5 h	67	150	36	17
Long grain, boiled 5 min (Canada)	38	54 ± 5	Type 2, 13	Bread, 3 h	59	150	36	14
Long grain, boiled, 10 min (USA)[8]	61	87	Type 2, 8	Glucose, 3 h	4	150	36	22
Long grain, boiled 15 min (Canada)	47	67 ± 5	Type 1, 5; type 2, 13	Bread, 3 h	59	150	36	17

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Long grain, boiled 25 min (Canada)	46	66 ± 4	Type 2, 13	Bread, 3 h	59	150	36	17
Mean of 13 studies	47 ± 3	68 ± 4	—	—	—	150	36	17
301 Parboiled rice, eaten as part of a traditional Indian meal (India)[8]	99	141	Type 2, 20	Glucose, 2 h	68	—	—	—
302 Parboiled, low-amylose								
Bangladeshi rice variety BR2, parboiled (12% amylose)	51	73 ± 7	Type 2, 12	Bread, 3 h	61	150	38	19
Parboiled, low-amylose, Pelde, Sungold (Rice Growers Co-op, Australia)	87 ± 7	124	Healthy, 8	Bread, 2 h	48	150	39	34
303 Parboiled, high-amylose								
Parboiled, high-amylose (28%), Doongara (Rice Growers Co-op, Australia)	50 ± 6	69	Healthy, 8	Bread, 2 h	63	150	39	19
Bangladeshi rice variety BR16, parboiled (28% amylose)	35	50 ± 7	Type 2, 12	Bread, 3 h	61	150	37	13
Bangladeshi rice variety BR16, traditionally parboiled (27% amylose)	32	46 ± 8	Type 2, 9	Bread, 3 h	62	150	38	12
Bangladeshi rice variety BR16, pressure parboiled (27% amylose)	27	39 ± 6	Type 2, 9	Bread, 3 h	62	150	41	11
Bangladeshi rice variety BR4, parboiled (27% amylose)	33	47 ± 4	Type 2, 12	Bread, 3 h	61	150	38	13
Mean of 5 studies	35 ± 4	50 ± 5	—	—	—	150	39	14
304 Rye, whole kernels								
Rye, whole kernels (Canada)	29	42 ± 7	Type 2, 9	Bread, 3 h	22	50 (dry)	38	11
Rye, whole kernels, pressure cooked (15 psi) 30 min in 2 L water (Canada)	34	47 ± 5	Type 1, 5; type 2, 9	Bread, 3 h	21	50 (dry)	38	13
Rye, whole kernels (Canada)	39	56 ± 12	Type 1, 7	Bread, 3 h	22	50 (dry)	38	15
Mean of 3 studies	34 ± 3	48 ± 4	—	—	—	50 (dry)	38	13
Wheat								
305 Wheat, whole kernels								
Wheat, whole kernels (*Triticum aestivum*) (India)[11]	30 ± 9	43	Healthy, 12–15	Glucose, 3 h[18]	65	50 (dry)	38	11
Wheat, whole kernels (Canada)	42	60 ± 8	Type 2, 11	Bread, 3 h	22	50 (dry)	33	14
Wheat, whole kernels, pressure cooked (15 psi) 30 min in 2 L water (Canada)	44	63 ± 6	Type 1, 6; type 2, 11	Bread, 3 h	21	50 (dry)	33	14
Wheat, whole kernels (Canada)	48	69 ± 7	Type 1, 7	Bread, 3 h	22	50 (dry)	33	16
Mean of 4 studies	41 ± 3	59 ± 4	—	—	—	50 (dry)	34	14
306 Wheat, type NS (India)	90	129	Type 2, 20	Glucose, 2 h	68	50 (dry)	38	34
307 Wheat, precooked kernels								
Durum wheat, precooked, cooked 20 min (Ebly, Chateaudun, France)	52 ± 4	74	Healthy, 10	Glucose, 2 h	UO[4]	50 (dry)	37	19
Durum wheat, precooked, cooked 10 min (Ebly, France)	50 ± 5	71	Healthy, 10	Glucose, 2 h	UO[4]	50 (dry)	33	17
Durum wheat, precooked in pouch, reheated in microwave (Ebly Express; Ebly, France)	40 ± 5	57	Healthy, 10	Glucose, 2 h	UO[4]	125	39	16
Quick cooking (White Wings, Sydney, Australia)	54 ± 11	77	Healthy, 8	Glucose, 2 h	39	150	47	25
308 Semolina								
Semolina, roasted at 105°C then gelatinized with water (India)	55 ± 9	79	Type 2, 6	Glucose, 2 h	69	—	—	—
Semolina, steamed and gelatinized (India)	54 ± 13	77	Type 2, 6	Glucose, 2 h	69	—	—	—
Mean of 2 studies	55 ± 1	78 ± 1	—	—	—	150	11	6
309 Cracked wheat (bulgur or bourghul)								
Bulgur, boiled (Canada)	46	66 ± 4	Type 2, 6	Bread, 3 h	10	—	—	—
Bulgur, boiled in 800 mL water 20 min (Canada)	46	65 ± 4	Type 1, 5; type 2, 12	Bread, 3 h	21	—	—	—
Bulgur, boiled 20 min (Canada)	46	65 ± 5	Type 2, 12	Bread, 3 h	22	—	—	—
Bulgur, boiled 20 min (Canada)	53	75 ± 13	Type 1, 6	Bread, 3 h	22	—	—	—
Mean of 4 studies	48 ± 2	68 ± 3	—	—	—	150	26	12

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
COOKIES								
Arrowroot								
310 Arrowroot (McCormicks's, Interbare Foods, Toronto, Canada)	63	90 ± 4	Type 1 and 2, 13	Bread, 3 h	1	25	20	13
311 Arrowroot plus (McCormicks's, Canada)	62	88 ± 7	Type 1 and 2, 9	Bread, 3 h	1	25	18	11
312 Milk Arrowroot (Arnotts, Sydney, Australia)	69 ± 7	99	Healthy, 8	Bread, 2 h	2	25	18	12
Mean of 3 studies	65 ± 2	92 ± 3	—	—	—	25	19	12
313 Barquette Abricot (LU, Ris, Orangis, France)	71 ± 6	101	Healthy, 11	Glucose, 2 h	UO[7]	40	32	23
314 Bebe Dobre Rano Chocolate (Opavia/LU, Czech Republic)	57 ± 9	81	Healthy, 11	Glucose, 2 h	UO[7,19]	50	33	19
315 Bebe Dobre Rano Honey and Hazelnuts (Opavia/LU, Czech Republic)	51 ± 9	73	Healthy, 11	Glucose, 2 h	UO[7,19]	50	34	17
316 Bebe Jemne Susenky (Opavia/LU, Czech Republic)	67 ± 11	96	Healthy, 11	Glucose, 2 h	UO[7,19]	25	20	14
317 Digestives								
Digestives (Canada)	55	79 ± 9	Type 2, 6	Bread, 3 h	30	—	—	—
Digestives (Canada)	59 ± 7	84	Healthy, 6	Glucose, 2 h	3	—	—	—
Digestives, Peak Freans (Nabisco Ltd, Toronto, Canada)	62	88 ± 7	Type 1 and 2, 13	Bread, 3 h	1	—	—	—
Mean of 3 studies	59 ± 2	84 ± 2	—	—	—	25	16	10
318 Digestives, gluten-free (maize starch) (Nutricia Dietary Care Ltd, Redish, Stockport, UK)	58	83 ± 14	Type 2, 11	Bread, 3 h	18	25	17	10
319 Evergreen met Krenten (LU, Netherlands)	66 ± 12	94	Healthy, 12	Glucose, 2 h	UO[7]	38	21	14
320 Golden Fruit (Griffin's Foods Ltd, Auckland, New Zealand)	77 ± 25	110	Healthy, 10	Glucose, 2 h	25	25	17	13
321 Graham Wafers (Christie Brown and Co, Toronto, Canada)	74	106 ± 9	Type 1 and 2, 9	Bread, 3 h	1	25	18	14
322 Gran'Dia Banana, Oats and Honey (LU, Brazil)	28 ± 5	40	Healthy, 12	Glucose, 2 h	UO[7]	30	23	6
323 Grany en-cas Abricot (LU, France)	55 ± 6	79	Healthy, 12	Glucose, 2 h	UO[7]	30	16	9
324 Grany en-cas Fruits des bois (LU, France)	50 ± 5	71	Healthy, 14	Glucose, 2 h	UO[7]	30	14	7
325 Grany Rush Apricot (LU, Netherlands)	62 ± 3	89	Healthy, 12	Glucose, 2 h	UO[20]	30	20	12
326 Highland Oatmeal (Westons biscuits, Sydney, Australia)	55 ± 8	79	Healthy, 7	Bread, 2 h	2	25	18	10
327 Highland Oatcakes (Walker's Shortbread Ltd, Aberlour-on-Spey, Scotland)	57	81 ± 6	Type 1 and 2, 12	Bread, 3 h	1	25	15	8
328 LU P'tit Déjeuner Chocolat (LU, France)	42 ± 5	60	Healthy, 13	Glucose, 2 h	UO[7]	50	34	14
329 LU P'tit Déjeuner Miel et Pépites Chocolat (LU, France)	45 ± 5	64	Healthy, 14	Glucose, 2 h	UO[7]	50	35	16
LU P'tit Déjeuner Miel et Pépites Chocolat (LU, France)	52 ± 3	74	Healthy, 12	Glucose, 2 h	UO[20]	50	35	18
LU P'tit Déjeuner Miel et Pépites Chocolat (LU, France)	49 ± 8	70	Healthy, 11	Glucose, 2 h	UO[7,19]	50	35	18
Mean of 3 studies	49 ± 2	69 ± 3	—	—	—	50	35	17
330 Maltmeal wafer (Griffin's Foods Ltd, New Zealand)	50 ± 10	71	Healthy, 10	Glucose, 2 h	25	25	17	9
331 Morning Coffee (Arnotts, Australia)	79 ± 6	113	Healthy, 8	Bread, 2 h	2	25	19	15
332 Nutrigrain Fruits des bois (Kellogg's, France)	57 ± 4	81	Healthy, 12	Glucose, 2 h	UO[20]	35	23	13
333 Oatmeal (Canada)	54 ± 4	77	Healthy, 6	Glucose, 2 h	3	25	17	9
334 Oro (Saiwa, Italy)								
Oro (Saiwa, Italy)	61 ± 9	87	Healthy, 11	Glucose, 2 h	UO[7]	40	32	20
Oro (Saiwa, Italy)	67 ± 17	96	Healthy, 13	Glucose, 2 h	UO[21]	40	32	21
Mean of 2 studies	64 ± 3	92 ± 5	—	—	—	40	32	20
335 Petit LU Normand (LU, France)	51 ± 3	73	Healthy, 12	Glucose, 2 h	UO[20]	25	19	10

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
336 Petit LU Roussillon (LU, France)	48 ± 4	69	Healthy, 12	Glucose, 2 h	UO[20]	25	18	9
337 Prince Energie+ (LU, France)	73 ± 5	104	Healthy, 12	Glucose, 2 h	UO[20]	25	17	13
338 Prince fourré chocolat (LU, France)								
Prince fourré chocolat (LU, France)	53 ± 5	76	Healthy, 13	Glucose, 2 h	UO[7]	—	—	—
Prince fourré chocolat (LU, France)	50 ± 5	71	Healthy, 12	Glucose, 2 h	UO[7]	—	—	—
Mean of 2 studies	52 ± 2	74	—	—	—	45	30	16
339 Prince Meganana Chocolate (LU, Spain)	49 ± 12	70	Healthy, 11	Glucose, 2 h	UO[7]	50	36	18
340 Prince Petit Déjeuner Vanille (LU, France and Spain)	45 ± 6	64	Healthy, 12	Glucose, 2 h	UO[7]	50	36	16
341 Rich Tea (Canada)	55 ± 4	79	Healthy, 6	Glucose, 2 h	3	25	19	10
342 Sablé des Flandres (LU, France)	57 ± 10	81	Healthy, 12	Glucose, 2 h	UO[7]	20	15	8
343 Shortbread (Arnotts, Australia)	64 ± 8	91	Healthy, 8	Glucose, 2 h	39	25	16	10
344 Shredded Wheatmeal (Arnotts, Australia)	62 ± 4	89	Healthy, 7	Bread, 2 h	2	25	18	11
345 Snack Right Fruit Slice (97% fat-free) (Arnott's, Australia)	45 ± 3	64	Healthy, 10	Glucose, 2 h	UO[4]	25	19	9
346 Thé (LU, France)	41 ± 7	57	Healthy, 12	Glucose, 2 h	UO[7]	20	16	6
347 Vanilla Wafers (Christie Brown and Co, Canada)	77	110 ± 4	Type 1 and 2, 8	Bread, 3 h	1	25	18	14
348 Véritable Petit Beurre (LU, France)	51 ± 8	73	Healthy, 10	Glucose, 2 h	UO[7]	25	18	9
CRACKERS								
349 Breton wheat crackers (Dare Foods Ltd, Kitchener, Canada)	67	96 ± 4	Type 1 and 2, 10	Bread, 3 h	1	25	14	10
350 Corn Thins, puffed corn cakes, gluten-free (Real Foods, St Peters, Australia)	87 ± 10	124	Healthy, 10	Glucose, 2 h	UO[4]	25	20	18
351 Cream Cracker (LU Triumfo, Brazil)	65 ± 11	93	Healthy, 12	Glucose, 2 h	UO[7]	25	17	11
352 High-calcium cracker (Danone, Malaysia)	52 ± 8	74	Healthy, 12	Glucose, 2 h	UO[7]	25	17	9
353 Jatz, plain salted craker biscuits (Arnotts, Australia)	55 ± 5	79	Healthy, 8	Bread, 2 h	2	25	17	10
354 Puffed Crispbread (Westons, Australia)	81 ± 9	116	Healthy, 8	Glucose, 2 h	39	25	19	15
355 Puffed rice cakes								
Puffed rice cakes, white (Rice Growers Co-op, Australia)	82 ± 11	117	Healthy, 6	Bread, 2 h	48	25	21	17
Rice cakes, Calrose rice (low-amylose) (Rice Growers Co-op, Australia)	91 ± 7	128	Healthy, 9	Bread, 2 h	63	25	21	19
Rice cakes, Doongara rice (high-amylose) (Rice Growers Co-op, Australia)	61 ± 5	85	Healthy, 9	Bread, 2 h	63	25	21	13
Mean of 3 studies	78 ± 9	110 ± 13	—	—	—	25	21	17
356 Rye crispbread								
Rye crispbread (Canada)	63	90	Type 2, number NS	Glucose, time NS	23	25	16	10
Ryvita (Canada)	69 ± 10	99	Healthy, 7	Glucose, 2 h	3	25	16	11
High-fiber rye crispbread (Ryvita Company Ltd, Poole, Dorset, UK)	59	84 ± 7	Type 1 and 2, 9	Bread, 3 h	1	25	15	9
Rye crispbread (Ryvita Company Ltd, UK)	63	90 ± 4	Type 1 and 2, 12	Bread, 3 h	1	25	18	11
Mean of 4 studies	64 ± 2	91 ± 3				25	16	11
357 Kavli Norwegian Crispbread (Players Biscuits, Sydney, Australia)	71 ± 7	101	Healthy, 8	Bread, 2 h	13	25	16	12
358 Sao, plain square crackers (Arnotts, Australia)	70 ± 9	100	Healthy, 8	Bread, 2 h	2	25	17	12
359 Stoned Wheat Thins (Christie Brown and Co, Canada)	67	96 ± 4	Type 1 and 2, 11	Bread, 3 h	1	25	17	12
360 Water cracker								
Water cracker (Canada)	63 ± 9	90	Healthy, 6	Glucose, 2 h	3	25	18	11
Water cracker (Arnotts, Australia)	78 ± 11	111	Healthy, 8	Glucose, 2 h	39	25	18	14
Mean of 2 studies	71 ± 8	101 ± 11	—	—	—	25	18	13
361 Premium Soda Crackers (Christie Brown and Co, Canada)	74	106 ± 5	Type 1 and 2, 10	Bread, 3 h	1	25	17	12
362 Vita-wheat, original, crispbread (Arnott's Australia)	55 ± 4	79	Healthy, 10	Glucose, 2 h	UO[4]	25	19	10

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
DAIRY PRODUCTS AND ALTERNATIVES								
Custard								
363 No Bake Egg Custard, prepared from powder with whole milk (Nestlé, Australia)	35 ± 2	50 ± 3	Healthy, 10	Glucose, 2 h	UO[4]	100	17	6
364 Custard, home made from milk, wheat starch, and sugar (Australia)	43 ± 10	61	Healthy, 8	Glucose, 2 h	39	100	17	7
365 TRIM, reduced-fat custard (Pauls Ltd, South Brisbane, Australia)	37 ± 4	52 ± 6	Healthy, 10	Bread, 2 h	UO[4]	100	15	6
Mean of 3 studies	38 ± 2	54 ± 3	—	—	—	100	16	6
366 Ice cream, regular, NS								
Ice cream, NS (Canada)	36 ± 8	51	Healthy, 5	Glucose, 2 h	3	—	—	—
Ice cream (half vanilla, half chocolate) (Italy)	57	82 ± 40	Healthy, 7	Bread, 2 h	70	—	—	—
Ice cream, NS (USA)	62	89	Type 2, 7	Glucose, 5 h[22]	6	—	—	—
Ice cream, chocolate flavored (USA)	68 ± 15	97	Type 2, 12	Glucose, 3 h	71	—	—	—
Ice cream (half vanilla, half chocolate) (Italy)	80	114 ± 31	Type 2, 14	Bread, 2 h	70	—	—	—
Mean of 5 studies	61 ± 7	87 ± 10	—	—	—	50	13	8
367 Ice cream, reduced- or low-fat								
Ice cream, low-fat, vanilla (Light; Peter's, Sydney, Australia)	50 ± 8	71	Healthy, 8	Bread, 2 h	2	50	6	3
Ice-cream, low-fat (1.2% fat) (Prestige Light rich vanilla; Norco, Lismore, Australia)[6]	47 ± 5	67	Healthy, 10	Glucose, 2 h	UO[4]	50	10	5
Ice-cream, low-fat (1.4% fat) (Prestige Light traditional toffee; Norco, Australia)[6]	37 ± 4	53	Healthy, 10	Glucose, 2 h	UO[4]	50	14	5
Ice-cream, reduced-fat (7.1% fat) (Prestige golden macadamia; Norco, Australia)[6]	39 ± 3	55	Healthy, 10	Glucose, 2 h	UO[4]	50	12	5
368 Ice cream, premium (high-fat)								
Ice cream, premium, ultra chocolate, 15% fat (Sara Lee, Gosford, Australia)	37 ± 3	53	Healthy, 10	Glucose, 2 h	UO[4]	50	9	4
Ice cream, premium, French vanilla, 16% fat (Sara Lee, Australia)	38 ± 3	54	Healthy, 10	Glucose, 2 h	UO[4]	50	9	3
369 Milk, full-fat								
Full-fat (Italy)	11	15 ± 8	Healthy, 7	Bread, 2 h	70	—	—	—
Full-fat (3% fat; Skånemejerier, Malmö, Sweden)[6]	21	30 ± 4	Healthy, 10	Bread, 2 h	72	—	—	—
Full-fat (Italy)	24	34 ± 9	Type 2, 14	Bread, 2 h	70	—	—	—
Full-fat cow milk, fresh (Dairy Farmers, Australia)	31 ± 2	44 ± 2	Healthy, 10	Bread, 2 h	UO[4]	—	—	—
Full-fat (Canada)	34 ± 6	49	Healthy, 6	Glucose, 2 h	3	—	—	—
Full-fat (USA)	40	57	Type 2, 7	Glucose, 5 h[23]	6	—	—	—
Mean of 5 studies	27 ± 4	38 ± 6	—	—	—	250	12	3
370 Fermented cow milk (ropy milk, långfil, 3% fat) (Arla, Gävle, Sweden)[6]	11	15 ± 3	Healthy, 10	Bread, 2 h	72	—	—	—
371 Fermented cow milk (filmjölk, 3% fat) (Skånemejerier, Malmö, Sweden)[6]	11	15 ± 3	Healthy, 10	Bread, 2 h	72	—	—	—
Mean of 2 foods	11	15	—	—	—	—	—	—
372 Milk, full-fat, plus bran								
Full-fat + 20 g wheat bran (Italy)	25	35 ± 11	Type 2, 14	Bread, 2 h	70	—	—	—
Full-fat + 20 g wheat bran (Italy)	28	40 ± 27	Healthy, 7	Bread, 2 h	70	—	—	—
Mean of 2 studies	27 ± 2	38 ± 3	—	—	—	250	12	3
373 Milk, skim (Canada)	32 ± 5	46	Healthy, 6	Glucose, 2 h	3	250	13	4
374 Milk, condensed, sweetened (Nestlé, Australia)	61 ± 6	87 ± 9	Healthy, 12	Glucose, 2 h	73	250	136	83
375 Milk, low-fat, chocolate, with aspartame (Lite White; Dairy Farmers, Australia)	24 ± 6	34	Healthy, 8	Bread, 2 h	2	250	15	3
376 Milk, low-fat, chocolate, with sugar (Lite White; Dairy Farmers, Australia)	34 ± 4	49	Healthy, 8	Bread, 2 h	2	250	26	9

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
377 Mousse, reduced-fat, prepared from commerical mousse mix with water								
Butterscotch, 1.9% fat (Nestlé, Australia)	36 ± 4	51	Healthy, 10	Glucose, 2 h	UO[4]	50	10	4
Chocolate, 2% fat (Nestlé, Australia)	31 ± 4	44 ± 6	Healthy, 10	Glucose, 2 h	UO[4]	50	11	3
Hazelnut, 2.4% fat (Nestlé, Australia)	36 ± 4	51	Healthy, 10	Glucose, 2 h	UO[4]	50	10	4
Mango, 1.8% fat (Nestlé, Australia)	33 ± 5	47	Healthy, 10	Glucose, 2 h	UO[4]	50	11	4
Mixed berry, 2.2% fat (Nestlé, Australia)	36 ± 5	51	Healthy, 10	Glucose, 2 h	UO[4]	50	10	4
Strawberry, 2.3% fat (Nestlé, Australia)	32 ± 3	46	Healthy, 10	Glucose, 2 h	UO[4]	50	10	3
Mean of 6 foods	34 ± 1	48 ± 1	—	—	—	50	10	4
378 Pudding								
Instant, chocolate, made from powder and whole milk (White Wings, Australia)	47 ± 4	67	Healthy, 10	Glucose, 2 h	UO[4]	100	16	7
Instant, vanilla, made from powder and whole milk (White Wings, Australia)	40 ± 4	57	Healthy, 10	Glucose, 2 h	UO[4]	100	16	6
Mean of 2 foods	44 ± 4	62 ± 5	—	—	—	100	16	7
379 Yogurt								
Yogurt, NS (Canada)	36 ± 4	51	Healthy, 5	Glucose, 2 h	3	200	9	3
380 Low-fat yogurt								
Low-fat, fruit, aspartame (Ski; Dairy Farmers, Australia)	14 ± 4	20	Healthy, 7	Bread, 2 h	2	200	13	2
Low-fat, fruit, sugar (Ski; Dairy Farmers, Australia)	33 ± 7	47	Healthy, 8	Bread, 2 h	2	200	31	10
Low-fat (0.9%), fruit, wild strawberry (Ski d'lite; Dairy Farmers, Australia)	31 ± 14	44	Healthy, 9	Glucose, 2 h	UO[4]	200	30	9
381 Nonfat yogurt, sweetened with acesulfame K and Splenda								
Diet Vaalia, exotic fruits (Pauls Ltd, Australia)[6]	23 ± 2	33	Healthy, 10	Glucose, 2 h	UO[4]	200	16	4
Diet Vaalia, mango (Pauls Ltd, Australia)[6]	23 ± 2	33	Healthy, 10	Glucose, 2 h	UO[4]	200	14	3
Diet Vaalia, mixed berry (Pauls Ltd, Australia)[6]	25 ± 3	36	Healthy, 10	Glucose, 2 h	UO[4]	200	13	3
Diet Vaalia, strawberry (Pauls Ltd, Australia)[6]	23 ± 2	33	Healthy, 10	Glucose, 2 h	UO[4]	200	13	3
Diet Vaalia, vanilla (Pauls Ltd, Australia)[6]	23 ± 2	33	Healthy, 10	Glucose, 2 h	UO[4]	200	13	3
Mean of 5 foods	24 ± 1	34 ± 1	—	—	—	200	14	3
382 Reduced-fat yogurt								
Reduced-fat, Vaalia, apricot and mango (Pauls Ltd, Australia)[6]	26 ± 4	38 ± 6	Healthy, 10	Bread, 2 h	UO[4]	200	30	8
Reduced-fat, Vaalia, french vanilla (Pauls Ltd, Australia)[6]	26 ± 4	38 ± 5	Healthy, 10	Bread, 2 h	UO[4]	200	10	3
Reduced-fat, strawberry (Extra-Lite; Pauls Ltd, Australia)[6]	28 ± 4	40 ± 6	Healthy, 10	Bread, 2 h	UO[4]	200	33	9
Mean of 3 foods	27 ± 1	39 ± 1	—	—	—	200	24	7
383 Yogurt drink, reduced-fat, Vaalia, tropical passion fruit (Pauls Ltd, Australia)[6]	38 ± 4	54 ± 6	Healthy, 10	Bread, 2 h	UO[4]	200	29	11
Soy-based dairy product alternatives								
384 Soy milks (containing maltodextrin)								
Soy milk, full-fat (3%), 0 mg Cal, Original (So Natural Foods, Australia)[6]	44 ± 5	63	Healthy, 10	Glucose, 2 h	UO[4]	250	17	8
Soy milk, full-fat (3%), 120 mg Cal, Calciforte (So Natural Foods, Australia)[6]	36 ± 4	51	Healthy, 10	Glucose, 2 h	UO[4]	250	18	6
Soy milk, reduced-fat (1.5%), 120 mg Cal, Light (So Natural Foods, Australia)[6]	44 ± 3	63	Healthy, 10	Glucose, 2 h	UO[4]	250	17	8
385 Soy milk drinks								
Soy smoothie drink, banana, 1% fat (So Natural Foods, Australia)[6]	30 ± 3	43	Healthy, 10	Glucose, 2 h	UO[4]	250	22	7
Soy smoothie drink, chocolate hazelnut, 1% fat (So Natural Foods, Australia)[6]	34 ± 3	49	Healthy, 10	Glucose, 2 h	UO[4]	250	25	8
Mean of 2 drinks	32 ± 2	46 ± 3	—	—	—	250	23	7

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Up and Go, cocoa malt flavor (soy milk, rice cereal liquid breakfast) (Sanitarium, Australia)[6]	43 ± 5	61	Healthy, 10	Glucose, 2 h	UO[4]	250	26	11
Up and Go, original malt flavor (soy milk, rice cereal liquid breakfast) (Sanitarium, Australia)[6]	46 ± 5	66	Healthy, 10	Glucose, 2 h	UO[4]	250	24	11
Mean of 2 drinks	45 ± 2	64 ± 3	—	—	—	250	25	11
Xpress, chocolate (soy bean, cereal and legume extract drink with fructose) (So Natural Foods, Australia)[6]	39 ± 2	56	Healthy, 10	Glucose, 2 h	UO[4]	250	34	13
386 Soy yogurt								
Soy yogurt, peach and mango, 2% fat, sugar (So Natural Foods, Australia)[6]	50 ± 3	71	Healthy, 10	Glucose, 2 h	UO[4]	200	26	13
387 Tofu-based frozen dessert, chocolate with high fructose (24%) corn syrup (USA)	115 ± 14	164	Type 2, 12	Glucose, 3 h	71	50	9	10
FRUIT AND FRUIT PRODUCTS								
388 Apples, raw								
Apple, NS (Denmark)	28	40 ± 11	Type 2, 8	Bread, 3 h	74	120	13	4
Apple, braeburn (New Zealand)[6]	32 ± 4	46	Type 2, IGT, 15[10]	Glucose, 3 h	75	120	13	4
Apple, NS (Canada)	34	48	Type 2, number NS	Glucose, time NS	23	120	16	5
Apple, golden delicious (Canada)	39 ± 3	56	Healthy, 6	Glucose, 2 h	3	120	16	6
Apple, NS (USA)	40	57	Type 2, 7	Glucose, 5 h[23]	6	120	16	6
Apple, NS (Italy)	44	63 ± 3	Type 2, 7	Bread, 3 h	76	120	13	6
Mean of 6 studies	38 ± 2	52 ± 3	—	—	—	120	15	6
389 Apple juice								
Apple juice, unsweetened, reconstituted (Berrivale Orchards Ltd, Berri, Australia)	39 ± 5	55 ± 7	Healthy, 10	Bread, 2 h	UO[4]	250 mL	25	10
Apple juice, unsweetened (USA)	40	57	Type 2, 7	Glucose, 5 h[23]	6	250 mL	29	12
Apple juice, unsweetened (Allens, Toronto, Canada)	41	59 ± 8	Type 2, 6	Bread, 3 h	7	250 mL	30	12
Mean of 3 studies	40 ± 1	57 ± 2	—	—	—	250 mL	28	11
390 Apple, dried (Australia)	29 ± 5	41 ± 7	Healthy, 10	Bread, 2 h	UO[4]	60	34	10
Apricots								
391 Apricots, raw, NS (Italy)	57	82 ± 3	Type 2, 7	Bread, 3 h	75	120	9	5
392 Apricots, canned in light syrup (Riviera, Aliments Caneast Foods, Montreal, Canada)	64	91 ± 6	Type 2, 9	Bread, 3 h	7	120	19	12
393 Apricots, dried								
Apricots, dried (Australia)	30 ± 7	43	Healthy, 8	Bread, 2 h	2	60	27	8
Apricots, dried (Wasco foods, Montreal, Canada)	32	46 ± 7	Type 2, 9	Bread, 3 h	7	60	30	10
Mean of 2 studies	31 ± 1	44 ± 2	—	—	—	60	28	9
394 Apricot fruit bar, puréed dried apricot filling in whole-meal pastry (Mother Earth, Auckland, New Zealand)	50 ± 8	71	Healthy, 10	Glucose, 2 h	25	50	34	17
395 Apricot fruit spread, reduced sugar (Glen Ewin Jams, Para Hills, Australia)	55 ± 7	78 ± 10	Healthy, 10	Bread, 2 h	UO[4]	30	13	7
396 Apricot Fruity Bitz, vitamin and mineral enriched dried fruit snack (Blackmores Ltd, Balgowlah, Australia)	42 ± 3	61	Healthy, 10	Glucose, 2 h	UO[4]	15	12	5
397 Banana, raw								
Banana (Canada)	46	66	Diabetic, number NS	Glucose, time NS	20	120	25	12
Banana (Italy)	58	83 ± 3	Type 2, 8	Bread, 3 h	76	120	23	13
Banana (Canada)	58	83 ± 7	Type 2, 6	Bread, 3 h	30	120	25	15
Banana (Canada)	62 ± 9	89	Healthy, 6	Glucose, 2 h	3	120	25	16
Banana (South Africa)	70 ± 5	100	Healthy, 8	Glucose, 2 h	29	120	23	16
Banana, ripe, all yellow (USA)	51	73	Type 2, 7	Glucose, 5 h[24]	77	120	25	13
Banana, underripe (Denmark)	30	43 ± 10	Type 2, 10	Bread, 4 h	78	120	21	6
Banana, slightly underripe, yellow with green sections (USA)	42	60	Type 2, 7	Glucose, 5 h[24]	77	120	25	11

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Banana, overripe, yellow flecked with brown (USA)	48	69	Type 2, 7	Glucose, 5 h[24]	77	120	25	12
Banana, overripe (Denmark)	52	74 ± 9	Type 2, 10	Bread, 4 h	78	120	20	11
Mean of 10 studies	52 ± 4	74 ± 5	—	—	—	120	24	12
398 Banana, processed fruit fingers, Heinz Kidz (H J Heinz, Malvern, Australia)	61 ± 11	87	Healthy, 10	Glucose, 2 h	UO[4]	30	20	12
399 Breadfruit (*Artocarpus altilis*), raw (Australia)[6]	68	97	Healthy, 7	Potato, 3 h[25]	79	120	27	18
400 Cherries, raw, NS (Canada)	22	32	Type 2, number NS	Glucose, time NS	23	120	12	3
401 Chico (*Zapota zapotilla coville*), raw (Philippines)[6]	40	57	Type 2, 10	Bread, 3 h	80	120	29	12
402 Cranberry juice								
Cranberry juice cocktail (Ocean Spray, Australia)	52 ± 3	74	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	31	16
Cranberry juice cocktail (Ocean Spray Inc, USA)	68 ± 3	97	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	35	24
Cranberry juice drink (Ocean Spray; Gerber Ltd, Bridgewater, Somerset, UK)	56 ± 4	80	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	29	16
403 Custard apple, raw, flesh only (Australia)	54 ± 2	77 ± 3	Healthy, 12	Glucose, 2 h	73	120	19	10
404 Dates, dried (Australia)	103 ± 21	147 ± 30	Healthy, 10	Bread, 2 h	UO[4]	60	40	42
405 Figs, dried, tenderized, Dessert Maid brand (Ernest Hall and Sons, Sydney, Australia)	61 ± 6	87	Healthy, 10	Glucose, 2 h	UO[4]	60	26	16
406 Fruit Cocktail, canned (Delmonte Canadian Canners Ltd, Hamilton, Canada)	55	79 ± 5	Type 2, 8	Bread, 3 h	7	120	16	9
407 Grapefruit, raw (Canada)	25	36	Type 2, number NS	Glucose, time NS	23	120	11	3
408 Grapefruit juice, unsweetened (Sunpac, Toronto, Canada)	48	69 ± 5	Type 2, 13	Bread, 3 h	7	250 mL	20	9
409 Grapes, raw								
Grapes, NS (Canada)	43	62	Type 2, number NS	Glucose, time NS	23	120	17	7
Grapes, NS (Italy)	49	70 ± 3	Type 2, 9	Bread, 3 h	76	120	19	9
Mean of 2 studies	46 ± 3	66 ± 4	—	—	—	120	18	8
Grapes, black, Waltham Cross (Australia)	59	84	Healthy, 11	Bread, 2 h	UO[4]	120	18	11
410 Kiwi fruit, raw								
Kiwi fruit, Hayward (New Zealand)[6]	47 ± 4	68	Type 2 and IGT, 15[10]	Glucose, 3 h	75	120	12	5
Kiwi fruit (Australia)[6]	58 ± 7	83	Healthy, 7	Bread, 2 h	2	120	12	7
Mean of 2 studies	53 ± 6	75 ± 8	—	—	—	120	12	6
411 Lychee, canned in syrup and drained, Narcissus brand (China)	79 ± 8	113 ± 11	Healthy, 12	Glucose, 2 h	73	120	20	16
412 Mango, raw								
Mango (*Mangifera indica*) (Philippines)[6]	41	59	Type 2, 10	Bread, 3 h	80	120	20	8
Mango (*Mangifera indica*) (Australia)[6]	51 ± 3	73	Healthy, 7	Bread, 2 h	2	120	15	8
Mango, ripe (*Mangifera indica*) (India)[11]	60 ± 16	86	Healthy, 12–15	Glucose, 3 h[22]	65	120	15	9
Mean of 3 studies	51 ± 5	73 ± 8	—	—	—	120	17	8
413 Mango, low-fat frozen fruit dessert (Frutia; Weis Frozen Foods, Toowong, Australia)	42 ± 3	60	Normal,10	Glucose, 2 h	UO[4]	100	23	10
414 Marmalade, orange (Australia)	48 ± 9	69 ± 12	Healthy, 9	Bread, 2 h	UO[4]	30	20	9
415 Oranges, raw								
Oranges, NS (Denmark)	31	44 ± 13	Type 2, 8	Bread, 3 h	74	120	11	3
Oranges, NS (South Africa)	33 ± 6	47	Healthy, 6	Glucose, 2 h	29	120	10	3
Oranges, NS (Canada)	40 ± 3	57	Healthy, 6	Glucose, 2 h	3	120	11	4
Oranges, NS (Italy)	48	68 ± 2	Type 2, 8	Bread, 3 h	76	120	11	5
Oranges (Sunkist, Van Nuys, CA, USA)	48	69 ± 11	Type 2, 10	Bread, 3 h	7	120	11	5
Oranges NS (Canada)	51	73	Type 2, number NS	Glucose, time NS	23	120	11	6
Mean of 6 studies	42 ± 3	60 ± 5	—	—	—	120	11	5
416 Orange juice								
Orange Juice (Canada)	46 ± 6	66	Healthy, 6	Glucose, 2 h	3	250 mL	26	12
Orange juice, unsweetened, reconstituted concentrate, Quelch brand (Berri Ltd, Australia)	53 ± 6	76	Healthy, 8	Bread, 2 h	2	250 mL	18	9

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subject (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Orange juice, reconstituted from frozen concentrate (USA)	57 ± 6	81 ± 8	Type 2, 7	Glucose, 5 h[23]	6	250 mL	26	15
Mean of 3 studies	52 ± 3	74 ± 4	—	—	—	250 mL	23	12
417 Paw paw and papaya, raw								
Paw paw (*Carica papaya*) (Australia)[6]	56 ± 6	80	Healthy, 7	Bread, 2 h	2	120	8	5
Paw paw (papaya), ripe (India)[11]	60 ± 16	86	Healthy, 12–15	Glucose, 3 h[22]	65	120	29	17
Papaya (*Carica papaya*) (Philippines)[6]	60	86	Type 2, 10	Bread, 3 h	80	120	15	9
Mean of 3 studies	59 ± 1	84 ± 2	—	—	—	120	17	10
Peaches								
418 Peach, raw								
Peach, raw (Canada)	28	40	Type 2, number NS	Glucose, time NS	23	120	13	4
Peach, raw (Italy)	56	80 ± 3	Type 2, 7	Bread, 3 h	76	120	8	5
Mean of 2 studies	42 ± 14	60 ± 20	—	—	—	120	11	5
419 Peach, canned in natural juice								
Peach, canned in natural juice (Goulburn Valley, Ardmona Foods, Mooroopna, Australia)	30 ± 4	43	Healthy, 8	Bread, 2 h	2	120	11	3
Peach, canned in natural juice (SPC Ltd, Shepparton, Australia)	45 ± 6	64	Healthy, 7–10	Bread, 2 h	8	120	11	5
Mean of 2 studies	38 ± 8	54 ± 11	—	—	—	120	11	4
420 Peach, canned in heavy syrup (Letona Foods, Hawthorn East, Australia)	58 ± 11	83	Healthy, 8	Bread, 2 h	2	120	15	9
421 Peach, canned in light syrup (Delmonte, Canadian Canners Ltd)	52	74 ± 7	Type 2, 11	Bread, 3 h	7	120	18	9
422 Peach, canned in reduced-sugar syrup (SPC Lite; SPC Ltd, Australia)	62 ± 9	89	Healthy, 7–10	Bread, 2 h	8	120	17	11
Pears								
423 Pear, raw, NS (Canada)	33	47	Type 2, number NS	Glucose, time NS	23	120	13	4
424 Pear, winter Nellis, raw (New Zealand)[6]	34 ± 4	49	Type 2, and IGT, 15[10]	Glucose, 3 h	75	120	12	4
425 Pear, Bartlett, raw (Canada)	41	58 ± 7	Type 2, 13	Bread, 3 h	7	120	8	3
426 Pear, raw, NS (Italy)	42	60 ± 2	Type 2, 8	Bread, 3 h	76	120	11	4
Mean of 4 studies	38 ± 2	54 ± 3	—	—	—	120	11	4
427 Pear halves, canned in reduced-sugar syrup (SPC Lite; SPC Ltd, Australia)	25 ± 6	36	Healthy, 7–10	Bread, 2 h	8	120	14	4
428 Pear halves, canned in natural juice (SPC Ltd, Australia)	43 ± 15	61	Healthy, 7–10	Bread, 2 h	8	120	13	5
429 Pear, canned in pear juice, Bartlett (Delmonte Canadian Canners Ltd)	44	63 ± 6	Type 2, 10	Bread, 3 h	7	120	11	5
Pineapple								
430 Pineapple (*Ananas comosus*), raw								
Pineapple, raw (Australia)[6]	66 ± 7	94	Healthy, 8	Bread, 2 h	2	120	10	6
Pineapple, raw (Philippines)[6]	51	73	Type 2, 10	Bread, 3 h	80	120	16	8
Mean of 2 studies	59 ± 8	84 ± 11	—	—	—	120	13	7
431 Pineapple juice, unsweetened (Dole Packaged Foods, Toronto, Canada)	46	66 ± 3	Type 2, 13	Bread, 3 h	7	250 mL	34	15
Plums								
432 Plum, raw, NS								
Plum, raw, NS (Canada)	24	34	Type 2, number NS	Glucose, time NS	23	120	14	3
Plum, raw, NS (Italy)	53	75 ± 3	Type 2, 7	Bread, 3 h	76	120	11	6
Mean of 2 studies	39 ± 15	55 ± 21	—	—	—	120	12	5
433 Prunes, pitted (Sunsweet Growers Inc, Yuba City, CA, USA)	29 ± 4	41	Healthy, 10	Glucose, 2 h	UO[4]	60	33	10
434 Raisins (Canada)	64 ± 11	91	Healthy, 6	Glucose, 2 h	3	60	44	28
435 Rockmelon/Cantaloupe, raw (Australia)[6]	65 ± 9	93	Healthy, 8	Bread, 2 h	2	120	6	4
436 Strawberries, fresh, raw (Australia)[6]	40 ± 7	57	Healthy, 10	Glucose, 2 h	UO[4]	120	3	1
437 Strawberry jam	51 ± 10	73 ± 14	Healthy, 9	Bread, 2 h	UO[4]	30	20	10
438 Strawberry processed fruit bars, Real Fruit Bars (Uncle Toby's, Australia)	90 ± 12	129	Healthy, 10	Glucose, 2 h	UO[4]	30	26	23
439 Sultanas	56 ± 11	80	Healthy, 8	Bread, 2 h	2	60	45	25

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
440 Tomato juice, no added sugar (Berri Ltd, Australia)[6]	38 ± 4	54	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	9	4
441 Tropical Fruity Bitz, vitamin and mineral enriched dried fruit snack (Blackmores Ltd, Australia)	41 ± 3	58	Healthy, 10	Glucose, 2 h	UO[4]	15	11	5
442 Vitari, wild berry, nondairy, frozen fruit dessert (Nestlé, Australia)	59 ± 8	85 ± 11	Healthy, 10	Bread, 2 h	UO[4]	100	21	12
443 Watermelon, raw (Australia)[6]	72 ± 13	103	Healthy, 8	Bread, 2 h	2	120	6	4
444 Wild Berry Fruity Bitz, vitamin- and mineral-enriched dried fruit snack (Blackmores Ltd, Australia)	35 ± 4	50	Healthy, 10	Glucose, 2 h	UO[4]	15	12	4
INFANT FORMULA AND WEANING FOODS								
445 Formula								
Infasoy, soy-based, milk-free (Wyeth Nutritionals, Baulkham Hills, Australia)[6]	55 ± 6	78	Healthy, 11 (adults)	Glucose, 2 h	UO[4]	100 mL	7	4
Karicare gold starter formula with omega plus LCP oils (Nutricia, Auckland, New Zealand)[6]	35 ± 5	50	Healthy, 10 (adults)	Glucose, 2 h	UO[4]	100 mL	7	2
Nan-1 infant formula with iron (Nestlé, Sydney, Australia)[6]	30 ± 6	73	Healthy, 9 (adults)	Glucose, 2 h	UO[4]	100 mL	8	2
S-26 infant formula (Wyeth Nutritionals, Australia)[6]	36 ± 6	52	Healthy, 10 (adults)	Glucose, 2 h	UO[4]	100 mL	7	3
Weaning foods								
446 Farex baby rice (Heinz Wattie's Ltd, Malvern, Australia)[6]	95 ± 13	136	Healthy, 11 (adults)	Glucose, 2 h	UO[4]	87	6	6
447 Robinsons First Tastes from 4 months (Nutricia, Wells, UK)								
Apple, apricot and banana cereal[6]	56 ± 8	80	Healthy, 11 (adults)	Glucose, 2 h	UO[4]	75	13	11
Creamed porridge[6]	59 ± 8	84	Healthy, 11 (adults)	Glucose, 2 h	UO[4]	75	9	5
Rice pudding[6]	59 ± 6	84	Healthy, 11 (adults)	Glucose, 2 h	UO[4]	75	11	6
448 Heinz for Baby from 4 months (Heinz Wattie's Ltd, Australia)								
Chicken and noodles with vegetables (strained)[6]	67 ± 11	96	Healthy, 10 (adults)	Glucose, 2 h	UO[4]	120	7	5
Sweetcorn and rice[6]	65 ± 13	93	Healthy, 11 (adults)	Glucose, 2 h	UO[4]	120	15	10
LEGUMES AND NUTS								
449 Baked beans								
Baked beans, canned (Canada)	40 ± 3	57	Healthy, 7	Glucose, 2 h	3	—	—	—
Baked beans, canned haricot and navy beans in tomato sauce (Libby, McNeill and Libby, Chatham, Canada)	56	80 ± 8	Type 2, 7	Bread, 3 h	81	—	—	—
Mean of 2 studies	48 ± 8	69 ± 12	—	—	—	150	15	7
450 Beans, dried, boiled								
Beans, dried, type NS (Italy)	36	52 ± 25	Healthy, 7	Bread, 2 h	70	150	30	11
Beans, dried, type NS (Italy)	20	28 ± 14	Type 2, 14	Bread, 2 h	70	150	30	6
Mean of 2 studies	29 ± 9	40 ± 12	—	—	—	150	30	9
451 Black-eyed beans and peas (Cowpeas), boiled								
Black-eyed beans (Canada)	50	71 ± 5	Type 2, 6	Bread, 3 h	30	150	30	15
Black-eyed beans (Canada)	33 ± 4	47	Healthy, 6	Glucose, 2 h	3	150	30	10
Mean of 2 studies	42 ± 9	59 ± 12	—	—	—	150	30	13
452 Butter beans								
Butter beans (South Africa)	28 ± 7	40	Healthy, 8	Glucose, 2 h	29	150	20	5
Butter beans, dried, cooked 1.25 h (South Africa)	29 ± 8	41	Type 2, 21; type 1, 8; healthy, 11	Glucose, 2 h	82	150	20	6
Butter beans (Canada)	36 ± 4	51	Healthy, 6	Glucose, 2 h	3	150	20	7
Mean of 3 studies	31 ± 3	44 ± 3	—	—	—	150	20	6
Butter beans, dried, boiled + 5 g sucrose (South Africa)	30 ± 2	43	Type 2, 21; type 1, 8; healthy, 11	Glucose, 2 h	82	150	20	6

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Butter beans, dried, boiled + 10 g sucrose (South Africa)	31 ± 2	44	Type 2, 21; type 1, 8; healthy, 11	Glucose, 2 h	82	150	20	6
Butter beans, dried, boiled + 15 g sucrose (South Africa)	54 ± 4	77	Type 2, 21; type 1, 8; healthy, 11	Glucose, 2 h	82	150	20	11
453 Chickpeas (Garbanzo beans, Bengal gram), boiled								
Chickpeas (*Cicer arietinum Linn*), dried, soaked, boiled 35 min (Philippines)	10	14 ± 3	Healthy, 11	Bread, 1h	83	150	30	3
Chickpeas, dried, boiled (Canada)	31	44 ± 8	Type 2, 6	Bread, 3 h	81	150	30	9
Chickpeas (Canada)	33	47 ± 9	Type 2, 7	Bread, 3 h	30	150	30	10
Chickpeas (Canada)	36 ± 5	51	Healthy, 6	Glucose, 2 h	3	150	30	11
Mean of 4 studies	28 ± 6	39 ± 8	—	—	—	150	30	8
454 Chickpeas, canned in brine (Lancia-Bravo Foods Ltd, Toronto, Canada)	42	60 ± 7	Type 2, 11	Bread, 3 h	81	150	22	9
455 Chickpeas, curry, canned (Canasia Foods Ltd, Scarborough, Canada)	41	58 ± 7	Type 1 and 2, 7	Bread, 3 h	1	150	16	7
456 Haricot and navy beans								
Haricot and navy beans, pressure cooked (15 psi) 25 min (King Grains, Toronto, Canada)	29	41 ± 5	Type 2, 7	Bread, 3 h	84	150	33	9
Haricot and navy beans, dried, boiled (Canada)	30	43 ± 5	Type 2, 7	Bread, 3 h	81	150	30	9
Haricot and navy beans, boiled (Canada)	31 ± 6	44	Healthy, 6	Glucose, 2 h	3	150	30	9
Haricot and navy beans (King Grains, Canada)	39	56 ± 16	Healthy, 6	Bread, 1 h	60	150	30	12
Haricot and navy beans, pressure cooked (15 psi) 25 min (King Grains, Canada)	59	84 ± 10	Type 1, 6	Bread, 3 h	84	150	33	19
Mean of 5 studies	38 ± 6	54 ± 8	—	—	—	150	31	12
457 Kidney beans								
Kidney/white bean (*Phaseolus vulgaris Linn*), soaked, boiled 17 min (Philippines)	13	19 ± 5	Healthy, 11	Bread, 1 h	83	150	25	3
Kidney beans (*Phaseolus vulgaris*) (India)	19	27	Healthy, 6	Glucose, 2 h	54	150	25	5
Kidney beans (USA)[8]	23	33	Type 2, 8	Glucose, 3 h	4	150	25	6
Kidney beans, dried, boiled (France)	23 ± 1	33	Type 2, 3	Glucose, 3 h	9	150	25	6
Kidney beans (*Phaseolus vulgaris Linn*), red, soaked 20 min, boiled 70 min (Sweden)	25	36 ± 6	Healthy, 10	Bread, 1.5 h	19	150	25	6
Kidney beans (Canada)	29 ± 8	41	Healthy, 6	Glucose, 2 h	3	150	25	7
Kidney beans, dried, boiled (Canada)	42	60 ± 6	Type 2, 8	Bread, 3 h	81	150	25	10
Kidney beans (Canada)	46	66 ± 7	Type 2, 7	Bread, 3 h	30	150	25	11
Mean of 8 studies	28 ± 4	39 ± 6				150	25	7
458 Kidney beans (*Phaseolus vulgaris Linn*), autoclaved	34	49 ± 5	Healthy, 10	Bread, 1.5 h	19	150	25	8
459 Kidney beans, canned (Lancia-Bravo Foods Ltd, Canada)	52	74 ± 8	Type 2, 11	Bread, 3 h	81	150	17	9
460 Kidney beans, dried, soaked 12 h, stored moist 24 h, steamed 1 h (India)[11]	70 ± 11	100	Healthy, 12–15	Glucose, 3 h[22]	65	150	25	17
461 Black bean (*Phaseolus vulgaris Linn*), soaked overnight, cooked 45 min (Philippines)	20	28 ± 4	Healthy, 11	Bread, 1 h	83	150	25	5
462 Lentils, type NS								
Lentils, type NS (USA)	28	40	Type 2, 8	Glucose, 3 h	4	—	—	—
Lentils, type NS (Canada)	29 ± 3	41	Healthy, 7	Glucose, 2 h	3	—	—	—
Mean of 2 studies	29 ± 1	41 ± 1	—	—	—	150	18	5
463 Lentils, green								
Lentils, green, dried, boiled (Canada)	22	31 ± 5	Type 2, 11	Bread, 3 h	81	150	18	4
Lentils, green, dried, boiled (France)	30 ± 15	43	Type 2, 3	Glucose, 3 h	9	150	18	6
Lentils, green, dried, boiled (Australia)	37 ± 3	53	Healthy, 7	Glucose, 2 h	85	150	14	5
Mean of 3 studies	30 ± 4	42 ± 6	—	—	—	150	17	5
464 Lentils, green, canned in brine (Lancia-Bravo Foods Ltd, Canada)	52	74 ± 5	Type 2, 11	Bread, 3 h	81	150	17	9

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
465 Lentils, red								
Lentils, red, dried, boiled (Canada)	18	25	Healthy, 3	Bread, 1 h	86	150	18	3
Lentils, red, dried, boiled (Canada)	21	30 ± 4	Type 2, 14	Bread, 3 h	22	150	18	4
Lentils, red, dried, boiled (Canada)	31	44 ± 7	Type 2, 7	Bread, 3 h	30	150	18	6
Lentils, red, dried, boiled (Canada)	32	45 ± 9	Type 1, 11	Bread, 3 h	22	150	18	6
Mean of 4 studies	26 ± 4	36 ± 5	—	—	—	150	18	5
466 Lima beans, baby, frozen, reheated in microwave oven (York, Canada Packers, Toronto, Canada)	32	46 ± 13	Type 1 and 2, 5	Bread, 3 h	1	150	30	10
467 Marrowfat peas								
Marrowfat peas, dried, boiled (USA)	31	44	Type 2, number NS	Glucose, time NS	4	—	—	—
Marrowfat peas, dried, boiled (Canada)	47 ± 3	68	Healthy, 6	Glucose, 2 h	3	—	—	—
Mean of 2 studies	39 ± 8	56 ± 12	—	—	—	150	19	7
468 Mung beans								
Mung bean (*Phaseolus areus Roxb.*), soaked, boiled 20 min (Philippines)	31	44 ± 6	Healthy, 11	Bread, 1 h	83	150	17	5
Mung bean, fried (Australia)	53 ± 8	76 ± 11	Healthy, 10	Bread, 2 h	UO[4]	—	—	—
Mung bean, germinated (Australia)	25 ± 4	36 ± 5	Healthy, 10	Bread, 2 h	UO[4]	150	17	4
Mung bean, pressure cooked (Australia)	42 ± 5	60 ± 7	Healthy, 10	Bread, 2 h	UO[4]	150	17	7
469 Peas, dried, boiled (Australia)	22	32	Type 2, number NS	Glucose, time NS	85	150	9	2
470 Pigeon Pea (*Cajanus cajan Linn Huth.*), soaked, boiled 45 min (Philippines)	22	31 ± 4	Healthy, 11	Bread, 1 h	83	150	20	4
471 Pinto beans								
Pinto beans, dried, boiled (Canada)	39	55 ± 6	Type 2, 9	Bread, 3 h	81	150	26	10
Pinto beans, canned in brine (Lancia-Bravo Foods Ltd, Canada)	45	64 ± 6	Type 2, 9	Bread, 3 h	81	150	22	10
472 Romano beans (Canada)	46	65 ± 7	Type 2, 6	Bread, 3 h	30	150	18	8
473 Soya beans								
Soya beans, dried, boiled (Canada)	15 ± 5	21	Healthy, 7	Glucose, 2 h	3	150	6	1
Soya beans, dried, boiled (Australia)	20 ± 3	29	Healthy, 7	Glucose, 2 h	85	150	6	1
Mean of 2 studies	18 ± 3	25 ± 4				150	6	1
Soya beans, canned (Canada)	14 ± 2	20	Healthy, 7	Glucose, 2 h	3	150	6	1
474 Split peas, yellow, boiled 20 min (Nupack, Mississauga, Canada)	32	45 ± 4	Type 1 and 2, 8	Bread, 3 h	1	150	19	6
MEAL-REPLACEMENT PRODUCTS								
475 Hazelnut and apricot bar (Dietworks, South Yarra, Australia)	42 ± 7	60 ± 10	Healthy, 10	Bread, 2 h	UO[4]	50	22	9
476 L.E.A.N products (Usana Inc, Salt Lake City, UT, US)								
L.E.A.N Fibergy bar, harvest oat	45 ± 4	64	Healthy, 10	Glucose, 2 h	UO[4]	50	29	13
Nutrimeal, drink powder, dutch chocolate	26 ± 3	37	Healthy, 10	Glucose, 2 h	UO[4]	250	13	3
L.E.A.N (Life long) Nutribar, peanut crunch	30 ± 4	43	Healthy, 10	Glucose, 2 h	UO[4]	40	19	6
L.E.A.N (Life long) Nutribar, chocolate crunch	32 ± 4	46	Healthy, 10	Glucose, 2 h	UO[4]	40	19	6
Mean of 2 Nutribars	31 ± 1	45 ± 2	—	—	—	40	19	6
Worldwide Sport Nutrition reduced-carbohydrate products (Worldwide Sport Nutritional Supplements Inc, Largo, FL, US)								
477 Designer chocolate, sugar-free[6]	14 ± 3	20	Healthy, 10	Glucose, 2 h	UO[4]	35	22	3
478 Burn-it bars								
Chocolate deluxe[6]	29 ± 3	41	Healthy, 10	Glucose, 2 h	UO[4]	50	8	2
Peanut butter[6]	23 ± 3	33	Healthy, 10	Glucose, 2 h	UO[4]	50	6	1
479 Pure-protein bars								
Chewy choc-chip[6]	30 ± 4	43	Healthy, 10	Glucose, 2 h	UO[4]	80	14	4
Chocolate deluxe[6]	38 ± 4	54	Healthy, 10	Glucose, 2 h	UO[4]	80	13	5
Peanut butter[6]	22 ± 4	31	Healthy, 10	Glucose, 2 h	UO[4]	80	9	2
Strawberry shortcake[6]	43 ± 4	61	Healthy, 10	Glucose, 2 h	UO[4]	80	13	6
White chocolate mousse[6]	40 ± 4	57	Healthy, 10	Glucose, 2 h	UO[4]	80	15	6

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
480 Pure-protein cookies								
Choc-chip cookie dough[6]	25 ± 3	36	Healthy, 10	Glucose, 2 h	UO[4]	55	11	3
Coconut[6]	42 ± 5	60	Healthy, 10	Glucose, 2 h	UO[4]	55	9	4
Peanut butter[6]	37 ± 7	53	Healthy, 10	Glucose, 2 h	UO[4]	55	9	3
481 Ultra pure-protein shakes								
Cappuccino[6]	47 ± 6	67	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	1	1
Frosty chocolate[6]	37 ± 6	53	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	3	1
Strawberry shortcake[6]	42 ± 4	60	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	1	1
Vanilla ice cream[6]	32 ± 5	46	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	3	1
MIXED MEALS AND CONVENIENCE FOODS								
482 Chicken nuggets, frozen, reheated in microwave oven 5 min (Savings, Grocery Holdings, Tooronga, Australia)	46 ± 4	66	Healthy, 10	Glucose, 2 h	UO[4]	100	16	7
483 Fish fingers (Canada)	38 ± 6	54	Healthy, 5	Glucose, 2 h	3	100	19	7
484 Greek lentil stew with a bread roll, homemade (Australia)	40 ± 5	57	Healthy, 8	Glucose, 2 h	87	360	37	15
485 Kugel (Polish dish containing egg noodles, sugar, cheese, and raisins) (Israel)	65 ± 6	93	Type 2, 7; healthy, 7	Glucose, 3 h[14]	88	150	48	31
486 Lean Cuisine, French style chicken with rice, reheated (Nestlé, Australia)[6]	36 ± 6	51	Healthy, 8	Glucose, 2 h	UO[4]	400	68	24
487 Pies, beef, party size (Farmland Grocery Holdings, Australia)	45 ± 6	64	Healthy, 9	Glucose, 2 h	UO[4]	100	27	12
488 Pizza								
Pizza, cheese (Pillsbury Canada Ltd, Toronto, Canada)	60	86 ± 5	Type 1 and 2, 12	White bread, 3 h	1	100	27	16
Pizza, plain baked dough, served with parmesan cheese and tomato sauce (Italy)	80	114 ± 14	Type 2, 17	White bread, 3 h	31	100	27	22
Pizza, Super Supreme, pan (11.4% fat) (Pizza Hut, Sydney, Australia)	36 ± 6	51	Healthy, 10	Glucose, 2 h	UO[4]	100	24	9
Pizza, Super Supreme, thin and crispy (13.2% fat) (Pizza Hut, Australia)	30 ± 4	43	Healthy, 10	Glucose, 2 h	UO[4]	100	22	7
Pizza, Vegetarian Supreme, thin and crispy (7.8% fat) (Pizza Hut, Australia)[6]	49 ± 6	70	Healthy, 10	Glucose, 2 h	UO[4]	100	25	12
489 Sausages, NS (Canada)	28 ± 6	40	Healthy, 5	Glucose, 2 h	3	100	3	1
490 Sirloin chop with mixed vegetables and mashed potato, homemade (Australia)	66 ± 12	94	Healthy, 8	Glucose, 2 h	87	360	53	35
491 Spaghetti bolognaise, homemade (Australia)	52 ± 9	74	Healthy, 8	Glucose, 2 h	87	360	48	25
492 Stir-fried vegetables with chicken and boiled white rice, homemade (Australia)	73 ± 17	104	Healthy, 8	Glucose, 2 h	87	360	75	55
493 Sushi								
Sushi, salmon (I Love Sushi, Sydney, Australia)[6]	48 ± 8	69	Healthy, 10	Glucose, 2 h	UO[4]	100	36	17
Sushi, roasted sea algae, vinegar and rice (Japan)	55	79	Healthy, 9	Rice, 2 h[26]	89	100	37	20
Mean of 2 studies	52 ± 4	74 ± 5	—	—	—	100	37	19
494 White boiled rice, grilled beefburger, cheese, and butter (France)	27	38	Type 2, 16	Glucose, 3 h[14]	53	440	50	14
White boiled rice, grilled beefburger, cheese, and butter (France)	22	32	Type 2, 14	Glucose, 3 h[14]	53	440	50	11
Mean of 2 groups of subjects	25 ± 2	35 ± 3	—	—	—	440	50	13
White bread with toppings								
495 White-wheat-flour bread, butter, cheese, regular cow milk, and fresh cucumber (Sweden)[6]	55	79 ± 10	Healthy, 10	Bread, 2 h	72	200	68	38
496 White-wheat-flour bread, butter, yogurt, and pickled cucumber (Sweden)[6]	39	55 ± 7	Healthy, 10	Bread, 2 h	72	200	28	11
497 White bread with butter (Canada)	59	84 ± 10	Type 2, 6	Bread, 3 h	84	100	48	29

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
498 White bread with skim milk cheese (Canada)	55	79 ± 10	Type 2, 6	Bread, 3 h	84	100	47	26
499 White bread with butter and skim milk cheese (Canada)	62	89 ± 9	Type 2, 5	Bread, 3 h	84	100	38	23
500 White and whole-meal wheat bread with peanut butter (Canada)	51	73 ± 6	Type 1, 6	Bread, 3 h	84	100	44	23
White and whole-meal wheat bread with peanut butter (Canada)	67	95 ± 9	Type 1, 6	Bread, 3 h	84	100	44	30
Mean of 2 studies	59 ± 8	84 ± 11	—	—	—	100	44	26
NUTRITIONAL-SUPPORT PRODUCTS								
501 Choice$_{dm}$, vanilla (Mead Johnson Nutritionals, Evansville, IN, US)	23 ± 4	33	Healthy, 7–10	Bread, 2 h	8	237 mL	24	6
502 Enercal Plus, made from powder (Wyeth-Ayerst International Inc, Madison, NJ, US)	61 ± 13	87	Healthy, 12	Glucose, 5 h[27]	90	237 mL	40	19
503 Ensure (Abbott Australasia, Kurnell, Australia)	50 ± 8	71	Healthy, 7–10	Bread, 2 h	8	237 mL	40	19
504 Ensure, vanilla (Abbott Australasia)	48 ± 3	69	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	34	16
505 Ensure bar, chocolate fudge brownie (Abbott Australasia)	43 ± 3	61	Healthy, 10	Glucose, 2 h	UO[4]	38	20	8
506 Ensure Plus, vanilla (Abbott Australasia)	40 ± 4	57	Healthy, 10	Glucose, 2 h	UO[4]	237 mL	47	19
507 Ensure Pudding, old-fashioned vanilla (Abbott Laboratories Inc, Ashland, OH, USA)	36 ± 4	51	Healthy, 10	Glucose, 2 h	UO[4]	113	26	9
508 Glucerna, vanilla (Abbott Laboratories Inc, USA)[6]	31 ± 2	44	Healthy, 10	Glucose, 2 h	UO[4]	237 mL	23	7
509 Jevity (Abbott Australasia)	48 ± 3	69	Healthy, 10	Glucose, 2 h	UO[4]	237 mL	36	17
510 Resource Diabetic, French vanilla (Novartis Nutrition Corp, Young America, MN, USA)[6]	34 ± 3	49	Healthy, 10	Glucose, 2 h	UO[4]	237 mL	23	8
511 Resource Diabetic, Swiss chocolate (Novartis, Auckland, New Zealand)	16 ± 4	23	Healthy, 11	Glucose, 2 h	25	237 mL	41	19
512 Resource thickened orange juice, honey consistency (Novartis, New Zealand)	47 ± 9	67	Healthy, 11	Glucose, 2 h	25	237 mL	39	21
513 Resource thickened orange juice, nectar consistency (Novartis, New Zealand)	54 ± 7	77	Healthy, 11	Glucose, 2 h	25	237 mL	36	14
514 Resource fruit beverage, peach flavor (Novartis, New Zealand)	40 ± 8	57	Healthy, 11	Glucose, 2 h	25	237 mL	41	13
515 Sustagen, Dutch Chocolate (Mead Johnson, Bristol Myers Squibb, Rydalmere, Australia)	31 ± 4	44 ± 6	Healthy, 10	Bread, 2 h	UO[4]	250 mL	41	13
516 Sustagen Hospital with extra fiber, drink made from powdered mix (Mead Johnson, Australia)	33 ± 4	47 ± 6	Healthy, 10	Bread, 2 h	UO[4]	250 mL	44	15
517 Sustagen Instant Pudding, vanilla, made from powdered mix (Mead Johnson, Australia)	27 ± 3	38 ± 4	Healthy, 10	Bread, 2 h	UO[4]	250	47	13
518 Ultracal with fiber (Mead Johnson, USA)	40	55 ± 16	Healthy, 8	Bread, 2 h	UO[4]	237 mL	29	12
PASTA AND NOODLES								
519 Capellini (Primo Foods Ltd, Toronto, Canada)	45	64 ± 8	Type 1 and 2, 8	Bread, 3 h	1	180	45	20
520 Corn pasta, gluten-free (Orgran Natural Foods, Carrum Downs, Australia)	78 ± 10	111	Healthy, 10	Glucose, 2 h	UO[4]	180	42	32
521 Fettucine, egg								
Fettucine, egg	32 ± 4	46	Healthy, 7	Glucose, 2 h	91	180	46	15
Fettucine, egg (Mother Earth Fine Foods, Rowville, Australia)	47 ± 6	67	Healthy, 14	Glucose, 2 h	25	180	46	22
Mean of 2 studies	40 ± 8	57 ± 11	—	—	—	180	46	18
522 Gluten-free pasta, maize starch, boiled 8 min (UK)	54	77 ± 18	Healthy, 8	Bread, 2 h	18	180	42	22
523 Gnocchi, NS (Latina, Pillsbury Australia Ltd, Mt Waverley, Australia)	68 ± 9	97	Healthy, 8	Bread, 2 h	13	180	48	33

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
524 Instant noodles								
Instant two-minute noodles, Maggi (Nestlé, Australia)	46 ± 5	66	Healthy, 8	Bread, 2 h	13	—	—	—
Instant two-minute noodles, Maggi (Nestlé, New Zealand)	48 ± 8	69	Healthy, 15	Glucose, 2 h	25	—	—	—
Instant noodles (Mr Noodle, Vancouver, Canada)	47	67 ± 8	Type 1 and 2, 10	Bread, 3 h	1	—	—	—
Mean of 3 studies	47 ± 1	67 ± 2	—	—	—	180	40	19
525 Linguine								
Thick, durum wheat, white, fresh (Sweden)	43	62 ± 11	Healthy, 10	Bread, 1.5 h	19	180	48	21
Thick, fresh, durum wheat flour, 0.6% (by wt) monoglycerides, boiled 8 min (Sweden)	48	68 ± 13	Healthy, 9	Bread, 2 h	92	180	48	23
Mean of 2 studies	46 ± 3	65 ± 3	—	—	—	180	48	22
Thin, durum wheat (Sweden)	49	70 ± 9	Healthy, 10	Bread, 1.5 h	19	180	48	23
Thin, fresh, durum wheat flour, 0.6% (by wt) monoglycerides, boiled 3 min (Sweden)	61	87 ± 13	Healthy, 9	Bread, 2 h	92	180	48	29
Thin, fresh, durum wheat with 39% (by wt) egg, (Sweden)	45	64 ± 11	Healthy, 10	Bread, 1.5 h	19	180	41	18
Thin, fresh, with 0.6% (by wt) monoglycerides and 30% (by wt) egg, boiled 3 min (Sweden)	53	76 ± 13	Healthy, 9	Bread, 2 h	92	180	41	22
Mean of 4 studies	52 ± 3	74 ± 5				180	45	23
526 Mung bean noodles								
Lungkow bean-thread noodles (National Cereals, Oils and Foodstuffs, Qingdao and Guangdong, China)	26	37 ± 6	Type 1 and 2, 9	Bread, 3 h	1	180	45	12
Mung bean noodles (Longkou bean thread), dried, boiled (Yantai cereals, China)	39 ± 9	56 ± 13	Healthy, 12	Glucose, 2 h	73	180	45	18
Mean of 2 studies	33 ± 7	47 ± 10	—	—	—	—	—	—
527 Macaroni								
Macaroni, plain, boiled 5 min (Lancia-Bravo Foods Ltd, Canada)	45	64 ± 8	Type 1 and 2, 13	Bread, 3 h	93	180	49	22
Macaroni, plain, boiled (Turkey)	48	69	Type 2, 52; type 1, 31	Glucose, 2 h	32	180	49	23
Mean of 2 studies	47 ± 2	67 ± 3	—	—	—	180	48	23
Macaroni and cheese, boxed (Kraft General Foods Canada Inc, Don Mills, Canada)	64	92 ± 5	Type 1 and 2, 9	Bread, 3 h	1	180	51	32
528 Ravioli, durum wheat flour, meat-filled, boiled (Australia)	39 ± 1	56	Healthy, 6	Glucose, 2 h	91	180	38	15
529 Rice noodles and pasta								
Rice noodles, dried, boiled (Thai World, Bangkok, Thailand)	61 ± 6	87 ± 9	Healthy, 12	Glucose, 2 h	73	180	39	23
Rice noodles, freshly made, boiled (Australia)	40 ± 4	57 ± 6	Healthy, 12	Glucose, 2 h	73	180	39	15
Rice pasta, brown, boiled 16 min (Rice Grower's Co-op, Australia)	92 ± 8	131	Healthy, 6	Bread, 2 h	48	180	38	35
Rice and maize pasta, gluten-free, Ris'O'Mais (Orgran Foods, Australia)	76 ± 6	109	Healthy, 9	Glucose, 2 h	UO[4]	180	49	37
Rice vermicelli, Kongmoon (National Cereals, Oils and Foodstuffs, China)	58	83 ± 5	Type 1 and 2, 9	Bread, 3 h	1	180	39	22
Spaghetti								
530 Spaghetti, gluten-free, rice and split pea, canned in tomato sauce (Orgran Foods, Australia)	68 ± 9	97	Healthy, 10	Glucose, 2 h	UO[4]	220	27	19
531 Spaghetti, protein enriched, boiled 7 min (Catelli Plus; Catelli Ltd, Montreal, Canada)	27	38 ± 4	Type 1 and 2, 13	Bread, 3 h	93	180	52	14
532 Spaghetti, white, boiled 5 min								
Boiled 5 min (Lancia-Bravo Foods Ltd, Canada)	32	45 ± 6	Type 1 and 2, 13	Bread, 3 h	93	180	48	15

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Boiled 5 min (Canada)	34	49 ± 7	Type 2, 11	Bread, 3 h	22	180	48	16
Boiled 5 min (Canada)	40	57 ± 8	Type 1, 6	Bread, 3 h	93	180	48	19
Boiled 5 min (Middle East)	44	63 ± 9	Type 1, 7	Bread, 3 h	22	180	48	21
Mean of 4 studies	38 ± 3	54 ± 4	—	—	—	180	48	18
533 Spaghetti, white or type NS, boiled 10–15 min								
White, durum wheat, boiled 10 min in salty water (Barilla, Parma, Italy)[12]	58	83 ± 16	Healthy, 8	Bread, 2.8 h	37	180	48	28
White, durum wheat flour, boiled 12 min (Starhushålls; Kungsörnen AB, Järna, Sweden)	47	67 ± 10	Healthy, 10	Bread, 2 h	19	180	48	23
White, durum wheat flour, 0.6% (by wt) monoglycerides, boiled 12 min (Sweden)	53	76 ± 12	Healthy, 9	Bread, 2 h	92	180	48	25
Boiled 15 min (Lancia-Bravo Foods Ltd, Canada)	32	46 ± 5	Type 1 and 2, 13	Bread, 3 h	93	180	48	15
Boiled 15 min (Lancia-Bravo Foods Ltd, Canada)	36	52 ± 7	Type 2, 7	Bread, 3 h	22	180	48	17
Boiled 15 min (Canada)	41	59 ± 11	Type 1, 4	Bread, 3 h	22	180	48	20
White, boiled 15 min in salted water (Unico, Concord, Canada)	44 ± 3	63	Healthy, 10	Glucose, 2 h	UO[4]	180	48	21
Mean of 7 studies	44 ± 3	64 ± 5	—	—	—	180	48	21
534 Spaghetti, white or type NS, boiled 20 min								
White, durum wheat, boiled 20 min (Australia)	58 ± 7	83	Healthy, 6	Bread, 2 h	48	180	44	26
Durum wheat, boiled 20 min (USA)	64 ± 15	91	Type 2, 3	Glucose, 3 h	9	180	43	27
Mean of 2 studies	61 ± 3	87 ± 4	—	—	—	180	44	27
535 Spaghetti, white, boiled								
White (Denmark)	33	47 ± 9	Type 2, 6	Bread, 3 h	94	180	48	16
White, durum wheat (Catelli Ltd, Montreal Canada)	34	48 ± 5	Type 2, 9	Bread, 3 h	38	180	48	16
White (Australia)	38	54 ± 13	Type 2, 10	Bread, 3 h	41	180	44	17
White (Canada)	42	60 ± 9	Type 2, 6	Bread, 3 h	30	180	48	20
White (Canada)	48	68	Diabetic, number NS	Glucose, time NS	20	180	48	23
White (Vetta, Greens Foods, Glendenning, Australia)	49 ± 7	70 ± 10	Healthy, 12	Bread, 2 h	UO[4]	180	44	22
White (Canada)	50 ± 8	71	Healthy, 6	Glucose, 2 h	3	180	48	24
Mean of 7 studies	42 ± 3	60 ± 4	—	—	—	180	47	20
536 Spaghetti, white, durum wheat semolina (Panzani, Marseilles, France)								
Boiled in 0.7% salted water for 11 min	59 ± 15	84	Healthy, 12	Glucose, 3 h	95	180	48	28
Boiled in 0.7% salted water for 16.5 min	65 ± 15	93	Healthy, 12	Glucose, 3 h	95	180	48	31
Boiled in 0.7% salted water for 22 min	46 ± 10	66	Healthy, 12	Glucose, 3 h	95	180	48	22
Mean of 3 cooking times	57 ± 6	81 ± 8	—	—	—	180	48	27
537 Spaghetti, whole meal, boiled								
Whole meal (USA)	32	46 ± 7	Type 2, 10	Bread, 3 h	41	180	44	14
Whole meal (Canada)	42 ± 4	60	Healthy, 6	Glucose, 2 h	3	180	40	17
Mean of 2 studies	37 ± 5	53 ± 7	—	—	—	180	42	16
538 Spirali, durum wheat, white, boiled to al denté texture (Australia)	43 ± 10	61	Healthy, 8	Glucose, 2 h	91	180	44	19
539 Split pea and soya pasta shells, gluten-free (Orgran Foods, Australia)	29 ± 6	41	Healthy, 9	Glucose, 2 h	UO[4]	180	31	9
540 Star Pastina, white, boiled 5 min (Lancia-Bravo Foods Ltd, Canada)	38	54 ± 6	Type 1 and 2, 13	Bread, 3 h	93	180	48	18
541 Tortellini, cheese (Stouffer; Nestlé, Don Mills, Canada)	50	71 ± 5	Type 1 and 2, 8	Bread, 3 h	1	180	21	10
542 Udon noodles, plain, reheated 5 min (Fantastic, Windsor Gardens, Australia)[6]	62 ± 8	43	Healthy, 10	Glucose, 2 h	UO[4]	180	48	30
543 Vermicelli, white, boiled (Australia)	35 ± 7	50	Healthy, 7	Glucose, 2 h	91	180	44	16

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
SNACK FOODS AND CONFECTIONERY								
544 Burger Rings, barbeque-flavored (Smith's Snack Food Co, Chatswood, Australia)	90 ± 16	129	Healthy, 10	Glucose, 2 h	UO[4]	50	31	28
545 Chocolate, milk, plain								
Chocolate, milk, plain with sucrose (Belgium)[6]	34 ± 5	49	Healthy, 8	Glucose, 3 h	96	50	22	7
Chocolate, milk (Cadbury's Confectionery, Ringwood, Australia)	49 ± 6	70	Healthy, 8	Bread, 2 h	2	50	30	14
Chocolate, milk (Dove; Mars Confectionery, Ballarat, Australia)	45 ± 8	64	Healthy, 10–12	Bread, 2 h	17	50	30	13
Chocolate, milk (Nestlé, Sydney, Australia)	42 ± 8	60	Healthy, 10	Glucose, 2 h	UO[4]	50	31	13
Mean of 4 studies	43 ± 3	61 ± 4	—	—	—	50	28	12
Chocolate, milk, plain, low-sugar with maltitol (Belgium)[6]	35 ± 16	50	Healthy, 8	Glucose, 3 h	96	50	22	8
546 Chocolate, white (Milky Bar; Nestlé, Australia)	44 ± 6	63	Healthy, 10	Glucose, 2 h	UO[4]	50	29	13
547 Corn chips								
Corn chips, plain, salted (Doritos original; Smith's Snack Food Co, Australia, 1998)	42 ± 4	60 ± 5	Healthy, 10	Bread, 2 h	UO[4]	50	25	11
Corn chips, plain, salted (Doritos original; Smith's Snack Food Co, Australia, 1985)	72	103	Healthy, 6	Glucose, 2 h	47	50	25	18
Nachips (Old El Paso Foods Co, Canada)	74	106 ± 8	Type 1 and 2, 9	Glucose, 2 h	1	50	29	21
Mean of 3 studies	63 ± 10	90 ± 15	—	—	—	50	26	17
548 Fruit bars								
Apricot filled fruit bar (puréed dried apricot filling in whole-meal pastry) (Mother Earth, New Zealand)	50 ± 8	71	Healthy, 10	Glucose, 2 h	25	50	34	17
Heinz Kidz Fruit Fingers, banana (HJ Heinz, Australia)	61 ± 11	87	Healthy, 10	Glucose, 2 h	UO[4]	30	20	12
Real Fruit Bars, strawberry (Uncle Toby's, Wahgunyah, Australia)	90 ± 12	129	Healthy, 10	Glucose, 2 h	UO[4]	30	26	23
Roll-Ups, fruit leather-type snack (Uncle Toby's, Australia)	99 ± 12	142 ± 18	Healthy, 10	Bread, 2 h	UO[4]	30	25	24
549 Fruity Bitz, vitamin- and mineral-enriched dried fruit snacks								
Fruity Bitz, apricot (Blackmores Ltd, Australia)	42 ± 3	61	Healthy, 10	Glucose, 2 h	UO[4]	15	12	5
Fruity Bitz, berry (Blackmores Ltd, Australia)	35 ± 4	50	Healthy, 10	Glucose, 2 h	UO[4]	15	12	4
Fruity Bitz, tropical (Blackmores Ltd, Australia)	41 ± 3	58	Healthy, 10	Glucose, 2 h	UO[4]	15	11	5
Mean of 3 flavors	39 ± 2	56 ± 3	—	—	—	15	12	4
550 Jelly beans								
Jelly beans, assorted colors (Allen's; Nestlé, Australia)	80 ± 8	114	Healthy, 8	Bread, 2 h	2	—	—	—
Jelly beans, assorted colors (Savings, Grocery Holdings, Tooronga, Australia)	76 ± 6	109	Healthy, 12	Bread, 2 h	UO[4]	—	—	—
Mean of 2 studies	78 ± 2	112 ± 3	—	—	—	30	28	22
551 Kudos Whole-Grain Bars, chocolate chip (M & M/Mars, Hackettstown, NJ, USA)	62 ± 8	89	Healthy, 10–12	Bread, 2 h	17	50	32	20
552 Life Savers, peppermint candy (Nestlé, Australia)	70 ± 6	100	Healthy, 8	Bread, 2 h	2	30	30	21
553 M & M's, peanut (Mars Confectionery, Australia)	33 ± 3	47	Healthy, 10–12	Bread, 2 h	17	30	17	6
554 Mars Bar								
Mars Bar (Mars Confectionery, Australia)	62 ± 8	89	Healthy, 10–12	Bread, 2 h	17	60	40	25
Mars Bar (M & M/Mars, USA)	68 ± 12	97	Healthy, 6	Glucose, 2 h	3	60	40	27
Mean of 2 studies	65 ± 3	93 ± 4	—	—	—	60	40	26
555 Muesli bar containing dried fruit (Uncle Toby's, Australia)	61 ± 7	87	Healthy, 7	Bread, 2 h	2	30	21	13

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
556 Nougat, Jijona (La Fama, Spain)	32	46	Healthy, 7	Bread, 2 h	97	30	12	4
557 Nutella, chocolate hazelnut spread (Ferrero Australia, Milson's Point, Australia)	33 ± 4	47	Healthy, 10–12	Bread, 2 h	17	20	12	4
Nuts								
558 Cashew nuts, salted (Coles Supermarkets, Australia)[6]	22 ± 5	31	Healthy, 10	Glucose, 2 h	UO[4]	50	13	3
559 Peanuts								
Peanuts, crushed (South Africa)[6]	7 ± 4	10	Healthy, 6	Glucose, 2 h	29	50	4	0
Peanuts (Canada)[6]	13 ± 6	19	Healthy, 5	Glucose, 2 h	3	50	7	1
Peanuts (Mexico)[6]	23	33 ± 17	Healthy, 21; type 2, 27	Bread, 3 h	98	50	7	2
Mean of 3 studies	14 ± 8	21 ± 12	—	—	—	50	6	1
560 Popcorn								
Popcorn, plain, cooked in microwave oven (Green's Foods, Australia)	55 ± 7	79	Healthy, 8	Bread, 2 h	13	20	11	6
Popcorn, plain, cooked in microwave oven (Uncle Toby's, Australia)	89	127	Healthy, 12	Bread, 2 h	UO[4]	20	11	10
Mean of 2 studies	72 ± 17	103 ± 24	—	—	—	20	11	8
561 Pop Tarts, double chocolate (Kellogg's, Australia)	70 ± 2	100	Healthy, 10	Glucose, 2 h	UO[4]	50	35	24
562 Potato crisps								
Potato crisps, plain, salted (Arnott's, Homebush, Australia)	57	81	Healthy, 6	Glucose, 2 h	47	50	18	10
Potato crisps, plain, salted (Canada)	51 ± 7	73	Healthy, 7	Glucose, 2 h	3	50	24	12
Mean of 2 studies	54 ± 3	77 ± 4				50	21	11
563 Pretzels, oven-baked, traditional wheat flavor (Parker's, Smith's Snack Food Co, Australia)	83 ± 9	119	Healthy, 8	Bread, 2 h	13	30	20	16
564 Skittles (Mars Confectionery, Australia)	70 ± 5	100	Healthy, 10–12	Bread, 2 h	17	50	45	32
565 Snack bars								
Snack bar, apple cinnamon (Con Agra Inc, USA)	40 ± 8	57 ± 11	Healthy, 10	Bread, 2 h	UO[4]	50	29	12
Snack bar, peanut butter and choc-chip (Con Agra Inc, USA)	37 ± 6	53 ± 9	Healthy, 10	Bread, 2 h	UO[4]	50	27	10
566 Snickers Bar								
Snickers Bar (Mars Confectionery, Australia)	41 ± 5	59	Healthy, 10–12	Bread, 2 h	17	60	36	15
Snickers Bar (M & M/Mars, USA)	68	97	Healthy, 12	Bread, 2 h	99	60	34	23
Mean of 2 studies	55 ± 14	78 ± 19				60	35	19
567 Twisties, cheese-flavored, extruded snack, rice and corn (Smith's Snackfood Co, Australia)	74 ± 5	106	Healthy, 10	Glucose, 2 h	UO[4]	50	29	22
568 Twix Cookie Bar, caramel (M & M/Mars, USA)	44 ± 6	63	Healthy, 10–12	Bread, 2 h	17	60	39	17
SPORTS BARS								
569 Power Bar (Powerfood Inc, Berkeley, CA, USA)								
Power Bar, chocolate	58 ± 5	83 ± 7	Healthy, 10	Bread, 2 h	17	—	—	—
Power Bar, chocolate	53	75	Healthy, 12	Bread, 2 h	99	—	—	—
Mean of 2 studies	56 ± 3	79 ± 4				65	42	24
570 Ironman PR bar, chocolate (PR Nutrition, San Diego, CA, USA)	39	55	Healthy, 12	Bread, 2 h	99	65	26	10
SOUPS								
571 Black bean (Wil-Pack Foods, San Pedro, CA, USA)	64	92 ± 9	Type 1 and 2, 6	Bread, 3 h	1	250 mL	27	17
572 Green pea, canned (Campbell Soup Co Ltd, Toronto, Canada)	66	94 ± 7	Type 1 and 2, 10	Bread, 3 h	1	250 mL	41	27
573 Lentil, canned (Unico, Canada)	44	63 ± 6	Type 1 and 2, 9	Bread, 3 h	1	250 mL	21	9

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
574 Minestrone, Traditional, Country Ladle (Campbell's Soups, Homebush, Australia)[6]	39 ± 3	56	Healthy, 10	Glucose, 2 h	UO[4]	250 mL	18	7
575 Noodle soup (traditional Turkish soup with stock and noodles)	1	1	Healthy, 31; type 2, 52	Glucose, 2 h	32	250 mL	9	0
576 Split pea (Wil-Pak Foods, USA)	60	86 ± 12	Type 1 and 2, 5	Bread, 3 h	1	250 mL	27	16
577 Tarhana soup (traditional Turkish soup with wheat flour, yogurt, tomato, and peppers)	20	29	Healthy, 31; type 2, 52	Glucose, 2 h	32			
578 Tomato soup (Canada)	38 ± 9	54	Healthy, 5	Glucose, 2 h	3	250 mL	17	6
SUGARS AND SUGAR ALCOHOLS								
579 Blue agave cactus nectar, high-fructose								
Organic agave cactus nectar, light, 90% fructose (Western Commerce Corp, City of Industry, CA, USA)[6]	11 ± 1	16 ± 1	Healthy, 9	Bread, 2 h	UO[4]	10	8	1
Organic agave cactus nectar, light, 97% fructose (Western Commerce Corp, USA)[6]	10 ± 1	14 ± 1	Healthy, 9	Bread, 2 h	UO[4]	10	8	1
580 Fructose								
25-g portion (Sweeten Less, Maximum Nutrition Inc, Toronto, Canada)[6]	11	16 ± 5	Healthy, 8	Bread, 2 h	100	—	—	—
50-g portion (Sweeten Less, Maximum Nutrition Inc, Canada)	12	16 ± 6	Healthy, 8	Bread, 2 h	100	—	—	—
50-g portion	20 ± 5	29	Healthy, 5	Glucose, 2 h	3	—	—	—
50-g portion	21	30	Type 2, number NS	Glucose, time NS	23	—	—	—
50-g portion (Sigma Chemical Company, St Louis, MO, USA)	24	34	Type 2, 7	Glucose, 5 h[23]	6	—	—	—
25-g portion fed with oats[28]	25	35 ± 12	Type 2, 6	Bread, 3 h	49	—	—	—
Mean of 6 studies	19 ± 2	27 ± 4	—	—	—	10	10	2
581 Glucose								
50-g portion (dextrose)	85	121	Type 2, 20	Bread, 3 h	52	—	—	—
25-g portion, fed with oats[28]	92	131 ± 13	Type 2, 6	Bread, 3 h	49	—	—	—
50-g portion	93	132	Type 2, 5; IGT, 6[10]	Bread, 3 h	28	—	—	—
50-g portion (dextrose)	96	137	Healthy, 16	Bread, 3 h	51	—	—	—
50-g portion	96	137	Diabetic, number NS	Glucose, time NS	20	—	—	—
50-g portion (Bio-Health; Dawson Traders Ltd, Toronto, Canada)	96	137 ± 22	Healthy, 8	Bread, 2 h	100	—	—	—
50-g portion	100	143	Healthy, 35	Glucose, 2 h	3	—	—	—
50-g portion (Glucodin glucose tablets; Boots, North Ryde, Australia)	102 ± 9	146	Healthy, 7	Bread, 2 h	2	—	—	—
25-g portion (Bio-Health, Canada)[6]	103	147 ± 18	Healthy, 8	Bread, 2 h	100	—	—	—
50-g portion (dextrose)	111	158	Healthy, 6	Wheat, 2 h	54	—	—	—
100-g portion (Bio-Health, Canada)[12]	114	163 ± 28	Healthy, 8	Bread, 2 h	100	—	—	—
Mean of 11 studies	99 ± 3	141 ± 4	—	—	—	10	10	10
Glucose consumed with American ginseng (*Panax quinquefolius L.*)								
582 25 g glucose (Glucodex solution; Rougier Inc, Chambly, Quebec) with 3 g dried ginseng[8]	78	112	Type 2, 9	Glucose, 2 h	101	10	10	8
583 Glucodex								
25 g glucose (Glucodex) 40 min after 3 g dried ginseng[8]	80	115	Type 2, 9	Glucose, 2 h	101	—	—	—
25 g glucose (Glucodex) 40 min before 3 g dried ginseng[8]	76	109	Healthy, 10	Glucose, 1.5 h	101	—	—	—
Mean of 2 groups of subjects	78 ± 2	112 ± 3	—	—	—	10	10	8
584 Glucose consumed with gum fiber								
46 g Glucose + 15 g apple and orange fiber extract (FITA, Chatswood, Australia) (total carbohydrate content of drink = 50 g)	79 ± 3	113	Healthy, 10	Glucose, 2 h	UO[4]	10	8	6
50 g Glucose + 14.5 g guar gum	62	88	Healthy, 10	Glucose, 2 h	102	10	10	6
50 g Glucose + 14.5 g oat gum (78% oat β-glucan)	57	82	Healthy, 9	Glucose, 2 h	102	10	10	6

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
100 g Glucose + 20 g acacia gum[7]	85	121	Healthy, 12	Glucose, 2.5 h[12]	103	10	10	9
585 Glucose consumed with a mixed meal								
30 g glucose with 150 g grilled beefburger, 30 g cheese, and 10 g butter (total meal contained 50 g carbohydrate) (France)	55	79	Type 2, 16 (sulfonylureas not taken)	Glucose, 3 h[14]	53	—	—	—
30 g glucose with 150 g grilled beefburger, 30 g cheese, and 10 g butter (total meal contained 50 g carbohydrate) (France)	57	81	Type 2, 14 (sulfonylureas taken)	Glucose, 3 h[14]	53	—	—	—
Mean of 2 groups of subjects	56 ± 1	80 ± 1	—	—	—	250	35	20
586 Honey								
Locust honey (Romania)[6]	32	46	Type 2, 32	Glucose, 2 h	104	25	21	7
Yellow box, 46% fructose (Australia)[6]	35 ± 4	50	Healthy, 10	Glucose, 2 h	UO[4]	25	18	6
Stringy bark, 52% fructose (Australia)[6]	44 ± 4	63	Healthy, 9	Glucose, 2 h	UO[4]	25	21	9
Red gum, 35% fructose (Australia)[6]	46 ± 3	66	Healthy, 9	Glucose, 2 h	UO[4]	25	18	8
Iron bark, 34% fructose (Australia)[6]	48 ± 3	69	Healthy, 10	Glucose, 2 h	UO[4]	25	15	7
Yapunya, 42% fructose (Australia)[6]	52 ± 5	74	Healthy, 9	Glucose, 2 h	UO[4]	25	17	9
Pure (Capilano Honey Ltd, Richlands, Australia)	58 ± 6	83	Healthy, 8	Bread, 2 h	UO[4]	25	21	12
Commercial blend, 38% fructose (WA blend; Capilano Honey Ltd, Australia)[6]	62 ± 3	89	Healthy, 9	Glucose, 2 h	UO[4]	25	18	11
Salvation Jane, 32% fructose (Australia)[6]	64 ± 5	91	Healthy, 10	Glucose, 2 h	UO[4]	25	15	10
Commercial blend, 28% fructose (NSW blend; Capilano Honey Ltd, Australia)[6]	72 ± 6	103	Healthy, 9	Glucose, 2 h	UO[4]	25	13	9
Honey, NS (Canada)[6]	87 ± 8	124	Healthy, 6	Glucose, 2 h	3	25	21	18
Mean of 11 types of honey	55 ± 5	78 ± 7				25	18	10
587 Lactose								
50 g lactose (Sigma Chemical Co, USA)	43	61	Type 2, 7	Glucose, 5 h[23]	6	—	—	—
25 g lactose (BDH, Poole, UK)[6]	48	68 ± 8	Healthy, 10	Bread, 2 h	72	—	—	—
25 g lactose[28]	48	69 ± 10	Type 2, 6	Bread, 3 h	49	—	—	—
Mean of 3 studies	46 ± 2	66 ± 3				10	10	5
588 50 g maltose	105 ± 12	150	Healthy, 6	Glucose, 2 h	3	10	10	11
589 Sucrose								
50 g sucrose (Sigma Chemical Co, USA)[8]	58	83	Type 2, 7	Glucose, 5 h[23]	6	—	—	—
50 g sucrose (Redpath Sugars, Toronto, Canada)	58	83 ± 15	Healthy, 8	Bread, 2 h	100			
50 g sucrose	59 ± 10	84	Healthy, 5	Glucose, 2 h	3	—	—	—
50 g sucrose	60	86	Type 2, number NS	Glucose, time NS	23	—	—	—
25 g sucrose (Redpath Sugars, Canada)[6]	60	86 ± 9	Healthy, 8	Bread, 2 h	100	—	—	—
25 g sucrose[6,28]	64	91 ± 18	Type 2, 6	Bread, 3 h	49	—	—	—
50 g sucrose	65 ± 9	93	Healthy, 7	Glucose, 2 h	29	—	—	—
100 g sucrose (Redpath Sugars, Canada)[12]	65	94 ± 14	Healthy, 8	Bread, 2 h	99	—	—	—
30 g sucrose[29]	82	117 ± 22	Type 2, 14	Bread, 2 h	70	—	—	—
25 g sucrose[6]	110 ± 21	157	Healthy, 8	Glucose, 3 h	96	—	—	—
Mean of 10 studies	68 ± 5	97 ± 7	—	—	—	10	10	7
Sugar alcohols and sugar-replacement compounds								
590 Lactitol								
25 g lactitol[30]	−1 ± 7	−1	Healthy, 8	Glucose, 3 h	105	—	—	—
25 g lactitol MC (Danisco Sweeteners, Redhill, Surrey, UK)[30]	3 ± 1	4	Healthy, 10	Glucose, 2 h	UO[4]	—	—	—
Mean of 2 studies	2 ± 3	3 ± 4	—	—	—	10	10	0
591 Litesse								
25 g Litesse II, bulking agent with polydextrose and sorbitol (Danisco Sweeteners, UK)[30]	7 ± 2	5	Healthy, 10	Glucose, 2 h	UO[4]	10	10	1
25 g Litesse III ultra, bulking agent with polydextrose and sorbitol (Danisco Sweeteners, UK)[30]	4 ± 2	6	Healthy, 10	Glucose, 2 h	UO[4]	10	10	0
592 Maltitol-based sweeteners or bulking agents (Cerestar, Vilvoorde, Belgium)[30]								

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
25 g Malbit CR (87% maltitol)	30 ± 12	43	Healthy, 8	Glucose, 3 h	96	10	10	3
25 g Maltidex 100 (>72% maltitol)	44 ± 11	63	Healthy, 8	Glucose, 3 h	96	10	10	4
25 g Malbit CH (99% maltitol)	73 ± 29	104	Healthy, 8	Glucose, 3 h	96	10	10	7
25 g Maltidex 200 (50% maltitol)	89 ± 28	127	Healthy, 8	Glucose, 3 h	96	10	10	9
593 Xylitol (Danisco Sweeteners, UK)[30]								
25 g Xylitol	7 ± 7	10	Healthy, 8	Glucose, 3 h	105	—	—	—
25 g Xylitol C	8 ± 2	12	Healthy, 10	Glucose, 2 h	UO[4]	—	—	
Mean of 2 studies	8 ± 1	11 ± 1	—	—	—	10	10	1
VEGETABLES								
594 Broad beans (Canada)[6]	79 ± 16	113	Healthy, 6	Glucose, 2 h	3	80	11	9
595 Green peas								
Pea, frozen, boiled (Canada)[6]	39	55	Type 2, number NS	Glucose, time NS	20	80	7	3
Pea, frozen, boiled (Canada)[6]	51 ± 6	73	Healthy, 6	Glucose, 2 h	3	80	7	4
Pea, green (*Pisum sativum*) (India)[11]	54 ± 14	77	Healthy, 12–15	Glucose, 3 h[22]	65	80	7	4
Mean of 3 studies	48 ± 5	68 ± 7	—	—	—	80	7	3
596 Pumpkin (South Africa)	75 ± 9	107	Healthy, 6	Glucose, 2 h	29	80	4	3
597 Sweet corn								
Sweet corn, honey and pearl variety (New Zealand)	37 ± 12	53	Healthy, 9	Glucose, 2 h	25	80	16	6
Sweet corn on the cob, boiled 20 min (Australia)	48	69	Healthy, 6	Glucose, 2 h	47	80	16	8
Sweet corn (Canada)	59 ± 11	84	Healthy, 5	Glucose, 2 h	3	80	18	11
Sweet corn, boiled (USA)	60	86	Healthy, 16	Bread, 3 h	51	80	18	11
Sweet corn, boiled (USA)	60	85	Type 2, 5; IGT, 6[10]	Bread, 3 h	28	80	18	11
Sweet corn (South Africa)	62 ± 5	89	Healthy, 7	Glucose, 2 h	29	80	18	11
Mean of 6 studies	54 ± 4	78 ± 6	—	—	—	80	17	9
Sweet corn, whole-kernel, diet-pack, Featherweight, canned, drained, heated (USA)	46	66	Type 2, 20	Bread, 3 h	52	80	14	7
Sweet corn, frozen, heated in microwave (Green Giant; Pillsbury Canada Ltd, Toronto, Canada)	47	67 ± 4	Type 1 and 2, 9	Bread, 3 h	1	80	15	7
Root vegetables								
598 Beetroot (Canada)[6]	64 ± 16	91	Healthy, 5	Glucose, 2 h	3	80	7	5
599 Carrots								
Carrots, raw (Romania)[6,8]	16	23	Type 2, 30	Glucose, 2 h	104	80	8	1
Carrots, peeled, boiled (Australia)[6]	32 ± 5	46	Healthy, 8	Glucose, 2 h	UO[4]	80	5	1
Carrots, peeled, boiled (Sydney, Australia)[6]	49 ± 2	70	Healthy, 7	Glucose, 2 h	85	80	5	2
Carrots, NS (Canada)[6]	92 ± 20	131	Healthy, 5	Glucose, 2 h	3	80	6	5
Mean of 4 studies	47 ± 16	68 ± 23	—	—	—	80	6	3
600 Cassava, boiled, with salt (Kenya, Africa)	46	65 ± 12	Type 2, 14	Bread, 2.5 h	40	100	27	12
601 Parsnips (Canada)[6]	97 ± 19	139	Healthy, 5	Glucose, 2 h	3	80	12	12
Potato								
602 Baked potato								
Ontario, white, baked in skin (Canada)	60	85 ± 4	Type 1 and 2, 16	Bread, 3 h	1	150	30	18
603 Baked, russet Burbank potatoes								
Russet, baked without fat (Canada)	56	80 ± 5	Diabetic, 7	Bread, time NS	106	—	—	—
Russet, baked without fat, 45–60 min (USA)	78	112	Type 2, 20	Bread, 3 h	52	—	—	—
Russet, baked without fat (USA)	94	134	Type 2, 5; IGT, 6[10]	Bread, 3 h	28	—	—	—
Russet, baked without fat (USA)	111	158	Healthy, 16	Bread, 3 h	51	—	—	—
Mean of 4 studies	85 ± 12	121 ± 16	—	—	—	150	30	26
604 Boiled potato								
Desiree, peeled, boiled 35 min (Australia)	101 ± 15	144 ± 22	Healthy, 10	Bread, 2 h	107	150	17	17
Nardine (New Zealand)	70 ± 17	100	Healthy, 8	Glucose, 2 h	25	150	25	18
Ontario, white, peeled, cut into cubes, boiled in salted water 15 min (Canada)	58	83 ± 5	Type 1 and 2, 16	Bread, 3 h	1	150	27	16
Pontiac, peeled, boiled whole for 30 min (Australia)	56	80	Healthy, 6	Glucose, 2 h	47	150	26	14

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Pontiac, peeled, boiled 35 min (Australia)	88 ± 9	125 ± 13	Healthy, 10	Bread, 2 h	107	150	18	16
Prince Edward Island, peeled, cubed, boiled in salted water 15 min (Canada)	63	90 ± 7	Type 1 and 2, 12	Bread, 3 h	1	150	18	11
Sebago, peeled, boiled 35 min (Australia)	87 ± 7	124 ± 10	Healthy, 10	Bread, 2 h	107	150	17	14
605 Boiled or cooked, white or type NS								
Type NS (Kenya, Africa)	24	34 ± 9	Type 2, 14	Bread, 2.5 h	40	150	28	7
White, cooked (Romania)[6]	41	59	Type 2, 30	Glucose, 2 h	104	150	30	12
White, boiled (Canada)	54	77 ± 8	Diabetic NS, 7	Bread, time NS	106	150	27	15
Type NS, boiled (Australia)	56	80 ± 9	Type 2, 6	Bread, 3 h	108	150	19	11
Type NS, boiled in salted water (India)	76	108	Healthy, 9	Bread, 3 h	57	150	34	26
Mean of 5 studies	50 ± 9	72 ± 12	—	—	—	150	28	14
Type NS, boiled in salted water, refrigerated, reheated (India)	23	33	Healthy, 9	Bread, 3 h	57	150	34	8
606 Canned potatoes								
Prince Edward Island, canned, heated in microwave (Avon; Cobi Foods Inc, Port Williams, Canada)	61	87 ± 8	Type 1 and 2, 9	Bread, 3 h	1	150	18	11
New, canned, heated in microwave 3 min (Mint Tiny Taters; Edgell's, Cheltenham, Australia)	65 ± 9	93 ± 13	Healthy, 10	Bread, 2 h	107	150	18	12
Mean of 2 studies	63 ± 2	90 ± 3	—	—	—	150	18	11
607 French fries								
French fries, frozen, reheated in microwave (Cavendish Farms, New Annan, Canada)	75	107 ± 6	Type 1 and 2, 6	Bread, 3 h	1	150	29	22
608 Instant mashed potato								
Instant (France)	74 ± 12	106	Type 2, 3	Glucose, 3 h	9	—	—	—
Instant (Canada)	80 ± 13	114	Healthy, 8	Glucose, 2 h	3	—	—	—
Instant (Edgell's Potato Whip, Edgell's, Australia)	86	123	Healthy, 6	Glucose, 2 h	47	—	—	—
Instant (Carnation Foods Co Ltd, Manitoba, Canada)	86	123 ± 5	Type 1 and 2, 16	Bread, 3 h	1	—	—	—
Instant (Canada)	88	126 ± 6	Diabetic NS, 7	Bread, time NS	106	—	—	—
Instant mashed potato (Idahoan Foods, Lewisville, ID, USA)	97 ± 6	139	Healthy, 10	Glucose, 2 h	UO[4]	—	—	—
Mean of 6 studies	85 ± 3	122 ± 5	—	—	—	150	20	17
609 Mashed potato								
Type NS (Canada)	67	96 ± 7	Diabetic, 7	Bread, time NS	106	—	—	—
Type NS (South Africa)	71 ± 10	101	Healthy, 7	Glucose, 2 h	29	—	—	—
Type NS (France)	83	118 ± 12	Healthy, 12	Bread, 3 h	55	—	—	—
Mean of 3 studies	74 ± 5	105 ± 7	—	—	—	150	20	15
Prince Edward Island, peeled, cubed, boiled 15 min, mashed (Canada)	73	104 ± 4	Type 1 and 2, 14	Bread, 3 h	1	150	18	13
Pontiac, peeled, cubed, boiled 15 min, mashed (Australia)	91 ± 9	130 ± 13	Healthy, 10	Bread, 2 h	107	150	20	18
610 Microwaved potato	—	—	—	—	—	150	21	12
Pontiac, peeled and microwave on high for 6–7.5 min (Australia)	79 ± 9	112 ± 13	Healthy, 10	Bread, 2 h	107	150	18	14
Type NS, microwaved (USA)	82	117	Type 2, 8	Glucose, 3 h[6]	4	150	33	27
611 New potato								
New (Canada)	47	67	Diabetic, number NS	Glucose, time NS	20			
New (Canada)	54	77 ± 11	Type 2, 6	Bread, 3 h	30	—	—	—
New (Canada)	70 ± 8	100	Healthy, 8	Glucose, 2 h	3	—	—	—
Mean of 3 studies	57 ± 7	81 ± 10	—	—	—	150	21	12
New, unpeeled and boiled 20 min (Australia)	78 ± 12	112 ± 17	Healthy, 10	Bread, 2 h	107	150	21	16
612 Steamed potato								
Potato, peeled, steamed 1 h (*Solanum tuberosum*) (India)[11]	65 ± 11	93	Healthy, 12–15	Glucose, 3 h[22]	65	150	27	18
Potato dumplings (white-wheat flour, white potatoes, boiled in salted water (Italy)	52	74 ± 12	Type 2, 17	White bread, 3 h	31	150	45	24

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
613 Sweet potato								
Sweet potato (*Ipomoea batatas*) (Australia)	44	63	Healthy, 7	Potato, 3 h[25]	79	150	25	11
Sweet potato, NS (Canada)	48 ± 6	69	Healthy, 5	Glucose, 2 h	3	150	34	16
Sweet potato, peeled, cubed, boiled in salted water 15 min (Canada)	59	84 ± 5	Type 1 and 2, 13	Bread, 3 h	1	150	30	18
Sweet potato, kumara (New Zealand)	77 ± 12	110	Healthy, 9	Glucose, 2 h	25	150	25	19
Sweet potato, kumara (New Zealand)	78 ± 6	111	Type 2, 14	Glucose, 2 h	25	150	25	20
Mean of 5 studies	61 ± 7	87 ± 10	—	—	—	150	28	17
614 Swede								
Swede (rutabaga) (Canada)[6]	72 ± 8	103	Healthy, 5	Glucose, 2 h	3	150	10	7
615 Tapioca								
Tapioca boiled with milk (General Mills Canada Inc, Etobicoke, Canada)	81	115 ± 9	Type 1 and 2, 10	Bread, 3 h	1	250	18	14
Tapioca (*Manihot utilissima*), steamed 1 h (India)[11]	70 ± 10	100	Healthy, 12–15	Glucose, 3 h[22]	65	250	18	12
616 Taro								
Taro (*Colocasia esculenta*) peeled, boiled (Australia)	54	77	Healthy, 7	Potato, 3 h[25]	79	—	—	—
Taro, peeled, boiled (New Zealand)	56 ± 12	80	Healthy, 9	Glucose, 2 h	25	—	—	—
Mean of 2 studies	55 ± 1	79 ± 2	—	—	—	150	8	4
617 Yam								
Yam, peeled, boiled (New Zealand)	25 ± 4	36	Type 2, 13	Glucose, 2 h	25	—	—	—
Yam, peeled, boiled (New Zealand)	35 ± 5	50	Healthy, 14	Glucose, 2 h	25	—	—	—
Yam (Canada)	51 ± 12	73	Healthy, 5	Glucose, 2 h	3	—	—	—
Mean of 3 studies	37 ± 8	53 ± 11	—	—	—	150	36	13
INDIGENOUS OR TRADITIONAL FOODS OF DIFFERENT ETHNIC GROUPS								
African								
618 Brown beans (South Africa)	24 ± 8	34	Healthy, 7	Glucose, 2 h	29	50 (dry)	25	6
619 Gram dhal (South Africa)	5 ± 3	7	Healthy, 7	Glucose, 2 h	29	50 (dry)	29	1
620 Maize meal porridge, unrefined, maize meal:water (1:3) (South Africa)	71 ± 6	101	Healthy, 8	Glucose, 2 h	29	50 (dry)	36	25
Maize meal porridge, refined, maize-meal:water (1:3) (South Africa)	74 ± 7	106	Healthy, 8	Glucose, 2 h	29	50 (dry)	40	30
Maize meal porridge or gruel (Kenya)	109	156 ± 15	Type 2, 13	Bread, 2.5 h	40	50 (dry)	38	41
621 M'fino or Morogo, wild greens (South Africa)	68 ± 8	97	Healthy, 6	Glucose, 2 h	29	120	50	34
622 Cassava, boiled, with salt (Kenya)	46	65 ± 12	Type 2, 14	Bread, 2.5 h	40	100	27	12
623 Millet flour porridge or gruel (Kenya)	107	153 ± 14	Type 2, 13	Bread, 2.5 h	40	—	—	—
624 Ga kenkey, prepared from fermented cornmeal (*Zea mays*) (Ghana)[31]	12 ± 1	17	Healthy, 10	Glucose, 2 h[32]	109	150	13	7
625 Gari, roasted cassava dough (*Manihot utilissima*) (Ghana)[31]	56 ± 3	80	Healthy, 10	Glucose, 2 h[32]	109	100	27	15
626 Unripe plantain (*Musa paradisiaca*) (Ghana)[31]	40 ± 4	57	Healthy, 10	Glucose, 2 h[32]	109	120 (raw)	34	13
627 Yam (*Dyscoria*) (Ghana)[31]	66	94	Healthy, 10	Glucose, 2 h[32]	109	150	36	23
Arabic and Turkish								
628 Hummus (chickpea salad dip)	6 ± 4	9	Healthy, 12	Glucose, 2 h	42	30	5	0
629 Kibbeh saynieh (made with lamb and burghul)	61 ± 16	87	Healthy, 12	Glucose, 2 h	42	120	15	9
630 Lebanese bread (white, unleaved), hummus, falafel and tabbouleh	86 ± 12	123	Healthy, 8	Glucose, 2 h	82	120	45	39
631 Majadra (Syrian, lentils and rice)	24 ± 5	34	Type 2, 9; healthy, 9	Glucose, 3 h[14]	88	250	41	10
632 Moroccan couscous (stew of semolina, chickpeas, and vegetables)	58 ± 9	83	Type 2, 8; healthy, 8	Glucose, 3 h[14]	88	250	29	17

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
633 Stuffed grapevine leaves (rice and lamb stuffing with tomato sauce)	30 ± 11	43	Healthy, 12	Glucose, 2 h	42	100	15	5
634 Tarhana soup (wheat flour, yogurt, tomato, and green pepper)	20	29	Type 2, 52; healthy, 31	Glucose, 2 h	32	—	—	—
635 Turkish bread, white-wheat flour	87	124	Type 2, 52; healthy, 31	Glucose, 2 h	32	30	17	15
636 Turkish bread, whole wheat	49	70	Type 2, 52; healthy, 31	Glucose, 2 h	32	30	16	8
637 Turkish noodle soup	1	1	Type 2, 52; healthy, 31	Glucose, 2 h	32	250 mL	9	0
Asian								
638 Broken rice, white, cooked in rice cooker (Lion Foods, Thailand)	86 ± 10	123	Healthy, 12	Glucose, 2 h	73	150	43	37
639 Butter rice, warm white rice and butter (Japan)	79	113	Healthy, 10	Rice, 2 h[26]	89	150	51	40
640 Curry rice (Japan)	67	96	Healthy, 10	Rice, 2 h[26]	89	150	61	41
641 Curry rice with cheese (Japan)	55	79	Healthy, 10	Rice, 2 h[26]	89	150	49	27
642 Glutinous rice								
Glutinous rice, white, cooked in rice cooker (Bangsue Chia Meng Rice Co, Bangkok, Thailand)	98 ± 7	140	Healthy, 12	Glucose, 2 h	73	150	32	31
Glutinous rice NS (Esubi Shokuhin, Japan)	86	123	Healthy, 6	Rice, 2 h[26]	89	150	65	55
Mean of 2 studies	92 ± 6	132 ± 9	—	—	—	150	48	44
643 Glutinous rice ball with cut glutinous cake (mochi) (Japan)	48	69	Healthy, 9	Rice, 2 h[26]	89	75	28	14
644 Glutinous rice cake with dried sea algae (Japan)	83	119	Healthy, 8	Rice, 2 h[26]	89	75	39	32
645 Glutaminous rice flour, instant, served warm with roasted ground soybean (Japan)	65	93	Healthy, 9	Rice, 2 h[26]	89	100	41	27
646 Jasmine rice, white, cooked in rice cooker (Golden World Foods, Bangkok, Thailand)	109 ± 10	156	Healthy, 12	Glucose, 2 h	73	150	42	46
647 Low-protein white rice with dried sea algae (Japan)	70	100	Healthy, 10	Rice, 2 h[26]	89	150	60	42
648 Lungkow bean thread (National Cereals, Oils and Foodstuffs, China)	26	37 ± 6	Type 1 and 2, 9	Bread, 3 h	1	180	45	12
649 Lychee, canned in syrup, drained (Narcissus brand, China)	79 ± 8	113	Healthy, 12	Glucose, 2 h	73	120	20	16
650 Mung bean noodles, dried, boiled (China)	39 ± 9	56	Healthy, 12	Glucose, 2 h	73	180	45	18
651 Nonglutaminous rice flour, served warm with drink (Yamato Nousan, Japan)	68	97	Healthy, 8	Rice, 2 h[26]	89	100	50	34
652 Rice cracker, plain (Sakada, Japan)	91	130	Healthy, 10	Rice, 2 h[26]	89	30	25	23
653 Rice gruel with dried algae (Satou Co Ltd, Japan)	81	116	Healthy, 10	Rice, 2 h[26]	89	250	19	15
654 Rice noodles, dried, boiled (Thai World, Bangkok, Thailand)	61 ± 6	87	Healthy, 12	Glucose, 2 h	73	180	39	23
655 Rice noodles, fresh, boiled (Australia)	40 ± 4	57	Healthy, 12	Glucose, 2 h	73	180	39	15
656 Rice vermicelli, Kongmoon (National Cereals, China)	58	83 ± 5	Type 1 and 2, 9	Bread, 3 h	1	180	39	22
657 Roasted rice ball (Satou Co Ltd, Japan)	77	110	Healthy, 9	Rice, 2 h[26]	89	75	27	21
658 Salted rice ball (Satou Co Ltd, Japan)	80	114	Healthy, 7	Rice, 2 h[26]	89	75	26	20
659 Soba noodles, instant, reheated in hot water, served with soup (Japan)	46	66	Healthy, 9	Rice, 2 h[26]	89	180	49	22
660 Stir-fried vegetables, chicken and rice, homemade (Australia)	73 ± 17	104	Healthy, 8	Glucose, 2 h	87	360	75	55
661 Sushi								
Sushi, salmon (I Love Sushi; Australia)[6]	48 ± 8	69	Healthy, 10	Glucose, 2 h	UO[4]	100	36	17
Sushi, roasted sea algae, vinegar and rice (Japan)	55	79	Healthy, 9	Rice, 2 h[26]	89	100	37	20
Mean of 2 studies	52 ± 4	74 ± 5	—	—	—	100	37	19

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
662 Udon noodles								
Udon noodles, fresh, reheated (Fantastic, Windsor Gardens, Australia)[6]	62 ± 8	89	Healthy, 10	Glucose, 2 h	UO[4]	180	48	30
Udon noodles, instant, with sauce and fried bean curd (Nishin Shokuhin, Japan)	48	69	Healthy, 9	Rice, 2 h[26]	89	180	47	23
Mean of 2 studies	55 ± 7	79 ± 10	—	—	—	180	48	26
663 White rice, dried sea algae and milk								
White rice, dried sea algae and milk, eaten together (Japan)	57	81	Healthy, 7	Rice, 2 h[26]	89	—	—	—
White rice, dried sea algae and milk (milk eaten before rice) (Japan)	56	80	Healthy, 9	Rice, 2 h[26]	89	—	—	—
White rice, dried sea algae and milk (milk eaten after rice) (Japan)	55	79	Healthy, 9	Rice, 2 h[26]	89	—	—	—
Mean of 3 types	56 ± 1	80 ± 1	—	—	—	300	47	26
664 White rice with dried fish strip (okaka) (Japan)	79	113	Healthy, 6	Rice, 2 h[26]	89	150	50	40
665 White rice with fermented soybean (natto) (Japan)	56	80	Healthy, 10	Rice, 2 h[26]	89	150	43	24
666 White rice with instant miso soup (soybean paste soup) (Japan)	61	87	Healthy, 10	Rice, 2 h[26]	89	150	47	29
667 White rice with low-fat milk (Japan)	69	99	Healthy, 9	Rice, 2 h[26]	89	300	47	32
668 White rice and nonsugar yogurt								
White rice and nonsugar yogurt eaten before rice (Japan)	59	84	Healthy, 10	Rice, 2 h[26]	89	—	—	—
White rice and nonsugar yogurt eaten together (Japan)	58	83	Healthy, 10	Rice, 2 h[26]	89	—	—	—
Mean of 2 types	59 ± 1	84 ± 1	—	—	—	150	32	19
669 White rice with pickled vinegar and cucumber								
White rice with pickled vinegar and cucumber (pickled food eaten before rice) (Japan)	63	90	Healthy, 9	Rice, 2 h[26]	89	—	—	—
White rice with pickled vinegar and cucumber (pickled food eaten with rice) (Japan)	61	87	Healthy, 11	Rice, 2 h[26]	89	—	—	—
Mean of 2 types	62 ± 1	89 ± 2	—	—	—	150	43	27
670 White rice topped with raw egg and soy sauce (Japan)	72	103	Healthy, 6	Rice, 2 h[26]	89	150	36	26
671 White rice with roasted ground soybean (Japan)	56	80	Healthy, 9	Rice, 2 h[26]	89	150	51	29
672 White rice with salted dried plum (umeboshi) (Japan)	80	114	Healthy, 10	Rice, 2 h[26]	89	150	49	39
673 White rice with sea algae rolled in sheet of toasted sea algae (Japan)	77	110	Healthy, 7	Rice, 2 h[26]	89	150	51	39
Asian Indian								
674 Amaranth (*Amaranthus esculentum*), popped, eaten with milk and nonnutritive sweetener	97 ± 19	139	Type 2, 6	Glucose, 3 h[22]	43	30	19	18
675 Bajra								
Bajra (*Penniseteum typhoideum*), eaten as roasted bread made from bajra flour	55 ± 13	79	Type 2, 6	Glucose, 2 h	110	—	—	—
Bajra (*Penniseteum typhoideum*)	49	70	Healthy, 18	Bread, 3 h	50	—	—	—
Bajra (*Penniseteum typhoideum*)	67	96	Type 2, 6	Bread, 3 h	50	—	—	—
Mean of 3 studies	57 ± 5	82 ± 8	—	—	—	75 (dry)	50	29
			—	—	—			
676 Banana (*Musa sapientum*), Nendra variety, unripe, steamed 1 h[11]	70 ± 11	100	Healthy, 12–15	Glucose, 3 h[22]	65	120	45	31
677 Barley								
Barley (*Hordeum vulgare*)	48	69	Healthy, 8	Bread, 3 h	50	—	—	—

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Barley (*Hordeum vulgare*)	37	53	Type 2, 6	Bread, 3 h	50	—	—	—
Mean of 2 groups of subjects	43 ± 6	61 ± 8	—	—	—	150	37	16
678 Bengal gram dhal, chickpea	11	16	Healthy, 6	Glucose, 2 h	54	150	36	4
679 Black gram (*Phaseolus mungo*), soaked 12 h, stored moist 24 h, steamed 1 h[11]	43 ± 10	61	Healthy, 12–15	Glucose, 3 h[22]	65	150	18	8
Chapatti								
680 Chapatti, amaranth-wheat (25:75) composite flour, served with bottle gourd and tomato curry	66 ± 10	94	Type 2, 6	Glucose, 3 h[22]	43	60	30	20
681 Chapatti, amaranth-wheat (50:50) composite flour, served with bottle gourd and tomato curry	76 ± 20	108	Type 2, 6	Glucose, 3 h[22]	43	60	30	23
682 Chapatti, baisen	27	39	Type 2, 11	Wheat chapatti, 3 h[17]	56	—	—	—
683 Chapatti, bajra	67	96	Type 2, 14	Bread, 3 h	50	—	—	—
Chapatti, bajra	49	70	Healthy, 18	Bread, 3 h	50	—	—	—
Mean of 2 groups of subjects	58 ± 9	83 ± 13	—	—	—	—	—	—
684 Chapatti, barley								
Chapatti, barley	37	53	Type 2, 14	Bread, 3 h	50	—	—	—
Chapatti, barley	48	69	Healthy, 18	Bread, 3 h	50	—	—	—
Mean of 2 groups of subjects	42 ± 5	61 ± 8	—	—	—	—	—	—
685 Chapatti maize (*Zea mays*)								
Chapatti maize (*Zea mays*)	64	92	Type 2, 14	Bread, 3 h	50	—	—	—
Chapatti maize (*Zea mays*)	59	85	Healthy, 18	Bread, 3 h	50	—	—	—
Mean of 2 groups of subjects	62 ± 3	89 ± 4	—	—	—	—	—	—
686 Chapatti, wheat, served with bottle gourd and tomato curry	66 ± 9	94	Type 2, 6	Glucose, 3 h[22]	43	60	32	21
687 Chapatti, flour from malted wheat, moth bean (*Phaseolus aconitifolius*) and bengal gram (*Cicer arietinum*)	66 ± 9	94	Healthy, 7	Glucose, 2 h	111	60	38	25
688 Chapatti, flour made from popped wheat, moth bean and bengal gram	40 ± 8	58	Healthy, 7	Glucose, 2 h	111	60	36	14
689 Chapatti, flour from roller dried wheat, moth bean and bengal gram	60 ± 9	85	Healthy, 7	Glucose, 2 h	111	60	38	23
690 Chapatti								
Chapatti, wheat flour, thin, with green gram (*Phaseolus aureus*) dhal	81 ± 4	116	Type 2, 8	Glucose, 2 h	112	200	50	41
Chapatti, wheat flour, thin, with green gram (*Phaseolus aureus*) dhal	44 ± 3	63	Healthy, 11	Glucose, 2 h	112	200	50	22
Mean of 2 groups of subjects	63 ± 19	90 ± 27	—	—	—	200	50	32
Cheela (thin savory pancake made from legume flour batter)								
691 Cheela, bengal gram (*Cicer arietinum*)	42 ± 1	60	Healthy, 15	Glucose, 2 h[32]	113	150	28	12
Cheela, bengal gram (*Cicer arietinum*), fermented batter	36 ± 1	51	Healthy, 15	Glucose, 2 h[32]	113	150	28	10
692 Cheela, green gram (*Phaseolus aureus*)	45 ± 1	64	Healthy, 15	Glucose, 2 h[32]	113	150	26	12
Cheela, green gram (*Phaseolus aureus*), fermented batter	38 ± 1	54	Healthy, 15	Glucose, 2 h[32]	113	150	26	10
693 Dhokla								
Dhokla, leavened, fermented, steamed cake; dehusked chickpea and wheat semolina	35 ± 4	50	Healthy, 5	Glucose, 2 h	114	—	—	—
Dhokla, leavened, fermented, steamed cake; dehusked chickpea and wheat semolina	31 ± 6	44	Type 2, 5	Glucose, 2 h	114	—	—	—
Mean of 2 groups of subjects	33 ± 2	47 ± 3	—	—	—	100	20	6
694 Dosai								
Dosai (parboiled and raw rice, soaked, ground, fermented, and fried) with chutney	77 ± 3	110	Type 2, 9	Glucose, 2 h	112	150	39	30
Dosai (parboiled and raw rice, soaked, ground, fermented, and fried) with chutney	55 ± 2	79	Healthy, 6	Glucose, 2 h	112	150	39	22
Mean of 2 groups of subjects	66 ± 11	95 ± 16	—	—	—	150	39	26

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
695 Green gram (*Phaseolus aureus*), soaked 12 h, stored moist 24 h, steamed 1 h[11]	38 ± 14	54	Healthy, 12–15	Glucose, 3 h[22]	65	150	17	6
696 Green gram, whole with varagu (*Paspalum scorbiculatum*), pressure cooked	57 ± 6	81	Type 2, 6	Glucose, 2 h	110	80 (dry)	50	29
697 Green gram dhal with varagu (*Paspalum scorbiculatum*), pressure cooked	78 ± 12	111	Type 2, 6	Glucose, 2 h	110	78 (dry)	50	39
698 Horse gram (*Dolichos biflorus*) soaked 12 h, stored moist 24 h, steamed 1 h[11]	51 ± 11	73	Healthy, 12–15	Glucose, 3 h[22]	65	150	29	15
699 Idli								
Idli (parboiled and raw rice + black dhal, soaked, ground, fermented, and steamed) with chutney	77 ± 2	110	Type 2, 10	Glucose, 2 h	112	250	52	40
Idli (parboiled and raw rice + black dhal, soaked, ground, fermented, and steamed) with chutney	60 ± 2	86	Healthy, 11	Glucose, 2 h	112	250	52	31
Mean of 2 groups of subjects	69 ± 9	98 ± 12	—	—	—	250	52	36
700 Jowar, roasted bread made from Jowar flour (*Sorghum vulgare*)	77 ± 8	110	Type 2, 6	Glucose, 2 h	110	70 (dry)	50	39
701 Laddu								
Laddu (popped amaranth, foxtail millet, roasted legume powder, and fenugreek seeds) in hot sweet syrup	24 ± 4	34	Healthy, 5 females	Glucose, 2 h	114	—	—	—
Laddu (popped amaranth, foxtail millet, roasted legume powder, and fenugreek seeds) in hot sweet syrup	29 ± 4	41	Type 2, 5 males	Glucose, 2 h	114	—	—	—
Mean of 2 groups of subjects	27 ± 3	38 ± 4	—	—	—	50	31	8
702 Lentil and cauliflower curry with rice (Australia)	60 ± 10	86	Healthy, 8	Glucose, 2 h	87	360	51	31
703 Millet/Ragi (*Eleucine coracana*), dehusked, soaked 12 h, stored moist 24 h, steamed 1 h[11]	68 ± 10	97	Healthy, 12–15	Glucose, 3 h[22]	65	150	34	23
703 Millet/Ragi								
Millet/Ragi (*Eleucine coracana*)[11]	84	120	Type 2, 20	Glucose, 2 h	68	70 (dry)	50	42
Millet/Ragi (*Eleucine coracana*) flour eaten as roasted bread	104 ± 13	149	Type 2, 6	Glucose, 2 h	110	70 (dry)	50	52
Mean of 2 studies	94 ± 10	135 ± 15	—	—	—	—	—	—
705 Pongal								
Pongal (rice and roasted green gram dhal, pressure cooked)	90 ± 3	129	Type 2, 10	Glucose, 2 h	112	—	—	—
Pongal (rice and roasted green gram dhal, pressure cooked)	45 ± 2	64	Healthy, 8	Glucose, 2 h	112	—	—	—
Mean of 2 groups of subjects	68 ± 23	97 ± 33	—	—	—	250	52	35
706 Poori								
Poori (deep-fried wheat-flour dough) with potato palya (mashed potato)	82 ± 2	117	Type 2, 8	Glucose, 2 h	112	—	—	—
Poori (deep-fried wheat-flour dough) with potato palya (mashed potato)	57 ± 1	81	Healthy, 8	Glucose, 2 h	112	—	—	—
Mean of 2 groups of subjects	70 ± 13	99 ± 18	—	—	—	150	41	28
707 Rajmah (*Phaseolus vulgaris*)	19	27	Healthy, 6	Glucose, 2 h	54	150	30	6
708 Rice (*Oryza sativa*) boiled served with bottle gourd and tomato curry	69 ± 15	99	Type 2, 6	Glucose, 3 h[22]	43	150	38	26
709 Semolina								
Semolina (*Triticum aestivum*), steamed	55 ± 9	79	Type 2, 30	Glucose, 2 h[32]	69	67 (dry)	50	28
Semolina (*Triticum aestivum*), preroasted	76 ± 6	109	Type 2, 30	Glucose, 2 h[32]	69	67 (dry)	50	38
Semolina (*Triticum aestivum*) with fermented black gram dhal (*Phaseolus mungo*)	46 ± 12	66	Type 2, 30	Glucose, 2 h[32]	69	71 (dry)	50	23

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
Semolina (*Triticum aestivum*) with fermented green gram dhal (*Phaseolus aureus*)	62 ± 20	89	Type 2, 30	Glucose, 2 h[32]	69	71 (dry)	50	31
Semolina (*Triticum aestivum*) with fermented bengal gram dhal (*Cicer arietum*)	54 ± 7	77	Type 2, 30	Glucose, 2 h[32]	69	71 (dry)	50	27
710 Tapioca (*Manihot utilissima*), steamed 1 h[11]	70 ± 10	100	Healthy, 12–15	Glucose, 3 h[22]	65	250	18	12
711 Varagu (*Paspalum scorbiculatum*), pressure cooked 15 lb 12–15 min	68 ± 8	97	Type 2, 6	Glucose, 2 h	110	76 (dry)	50	34
712 Upittu								
Upittu (roasted semolina and onions, cooked in water)	67 ± 3	96	Type 2, 12	Glucose, 2 h	112	—	—	—
Upittu (roasted semolina and onions, cooked in water)	69 ± 4	99	Healthy, 11	Glucose, 2 h	112	—	—	—
Mean of 2 groups of subjects	68 ± 1	98 ± 2	—	—	—	150	42	28
713 Uppuma kedgeree								
Uppuma kedgeree (millet, legumes, fenugreek seeds; roasted and cooked in water)	18 ± 3	25	Healthy, 5	Glucose, 2 h	114	—	—	—
Uppuma kedgeree (millet, legumes, fenugreek seeds; roasted and cooked in water)	19 ± 3	28	Type 2, 5	Glucose, 2 h	114	—	—	—
Mean of 2 groups of subjects	18 ± 1	27 ± 2	—	—	—	150	33	6
Australian aboriginal								
714 *Acacia aneura*, mulga seed, roasted, wet ground to paste[6]	8	11	Healthy, 7	Potato, 3 h[25]	79	50	17	1
715 *Acacia coriacea*, desert oak, seed bread[6]	46	66	Healthy, 6	Bread, 3 h	79	75	24	11
716 *Araucaria bidwillii*, bunya tree nut, baked 10 min[6]	47	67	Healthy, 7	Potato, 3 h[25]	79	50	16	7
717 Bush honey, sugar bag[6]	43	61	Healthy, 7	Potato, 3 h[25]	79	30	25	11
718 *Castanospermum australe*, blackbean seed, sliced, soaked 1 wk, pounded and baked[6]	8	11	Healthy, 7	Potato, 3 h[25]	79	50	9	1
719 *Dioscorea bulbifera*, cheeky yam, peeled, sliced, soaked 2 d, baked 15 min[6]	34	49	Healthy, 7	Potato, 3 h[25]	79	150	36	12
720 *Macrozamia communis*, cycad palm seed, sliced, soaked 1 wk, pounded, baked[6]	40 ± 2	57	Healthy, 7	Glucose, 2 h	85	50	25	10
Pacific Islanders								
721 Breadfruit (*Artocarpus altilis*) (Australia)[6]	68	97	Healthy, 7	Potato, 3 h[25]	79	120	27	18
722 Banana/plantain, green								
Green banana, boiled (New Zealand)	38 ± 10	54	Healthy, 8	Glucose, 2 h	25	120	21	8
723 Sweet potato								
Sweet potato (*Ipomoea batatas*) (Australia)	44	63	Healthy, 7	Potato, 3 h[25]	79	150	25	11
Sweet potato, kumara (New Zealand)	77 ± 12	110	Healthy, 9	Glucose, 2 h	25	150	25	19
Sweet potato, kumara (New Zealand)	78 ± 6	111	Type 2, 14	Glucose, 2 h	25	150	25	20
Mean of 3 studies	66 ± 11	95 ± 16	—	—	—	150	28	17
724 Taro								
Taro (*Colocasia esculenta*) peeled, boiled (Australia)	54	77	Healthy, 7	Potato, 3 h[25]	79	—	—	—
Taro, peeled, boiled (New Zealand)	56 ± 12	80	Healthy, 9	Glucose, 2 h	25	—	—	—
Mean of 2 studies	55 ± 1	79 ± 2	—	—	—	150	8	4
725 Yam								
Yam, peeled, boiled (New Zealand)	25 ± 4	36	Type 2, 13	Glucose, 2 h	25	—	—	—
Yam, peeled, boiled (New Zealand)	35 ± 5	50	Healthy, 14	Glucose, 2 h	25	—	—	—
Mean of 2 groups of subjects	30 ± 5	43 ± 7	—	—	—	150	36	13
Israeli								
726 Melawach (dough made from white-wheat flour and butter, fried)								
Melawach	61 ± 10	87	Type 2, 9; healthy, 9	Glucose, 3 h[14]	88	—	—	—
Melawach	71 ± 7	101	Type 2, 14	Glucose, 3 h[14]	115	—	—	—
Mean of 2 studies	66 ± 5	94 ± 7	—	—	—	115	53	35
727 Melawach + 15 g locust bean (*Ceratonia siliqua*) fiber (soluble)	31 ± 6	44	Type 2, 9	Glucose, 3 h[14]	115	130	53	16

(Continued)

TABLE 1 *(Continued)*

Food number and item	GI[2] (Glucose = 100)	GI[2] (Bread = 100)	Subjects (Type and number)	Reference food and time period	Reference	Serving size	Available carbohydrate	GL[3] (per serving)
						g	*g/serving*	
728 Melawach + 15 g maize cob fiber (insoluble)	59 ± 10	84	Type 2, 9	Glucose, 3 h[14]	115	130	53	31
729 Melawach + 15 g lupin (*Lupinus albus*) fiber	72 ± 10	103	Type 2, 10	Glucose, 3 h[14]	115	130	53	38
Pima Indian								
730 Acorns, stewed with venison (*Quercus emoryi*)[6]	16 ± 1	23	Healthy, 8	Glucose, 2 h	116	100	6	1
731 Cactus jam (*Stenocereus thurberi*)	91	130 ± 19	Healthy, 8	Bread, 2 h	117	30	20	18
732 Corn hominy (*Zea mays*)[6]	40 ± 5	57	Healthy, 8	Glucose, 2 h	116	150	30	12
733 Fruit Leather (*Stenocereus thurberi*)	70	100 ± 19	Healthy, 8	Bread, 2 h	117	30	24	17
734 Lima beans broth (*Phaseolus lunatus*)[6]	36 ± 3	51	Healthy, 8	Glucose, 2 h	116	250 mL	32	12
735 Mesquite cakes (*Prosopis velutina*)[6]	25 ± 3	36	Healthy, 4	Glucose, 2 h	116	60	4	1
736 Tortilla (*Zea mays* and *Olneya tesota*)	38	54 ± 9	Healthy, 8	Bread, 2 h	117	60	25	9
737 White teparies broth (*Phaseolus acutifolius*)[6]	31 ± 3	44	Healthy, 8	Glucose, 2 h	116	250 mL	32	10
738 Yellow teparies broth (*Phaseolus acutifolius*)[6]	29 ± 3	41	Healthy, 8	Glucose, 2 h	116	250 mL	26	8
South American								
739 Arepa, corn bread cake, made with corn flour (Mexico)	72	102	Healthy, 6	Glucose, 4 h[33]	118	100	43	31
740 Arepa, made from ordinary dehulled dent corn flour (25% amylose)[9,34]	81	116	Healthy, 9	Arepa, 2 h[35]	119	100	43	35
741 Arepa, made from dehulled high-amylose (70%) corn flour[9,34]	44	63	Healthy, 9	Arepa, 2 h[35]	119	100	25	11
742 Black beans	30	43 ± 17	Type 2, 27; healthy, 21	Bread, 3 h	98	150	23	7
743 Brown beans	38	54 ± 15	Type 2, 27; healthy, 21	Bread, 3 h	98	150	25	9
744 Corn tortilla (Mexican)	52	74 ± 7	Healthy, 8	Bread, 3.5 h	120	50	24	12
745 Corn tortilla, served with refried mashed pinto beans and tomato sauce (Mexican)	39	56 ± 8	Healthy, 8	Bread, 3.5 h	120	100	23	9
746 Corn tortilla, fried, with mashed potato, fresh tomato and lettuce (Mexican)	78	111 ± 12	Healthy, 8	Bread, 3.5 h	120	100	15	11
747 Nopal (prickly pear cactus)	7	10 ± 17	Type 2, 27; healthy, 21	Bread, 3 h	98	100	6	0
748 Pinto beans, boiled in salted water	14	19 ± 3	Healthy, 8	Bread, 3.5 h	120	150	25	4
749 Wheat tortilla (Mexican)	30	43 ± 7	Healthy, 8	Bread, 3.5 h	120	50	26	8
750 Wheat tortilla served with refried pinto beans and tomato sauce (Mexican)	28	40 ± 13	Healthy, 8	Bread, 3.5 h	120	100	18	5

[1]NS, not specified; type 1 and type 2, subjects with type 1 and type 2 diabetes; AUC, area under the curve. Serving sizes in grams unless specified otherwise.

[2]$\bar{x}$ ± SEM. Two GI vlaues are shown for each food—one in which glucose sugar was used as the reference food and one in which white bread was used as the reference food.

[3]Estimated by multiplying the food's listed GI value with glucose as the reference food by the listed g carbohydrate per serving and dividing by 100.

[4]Human Nutrition Unit (Sydney University, Australia), unpublished observations, 1995–2002.

[5]The low GI may be explained by the inclusion of rolled oats in the recipe.

[6]Portions of the test food and the reference food contained 25 g carbohydrate.

[7]V Lang (Danone Vitapole Company, Le Plessis-Robinson, France), unpublished observations, 1996–2000.

[8]GI calculated from the AUC for glucose.

[9]GI calculated by using a mathematical formula based on results from an in vitro starch hydrolysis assay.

[10]Impaired glucose tolerance.

[11]Both the test food and the reference food contained 75 g carbohydrate.

[12]Both the test food and the reference food contained 100 g carbohydrate.

[13]Values based on 0.5 g carbohydrate/kg body wt.

[14]AUC measured over 3 h for only 5 time points (0, 30, 60, 120, and 180 min).

[15]GI corrected for added milk and adjusted to represent a 50-g carbohydrate portion size.

[16]Made from raw oats that were cooked for 20 min.

[17]Used as reference food and given a GI of 100. The GI of the test food was measured by expressing the glucose AUC value for the test food as a percentage of the AUC value for wheat chapatti.

[18]GI calculated from AUC food/AUC glucose formula. The AUC value was calculated over 3 h for 5 time points only.

[19]J Dzieniszewski, J Ciok (National Food and Nutrition Institute, Poland), unpublished observations, 1996–2001.

[20] J Brand-Miller, S Holt (Sydney University, Australia), and V Lang (Danone Vitapole Company, Le Plessis-Robinson, France), unpublished observations, 2000 and 2001.

[21] M Champ (INRA, France) and V Lang (Danone Vitapole Company, France), unpublished observations, 1998.

[22] AUC measured over 3 h for only 4 time points (0, 1, 2, and 3 h).

[23] AUC calculated as the area above fasting to 3 h only.

[24] AUC measured over 5 h, but blood samples taken at hourly intervals only.

[25] Potato used as reference food with a GI fixed at 80. The GI of the test food was calculated by expressing the test food's glucose AUC value as a percentage of the potato's AUC value.

[26] White rice was used as the reference food, but glucose was also tested and had a GI of 122. The observed GI was multiplied by 100 and then divided by 122 to convert it to a GI on the glucose scale (ie, glucose = reference food with a GI of 100).

[27] Blood glucose measured at 30-min intervals.

[28] GI for sugars calculated from the glycemic response for a meal of sugar and rolled oats minus the glycemic response for the oats alone.

[29] Both the test food and the reference food contained 30 g carbohydrate.

[30] Total weight of the test food was 25 g, whereas reference food contained 25 g available carbohydrate. The carbohydrate content of the test food was assumed to be 100% available, which may be an overestimate.

[31] Eaten as part of a mixed meal with fish, tomato, and onion sauce.

[32] AUC measured over 2 h for 4 time points (0, 30, 60, and 120 min).

[33] AUC measured over 4 h for only 6 time points (0, 30, 60, 120, 180, and 240 min).

[34] Both the test food and the reference food contained 45 g carbohydrate.

[35] Reference food was an ordinary corn flour arepa.

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