



**PRINCIPLES, CRITERIA AND GUIDELINES
FOR USING THE 5-A-DAY LOGO
FOR THE PROMOTION OF VEGETABLES, FRUIT AND THEIR PRODUCTS**

EXECUTIVE SUMMARY

The vision of the 5-a-Day for Better Health TRUST:

**Striving to improve the health of all South Africans
through the increased consumption
of vegetables and fruit**

The purpose of this document is to provide background information, as well as a motivation and justification for the criteria that are used by the 5-a-Day for Better Health TRUST to grant permission for vegetables, fruits and their products to carry the 5-a-Day logo in order to promote increased intake of these foods and products amongst all South Africans to ultimately improve overall public health.

The principles for developing these criteria were:

1. Sufficient (convincing) evidence that the consumer will benefit from an increased intake of the food/product;
2. Flexibility in formulation of the criteria to ensure that the aims of the 5-a-Day programme are reached;
3. The criteria will have more than one user: for the food industry to label products; for the consumer to make an informed healthy choice; for health professionals to assess dietary adequacy and prudence and for researchers and scientists to relate dietary exposures to health outcomes;
4. At least 3 out of the 5 daily servings recommended, should be fresh (frozen) vegetables or fruit (i.e. 60% of total). Not more than 2 out of 5 servings should be provided by juices and other processed foods;

The serving size of a particular vegetable, fruit, juice or other product will depend on its energy and nutrient density – which also influences its bulk (weight and volume). It is recommended that the serving (portion) size of a particular food/product and the nutrient composition of the serving size should appear on all processed packaged foods carrying the logo.

Full written approval together with full payment of the User Rights fees is required from the 5-a-Day for Better Health TRUST before the 5-a-Day logo, which is a registered trademark of the Trust, can be used. Sign off by the 5-a-Day for Better Health TRUST, of any packaging using the logo, will be required.

5-a-Day CRITERIA

All vegetables and fruits - fresh, frozen, juiced, canned, bottled and dried, which meet the following criteria, may apply to carry the 5-a-DAY for Better Health TRUST logo, but need to follow the corporate identity instructions for the logo use (see Corporate Identity document):

1. Botanically the food/product should be classified as either a vegetable or a fruit with the exception of mushrooms and seaweed;
2. Grains, nuts, herbs and spices are excluded;
3. Dry beans, peas, lentils (legumes) and potatoes are included provided that they or their products meet the added fat, sugar(s) and salt criteria;
4. 100% pure fruit and/or vegetable juices, made from one or more fruits or vegetables or their puree's, qualify provided that not more water is added than was originally removed.
5. The vegetable, fruit or their products should usually be eaten in a quantity (serving size) that meaningfully contributes to the recommended 400g - 500g or 5 servings per day. However, more than one food or product can make up a serving (e.g. Canned tomatoes and onions; or mixed vegetables may qualify, but not tomato sauce/puree or chutney).
6. Except for avocados and olives, all products should be:
 - 6.1. Low in total fat: Less than 3g per serving
 - 6.2. Low in saturated fat: Less than 10% of total energy per serving
 - 6.3. Low in trans-fat: Less than 0.5g per serving
 - 6.4. Low in sodium: Less than 480mg per serving
 - 6.5. Low in added sugar(s): Added sucrose, fructose or equivalent sweeteners, should not provide more than 40kJ per serving
 - 6.6. Additives: All food additives used should be permitted for use in South African regulations and should only be used within regulated amounts.
7. It must, in the case of processed vegetables and fruit, always be stated on the pack that *'At least 3 of the 5 daily servings of vegetables and fruit must be fresh or frozen'*.
8. All products carrying the 5-a-Day logo must comply with the South African Regulations Relating to the Labelling and Advertising of Foodstuffs.
9. All processed, packaged products carrying the 5-a-Day logo must include nutritional information on the packaging.
10. All materials including packaging, making use of the 5-a-Day logo or the words 5-a-Day or other associated and registered words, will require sign off by the CEO of the 5-a-Day for Better Health TRUST and only the official 5-a-Day logo following the corporate identity criteria (see Corporate Identity document) will be allowed to be used.

PURPOSE AND BACKGROUND

- An increased vegetable and fruit intake is seen by nutrition and health scientists as the most single important dietary change to promote health and prevent disease.
- The convincing evidence of the valuable nutrient contribution of vegetables and fruit to a healthy, balanced and optimal diet, as well as the protective effect of vegetables and fruit against many non-communicable diseases (NCDs) such as certain cancers, diabetes and cardiovascular disease, has led to the promotion of vegetables and fruit using '5-a-Day' or similar logos granted by specific organisations or trusts in different parts of the world. In South Africa, the 5-a-Day for Better Health TRUST is the official partner of the Department of Health in the promotion of vegetables and fruit amongst South Africans and is a founding member of the International Fruit and Vegetable Alliance (IFAVA), which is the international body that supports the increased consumption of vegetables and fruit globally.
- In South Africa, the 5-a-Day for Better Health TRUST is the guardian of the science associated with vegetables and fruit and health and as such grants permission, to certain products that meet their criteria, for use of their 5-a-Day logo in order to promote vegetable and fruit intake amongst South Africans.
- The purpose of this document is to list the criteria for the qualification of foods, beverages and other food products to apply to use the 5-a-Day logo. In order to justify these criteria, the document also briefly discusses the scientific principles on which the criteria are based and shows the present controversies and difficulties worldwide to harmonise criteria.
- It is shown that to reach the principle aim of the 5-a-Day campaign in South Africa, namely a better nutritional status and health for all by increasing vegetable and fruit intake, the criteria and their application should be *flexible*. For this reason the document will constantly be under review by the scientific experts and will be adapted as necessary to ensure that the aims of the 5-a-Day for Better Health TRUST are met.
- These criteria should therefore be seen by potential users as general guidelines. The final decision whether a food or product will qualify to use the 5-a-Day logo will be taken by the said Trust, taking a number of factors into account. These would include the origin, classification or definition of the food, the composition of the product, its contribution to nutrient intakes in the portion sizes (servings) usually eaten by South Africans, as well as the acknowledgement that particular South African circumstances may dictate specific processing methods, development of specific functional foods, and cultural uses of traditional foods as vegetables and fruit.
- The document further emphasizes that all users of the 5-a-Day logo, must comply with the South African legislated regulations regarding the labeling and advertising of foodstuffs and must when packaged provide nutritional information and also must comply with the corporate identity standards for the logo use as set by the 5-a-Day for Better Health TRUST (see Corporate Identity document).

PRINCIPLES AND APPROACH IN DEVELOPING THE CRITERIA

- The **FIRST PRINCIPLE** is that it is only ethical to make any nutritional recommendation to the public (individual consumers) if it is based on sound scientific evidence that it will benefit the consumers' health without doing any harm. There is no doubt about the important role of vegetables and fruit in the diet. The evidence of their nutrient contribution, their promotion of health and well-being, their protective effects against many diseases, as well as their use in therapeutic diets, is convincing. These effects are not only related to their nutrient and fibre composition, but also to the presence of other plant substances which are not yet classified as nutrients (phytonutrients), but which have marked beneficial effects on several health outcomes. In addition, the "volume" effect of sufficient vegetables and fruit (because of their water and fibre content), effects on energy density, satiety, etc, also contribute to the health benefits of vegetables and fruit. This emphasizes the fact that the mentioned beneficial effects result from the consumption of the whole food and will not be mimicked by extracted supplements, making vegetables and fruit vitally important in the diet.

- The **SECOND PRINCIPLE** in designing criteria for foods, beverages and processed products to use the 5-a-Day logo, is that the criteria should be *flexible* enough to include all products that contribute to the beneficial health effects of vegetables and fruit. Flexibility is needed because there are many controversies and options to use in categorisation or classification of vegetables and fruits. A few will be briefly discussed to show that none should be used exclusively and that a combination and integration of different categorisation bases are needed:
 - The botanical definitions of vegetables and fruit are of course important but cannot be used as sole basis. The reason for this is that it would exclude some products such as mushrooms and seaweed that are typically used as vegetables, while it will include other groups of foods not normally regarded as vegetables or fruit such as grains, nuts and in some instances oil seeds such as soya beans and their products, sometimes grouped with legumes.

 - It is therefore sensible to combine the botanical definitions together with the history of food culture in a particular population (foods normally used as vegetables or fruit) as well as with the existing food groups used in a particular country to promote healthy diets. Foods are grouped based on their similar origins and nutrient content to facilitate meal planning of varied and healthy diets.

 - Nutrient content on its own is also not a good basis for categorising foods as vegetables or fruit. It could for example exclude avocados and olives because of their higher than average fat content and dates because of their high sugars content. Furthermore, when vegetables and fruit are processed, the nutrient content will change. At present the way countries (USA, Australia and now also South Africa) handle this problem is to have set criteria for total fat, saturated fat, trans fat, sodium, added sugars and sweeteners, and in some instances dietary fibre content. These criteria are set to also permit the inclusion of certain processed products that could assist in reaching the increased vegetable and fruit recommendation without possible negative consequences.

 - The Food Groups used in a particular country to promote healthy diets can help to categorise foods and beverages as vegetables or fruit in another way. For example, in South Africa, in addition to the Food-Based Dietary Guideline (FBDG) of '*Eat plenty of vegetables and fruit everyday*', there is a separate guideline promoting legume intake: '*Eat dry beans, peas, lentils and soya regularly*'.

So, strictly speaking, it is not necessary to promote legume intake by categorising legumes as a vegetable and using the 5-a-Day logo. However, legumes will count as a vegetable when checking if the 5-a-Day aim has been met in diets. One of the strong arguments to classify legumes as a separate food group is of course their high plant protein content and the distinct properties of their dietary fibre components. These change when legumes are sprouted, sprouts having a nutrient composition much nearer to that of fresh green vegetables. A possible solution is to put legumes in a food group of its own, and/or with vegetables and fruit, and/or with the meat (high protein) group.

- Categorising nuts have similar, but perhaps greater problems because of their high fat and therefore energy content.
- The roots and tubers, including potatoes and sweet potatoes are other examples of foods belonging in more than one group. In the South African FBDG, the guideline '*Make starchy foods the basis of most meals*' will promote intake of these foods. But because of its nutrient content, especially providing an affordable source of vitamin C in winter, there are good arguments to include fresh potatoes in the vegetable category. The problem arises when potatoes are fried. Such forms of fried potatoes (e.g. chips) should not qualify as a vegetable. Potatoes and other root vegetables, depending on processing and cooking methods, could therefore be classified as starchy foods (with grains and cereal foods), as vegetables or even as high fat products with recommendations that their intakes should be limited.
- The portion or serving size of the vegetable, fruit or any of their products usually eaten or drank (and therefore the quantity of nutrients contributed to daily nutrient requirements) should also play a role in deciding whether the product may carry the 5-a-Day logo. Vegetables and fruit products used as 'condiments' (sauces, pickles, chutneys, jams and jellies, pestos, spreads (humus), herbs, spices, garlic, onions, peppers, lemon juice, etc.) are usually not consumed in quantities that will provide the nutrients expected from a usual serving of vegetables and fruit. This principle is really based on the expected health benefits of the particular product. However, a serving or portion size may consist of more than one vegetable or fruit.
- The **THIRD PRINCIPLE** is that a specific set of criteria will have more than one use. They will be applied by the 5-a-Day for Better Health TRUST to evaluate whether a product may carry the 5-a-Day logo to promote sales and intakes. But they will also be used by professionals and the consumer to evaluate if diets are meeting the 5-a-day aim, and by scientists and researchers to examine the relationships between dietary exposures and health outcomes in particular populations.
- The **FOURTH PRINCIPLE** relates to the types (and amounts) of vegetables, fruit and some of their products (juices, dried, canned, etc.) that will qualify for using the logo. Most of the evidence about the beneficial effects of vegetables and fruit are for fresh (or frozen) vegetables and fruit (also because of the way researchers assess intakes in populations). The 'ideal' is that adult men and women should daily consume at least 5 servings, collectively weighing 400g - 500g 'fresh' vegetables and fruit (in a diet which should also meet criteria for energy and all nutrient requirements). However, not all consumers (especially poorer people in urban areas of the developing world) can reach this goal. Many consumers will obtain part of their vegetable and fruit intake through beverages (juices) and processed sources which are often more available, have longer shelf lives, are more palatable for some, easier-to-use, and in some instances also more affordable. The 5-a-Day for Better Health TRUST recognises this reality and will allow the use of the logo on certain products that meet specific nutritional criteria.

These criteria aim to strike a balance between the original nutrient composition of the major vegetable or fruit of the product, and any additions and or removal (destruction) of nutrients such as water, sugar, fats, oils, salt and micronutrients.

The addition of other non-nutritive ingredients such as preservatives, emulsifiers, stabilizers, antioxidants, flavourants, colourants, etc. are not specified but should meet legislated criteria.

The basic principle is that the additions and/or removal of ingredients/nutrients to the vegetable or fruit product should not impact negatively on the total diet (e.g. proportionally increasing intakes of refined carbohydrate, total fat, saturated fat, trans-fat and salt, and decreasing dietary fibre and micronutrient intakes).

Therefore, the recommendation from the 5-a-Day for Better Health TRUST is that at least 3 of the 5 recommended servings of vegetables and fruit should be in the fresh or frozen form (60% or two thirds of intake) and only 40% or 2 of the 5 in a processed form (juiced, bottled, canned, dried, etc.).

In summary, from the above it is clear that when criteria are defined to grant permission for use of the 5-a-Day logo, these criteria should be evidence-based, ethical and also based on the integration on several nutrition-related principles. Furthermore, these criteria should be *flexible*, they should support other nutrition policies and programmes in the country, and they should be sensitive to traditional and cultural uses of foods as fruits and vegetables.

SERVING/PORTION SIZES

Based on the available scientific evidence, the beneficial effects of vegetables and fruit (promotion of health, prevention of NCDs) are significant at a minimum intake of 400g per day. Of course there will be a continuum of intakes and effects and the general aim should be even more (500 + g per day). The slogan and logo, '5-a-Day' is therefore based on a serving/portion size of 80g -100g fresh (frozen) raw or cooked edible fruit or vegetable (e.g. skins removed etc.) for adolescents and adults. For small children, the serving sizes will be smaller, proportional to their age and weight of the total diet. It is recommended to reduce the portion/serving size and NOT the number of servings for children to ensure variety in the diet and improve the chance of meeting all nutrient needs.

The serving/portion size of a particular vegetable or fruit or one of their products will depend on the nutrient composition and energy density. Most raw/cooked (without additions) vegetables will provide between 100kJ and 450 kJ per 100g. At the lower end, are the leafy vegetables and at the higher end the root vegetables and those that may also be classified as 'starchy' foods (corn-on-the-cob, potatoes) (See Addenda 1 and 2).

Most fruits provide 200kJ - 300kJ per 100g, with the exception of avocado (674kJ), olives (480kJ) and bananas (384kJ) (Addenda 1 and 2).

The energy density should influence the serving size, but will not be the sole determinant. For example, 100g dates provide 1151kJ and using the above as the basis to determine serving size, 26g dates, providing 300kJ, would be a serving.

It is recommended that packaged vegetable and fruit products and juices label the usual serving size and also express the nutritional information per serving size. Suggested serving/portion sizes for some vegetables, fruits, juices and other products, are listed in Addendum 3.

GUIDELINES/CRITERIA FOR USING THE 5-A-DAY LOGO ON PRODUCTS

To qualify for the use of the South African 5-a-Day logo or brand in the promotion of vegetables and fruit and their products, all forms of vegetables and fruit (fresh, frozen, canned, dried, and 100% juice) should meet the following criteria:

[Note: These guidelines are not applicable to food dishes and pre-prepared meals. A separate set of guidelines will be defined for these when needed.]

1. Botanically, the product should be classified as either a vegetable or fruit, with the exception of edible mushrooms and seaweed.
2. Grains, nuts, herbs and spices are excluded.
3. Dry legumes (pulses such as dry beans and peas) and roots and tubers eaten in South Africa as vegetables (potatoes and sweet potatoes) are also included.

Inherent in the 5-a-Day promotion campaign, the vegetable or fruit should usually be eaten as a portion (serving size) to meaningfully contribute to the known health benefits of vegetables and fruit. For example, approximately 80 - 100 grams of fresh vegetables or fruit per serving, translating to a medium apple, banana, orange, naartjie, etc; half a cup of raw or cooked vegetables; one cup of raw leafy salad greens and raw morogo; a quarter cup of dried fruit (raisins, sultanas, peaches, apricots, dates, etc); at least 200ml (half a cup) of vegetable or fruit juice. The aim is that 5 servings should provide the equivalent of at least 400g – 500g of fresh vegetables and fruit per day.

However, in the 'Western diet' consisting of many dishes prepared with different fruit and vegetables, a serving size could be formed (made up of) with smaller quantities of more than one vegetable or fruit (e.g. salads and mixed vegetables). Similarly, a 100% fruit juice made from a variety of fruits will also qualify. Therefore, the serving size and contribution to the 5-a-Day (400g - 500g) of such products should be labelled.

4. 100% pure fruit and/or vegetable juices qualify, made from one or more fruits and/or vegetables or their purees, provided that not more water is added to purees than originally removed and that the other criteria for addition of sweeteners, salt and fat are met. This will ensure that the energy and nutrient density of the product (100% pure juice) will be in the same range to that of the original fruit and/or vegetable. [See Addendum 2 comparing energy values of fresh fruits with those of the fruit juices]
5. Additions of other ingredients: fats, oils, sweeteners and salt. Except for olives and avocados regarding fat/oil content all fresh, frozen, canned, dried and other processed vegetables and fruit should comply to the following nutrient composition criteria:
 - 5.1. Low in total fat: Less than 3g per serving
 - 5.2. Low in saturated fat: Less than 10% of total energy per serving
 - 5.3. Low in trans-fat: Less than 0.5g per serving
 - 5.4. Low in sodium: Less than 480 milligrams per serving
 - 5.5. Low in added sugar(s): Added sucrose (sugar) or its equivalents (fructose and syrups) should not provide more than 40 kJ per serving.

- 5.6. Additives: All food additives used should be permitted for use in South African regulations and should only be used within regulated amounts.
6. It must, in the case of processed vegetables and fruit, always be stated on the pack that *'At least 3 of the 5 daily servings of vegetables and fruit must be fresh or frozen'*.
 7. All products carrying the 5-a-Day logo must comply with the South African Regulations Relating to the Labelling and Advertising of Foodstuff.
 8. All processed, packaged products carrying the 5-a-Day logo must include nutritional information on the packaging.
 9. All materials including packaging, making use of the 5-a-Day logo or the words 5-a-Day or other associated and registered words, will require sign off by the CEO of the 5-a-Day for Better Health TRUST and only the official 5-a-Day logo following the corporate identity criteria (see Corporate Identity document) will be allowed to be used.

ADDENDUM 1.**AN EXAMPLE OF THE ENERGY, FIBRE AND TOTAL CARBOHYDRATE LEVEL OF CERTAIN VEGETABLES**

Usual energy value of vegetables: 'raw', 'fresh', no additions, 100g:

Vegetable	Energy (kJ)	Fibre	Tot CHO
'Average'	92	1.5	3.3
Beans – green, cooked	147	2.0	5.9
Beetroot - cooked	131	1.7	5.0
Brinjal - cooked	116	3.1	3.5
Broad beans - cooked	235	4.2	5.9
Broccoli - cooked	118	2.6	2.5
Cabbage – raw	99	2.2	3.2
Cabbage red – raw	115	5.1	3.7
Carrots – raw	181	3.2	6.9
Cauliflower – cooked	102	2.0	2.4
Mealies – cooked (Corn on the cob)	454	3.7	21.4
Mixed - canned / frozen	248	3.8	9.3

Varies from ± 100 kJ (watery) to $200 - \pm 400$ kJ (starchy)

ADDENDUM 2.**AN EXAMPLE OF THE ENERGY, FIBRE AND TOTAL CARBOHYDRATE LEVEL OF CERTAIN FRUITS**

Nutrient composition of selected fruits and fruit products of 'raw', 'fresh', edible, 100g:

	Fruit	Energy (kJoules)	Total CHO (g)	Total Fibre (g)	Vit C (mg)	
Apple:	Apple – peeled	237	12.9	1.9	4	
	Apple sauce – canned	181	9.8	1.5	1	
	Apple - juice (Ceres)	222	13.3	0.1	30	
	Apple – dried, raw	1017	57.6	8.3	4	
Apricot:	Apricot – raw	201	9.6	1.5	10	
	Apricot – canned, syrup	347	21.0	0.5	3	
	Apricot – canned, juice	201	11.0	1.3	5	
	Apricot – dried	354	19.1	2.8	2	
	Apricot – dried, sugar	473	26.7	2.6	1	
	Apricot – dried, raw	998	54.0	7.8	2	
	Other:	Dates	1151	65.6	7.9	0
Avocado		674	5.3	2.1	8	
		(15.3g fat)				
Olives - drained, ripe, pitted, canned		480	3.3	3.0	0	
		(10.7g fat)				
Banana – raw		384	21.8	1.6	1	
Cherry – raw		300	14.9	1.7	7	
Fig – raw		310	16.5	2.7	2	
Grenadilla – raw		408	7.5	15.9	30	
Grapes – raw		297	17.1	0.7	11	
Guava – raw		211	4.7	7.2	184	
Kiwi – raw		281	14.2	2.8	118	
Litchi – raw		276	16.0	0.5	72	
Mango – raw		273	15.4	1.6	28	
Melon – raw		148	7.6	0.8	42	
Naartjie – raw		184	9.3	1.9	31	
Orange – raw		197	9.4	2.4	53	
Paw-paw – raw		161	8.9	0.9	62	
Peach – raw		180	9.5	1.6	7	
Peach:		Peach – raw	247	12.5	2.6	4
		Peach – raw	180	9.5	1.6	7
		Peach – juice (Ceres)	210	12.1	0.1	27
				(no sugar)		
		Peach – nectar	225	13.2	0.7	5
				(9.1g sugar)		
		Peach - canned, syrup	310	18.8	1.1	3
				(13.8g sugar)		
	Peach – canned, juice	184	10.2	1.4	4	
			(no sugar)			
Peach - canned, water	100	5.2	0.9	3		
		(no sugar)				
Peach - dried, raw	1001	53.1	8.2	5		
		(no sugar)				

ADDENDUM 3.

SUGGESTED SERVINGS (PORTION SIZES)

These serving sizes are for healthy adolescents and adults. Serving sizes for children, the aged and in weight-loss or gain or other therapeutic diets should be adapted based on energy requirements. The actual weight of a specific vegetable, fruit or some of their products (in grams) can be found in the South African MRC Food Quantities Manual (Langenhovwer et al. 1991).

VEGETABLES (THREE TO FIVE SERVINGS PER DAY)

1. Cooked or raw fresh, frozen or drained canned (bottled) vegetables:
Half a cup (125ml)
2. Leafy raw vegetables (shredded or chopped):
One cup (250ml)
3. Cooked legumes (Drained):
Half a cup (125ml)
4. Vegetable juices:
Three quarters ($\frac{3}{4}$) of a cup rounded up to 200ml

FRUIT (TWO TO FOUR SERVINGS PER DAY)

1. Whole fruit such as apples, bananas, oranges, pears:
One (1) medium sized fruit, weighing approximately 100g
2. Grapefruit:
Half ($\frac{1}{2}$) a fruit
3. Melon, watermelon, pawpaw:
One (1) wedge weighing approximately 100g
4. Fruit juices:
Three quarters ($\frac{3}{4}$) of a cup rounded to 200ml
5. Berries and other small fruit:
Half ($\frac{1}{2}$) a cup
6. Diced, cooked or drained canned (bottled) fruit:
Half ($\frac{1}{2}$) a cup
7. Dried fruit:
Quarter ($\frac{1}{4}$) cup rounded to 50 – 65ml or 30g
8. Avocado:
Pulped: One (1) heaped tablespoon (Tbsp) OR one quarter ($\frac{1}{4}$) of a medium avocado
OR 30 – 50g
9. Olives:
3 – 5 olives OR 30 – 50g.

/ENDS