

PAS 224:2020

# 100% plant-based foods – Characteristics and composition – Code of practice



### **Publishing and copyright information**

The BSI copyright notice displayed in this document indicates when the document was last issued.

© The British Standards Institution 2020.

Published by BSI Standards Limited 2020.

**ISBN** 978 0 539 06553 4

**ICS** 67.050

*No copying without BSI permission except as permitted by copyright law.*

### **Publication history**

First published December 2020

# Contents

Foreword ..... ii

0 Introduction ..... iii

**1 Scope ..... 1**

**2 Normative references ..... 1**

**3 Terms and definitions ..... 2**

**4 Principles ..... 3**

**5 Manufacturing ..... 4**

**6 Presentation and claims ..... 4**

Bibliography ..... 5



# Foreword

This PAS was sponsored by Upfield. Its development was facilitated by BSI Standards Limited and it was published under licence from The British Standards Institution. It came into effect on 31 December 2020.

Acknowledgement is given to the following organizations that were involved in the development of this PAS as members of the steering group:

- Campden BRI
- Consumer & Public Interest Network (CPIN)
- Food and Drink Federation
- IKEA Food Services, AB
- IMACE
- Quorn Foods
- SSAFE
- The Vegan Society
- Upfield

Acknowledgement is also given to the members of a wider review panel who were consulted in the development of this PAS.

The British Standards Institution retains ownership and copyright of this PAS. BSI Standards Limited as the publisher of this PAS reserves the right to withdraw or amend this PAS on receipt of authoritative advice that it is appropriate to do so. This PAS will be reviewed at intervals not exceeding two years, and any amendments arising from the review will be published as an amendment and publicized in *Update Standards*.

This PAS is not to be regarded as a British Standard. It will be withdrawn upon publication of its content in, or as, a British Standard.

The PAS process enables a code of practice to be rapidly developed in order to fulfil an immediate need in industry. A PAS can be considered for further development as a British Standard or constitute part of the UK input into the development of a European or International Standard.

## Use of this document

As a code of practice, this PAS takes the form of guidance and recommendations. Particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this PAS is expected to be able to justify any course of action that deviates from its recommendations.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

## Presentational conventions

The provisions of this code of practice are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

*Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.*

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. "organization" rather than "organisation").

The word "should" is used to express recommendations of this PAS. The word "may" is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word "can" is used to express possibility, e.g. a consequence of an action or an event.

## Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a PAS cannot confer immunity from legal obligations.

# 0 Introduction

Public Health England recommends reducing consumption of red and processed meat and full-fat dairy products [1]. Key science-based policies recommend changing patterns of food production and consumption to improve public health and reduce damage to the environment [2]. Research confirms that some consumers are trending towards reducing their consumption of animal-derived foods because of concerns about effects on their health and the environment [3].

To enable consumers to make informed choices, this PAS seeks to establish clear and simple criteria to define 100% plant-based food.

Conformity to this document helps to ensure a level playing-field and fair practices for business-to-business and business-to-consumer communication.



## 1 Scope

This PAS gives recommendations as to the composition and characteristics of 100% plant-based foods.

This PAS does not cover:

- unprocessed fruits and vegetables;
- animal feed, pet food; or
- packaging material for foods.

This PAS does not address pre-harvest matters or matters of environmental safety<sup>1</sup>, human safety<sup>2</sup>, animal welfare, animal testing or methods of manufacturing or preparation.

**NOTE** 100% plant-based is not necessarily the same as, vegan or vegetarian. Specifically, in relation to vegan, it is often the case that there are additional specific requirements that need to be met which exceed the requirements for 100% plant-based foods. Specific requirements and definitions for vegan and vegetarian foods already exist in standards and forthcoming international standards<sup>3</sup>.

This PAS defines criteria that are applicable to all food categories and does not include any detailed criteria or technical guidance for specific food types.

This PAS is intended for use:

- in business-to-business communications;
- in business-to-consumer communications;
- by regulators;
- in relationships in the global food supply chain;
- in international trade of food products; and
- in food labelling and claims.

## 2 Normative references

There are no normative references in this PAS.



<sup>1</sup> For further information see ISO 14001 "Environmental Management" family of standards.

<sup>2</sup> For further information see ISO 22000:2018 "Food Safety Management".

<sup>3</sup> ISO 23662 – Definitions and technical criteria for foods and food ingredients suitable for vegetarians or vegans and for labelling and claims in development at time of publication.

## 3 Terms and definitions

For the purposes of this PAS, the following terms and definitions apply.

### 3.1 animal

being belonging to the taxonomic classification kingdom animalia

**NOTE** *That is all vertebrates and all multi-cellular invertebrates (including insects)*

### 3.2 animal-derived

originated in whole, or part, from an animal or produced by an animal, including cultured animal cells and tissues.

**NOTE** *Examples of substances originated in whole, or part, from an animal include fish, fish oil, meat, meat extracts and gelatine. Examples of substances produced by an animal include eggs, honey and milk, being the normal mammary secretion of mammals.*

### 3.3 carrier

food additive used to dissolve, dilute, disperse or otherwise physically modify a food additive or nutrient without altering its function (and without exerting any technological effect itself) in order to facilitate its handling, application or use of the food additive or nutrient.

*[SOURCE: Codex Alimentarius' Class Names and the International Numbering System for Food Additives CXG 36-1989[4]]*

### 3.4 characterizing ingredient

substance or group of substances within the food that is mentioned in the name of the food, is associated with the name of the food by a consumer or is emphasized in information to consumers

### 3.5 claims

representation which states, suggests or implies that a food has particular characteristics relating to its origin, nutritional properties, nature, production, processing, composition or any other quality

*[SOURCE: Codex Alimentarius – General Guidelines on Claims (CAC/GL 1-1979)[5]]*

### 3.6 food

substance, whether processed, semi-processed or raw, which is intended for human consumption and includes drinks, chewing gum and any substance that has been used in the manufacture, preparation or treatment of "food" but does not include cosmetics, tobacco or substances used only as drugs

*[SOURCE: Codex Alimentarius – 26th Edition Procedural Manual of the Codex Alimentarius Commission[6]]*

### 3.7 food additive

substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or not it has nutritive value, the intentional addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food results, may be reasonably expected to result (directly or indirectly) in it or its by-products becoming a component of or otherwise affecting the characteristics of such foods

**NOTE** *The term does not include "contaminants" or substances added to food for maintaining or improving nutritional qualities.*

*[SOURCE: Codex Alimentarius — 26th Edition Procedural Manual of the Codex Alimentarius Commission[6]]*

### 3.8 food business operator (FBO)

natural or legal persons responsible for ensuring that the requirements of food law are met within the food business under their control

*[SOURCE: Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002; laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety[7]]*

### 3.9 ingredient

substance, including food additives, used in the manufacture or preparation of a food and present in the final product although possibly in a modified form

*[[SOURCE: Codex Alimentarius – General Standard for the Labelling of Pre-packaged Foods (CXS 1-1985)[8]]*

### 3.10 label

tag, brand, mark, pictorial or other descriptive matter, written, printed, stencilled, marked, embossed or impressed on, or attached to, a container of food.

*[[SOURCE: Codex Alimentarius – General Standard for the Labelling of Pre-packaged Foods (CXS 1-1985)[8]]*

### 3.11 labelling

written, printed or graphic matter that is present on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal

**NOTE** Including that for the purpose of promoting its sale or disposal.

*[[SOURCE: Codex Alimentarius – General Standard for the Labelling of Pre-packaged Foods (CXS 1-1985)[8]]*

### 3.12 plant

organism belonging to the widest taxonomic classification kingdom plantae

**NOTE** Including algae, fungi, yeast and micro-organisms, irrespective of modification with animal-derived genes.

### 3.13 processing aid

substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, food or its ingredients, to fulfil a certain technological purpose during treatment or processing and which might result in the nonintentional but technically unavoidable presence of residues or derivatives in the final product

*[[SOURCE: Codex Alimentarius – General Standard for the Labelling of Pre-packaged Foods (CXS 1-1985)[8]]*

<sup>4)</sup> For more information on how to fortify with nutrients, see General Principles for the Addition of Essential Nutrients to Foods (CAC/CL 9-1987)[9].

## 4 Principles

### 4.1 General

100% plant-based foods:

- a) should be food whose characterizing ingredients are derived from plants;
- b) should not contain any animal-derived ingredient.

**NOTE** There are no limitations on quantities of ingredients that are derived from neither animals nor plants. For the purpose of determination of 100% plant-based, ingredients that are neither animal nor plant-derived may be counted as 'plants'. Simply put, a product containing 0% animal ingredients may be presented as 100% plant-based.

### 4.2 Composition

#### 4.2.1 Permitted ingredients, additives, and processing aids

All non-animal-derived ingredients and their subcomponents (e.g. carriers, processing aids and other additives) obtained either directly or indirectly from plants, water or minerals; as well as synthetic or artificial ingredients should be permitted.

**NOTE** 100% plant-based foods may be voluntarily fortified<sup>4</sup> with nutrients in accordance with national regulations and official recommendations, or in accordance with the guidelines of the Codex Alimentarius on the General Principles for the Addition of Essential Nutrients to Foods[9].

#### 4.2.2 Non-permitted ingredients, additives, and processing aids

Animal-derived ingredients, and any animal-derived subcomponents (e.g. carriers, processing aids and other additives), should not be permitted.

## 5 Manufacturing

Food business operators should take appropriate measures in compliance with Good Manufacturing Practice (GMP) at all stages of food production and processing to prevent the presence of animal-derived substances in the product offered to the consumer.

If the same production line is shared with non-100% plant-based products/ingredients, thorough cleaning or comparable measures in conformity with GMPs should be carried out before starting the production of 100% plant-based products.

**NOTE** This extends to all associated machinery, equipment, utensils, and surfaces.

Appropriate precautions in conformity with GMPs should be taken before 100% plant-based products are prepared, produced or packaged.



## 6 Presentation and claims

100% plant-based foods should not be described or presented on any label or in any manner that is false, misleading, or deceptive or is likely to create an erroneous impression regarding its character in any respect<sup>5</sup>.

The term 100% plant-based should only be used on the labelling or in advertising to describe the character of the product when it meets the requirements of this PAS.

**NOTE 1** It is important that, In languages other than English, the term 100% plant-based is translated so that it retains the same meaning.

**NOTE 2** This PAS makes no provisions or requirements regarding similar terms.

**NOTE 3** It is not necessary to demonstrate by testing and analysis that animal-derived ingredients are absent unless specific claims (e.g. free from [xxx]) are made to that effect.

Unintended presence of animal-derived substances through cross-contamination is itself not an obstacle to presenting a product as 100% plant-based, although the FBO should be able to demonstrate that all reasonable precautions in compliance with GMP have been taken to prevent this.

**NOTE 4** This PAS does not specify, define, or recommend a symbol or logo to identify food that meets the criteria for 100% plant-based food. It also does not prevent development or use of such, provided that all other criteria, and applicable standards and regulations are complied with.

<sup>5</sup> SOURCE: Codex Alimentarius – General Standard for the Labelling of Pre-packaged Foods (CXS 1-1985)[8] and General Guidelines on Claims (CXG 1-1979)[5].

## Bibliography

### Standard publications

ISO 14001, *Environmental Management*

ISO 22000:2018, *Food Safety Management*

ISO/DIS 23662, *Definitions and technical criteria for foods and food ingredients suitable for vegetarians or vegans and for labelling and claims* (In development)

### Other publications

[1] Public Health England. (2018). *The Eatwell Guide*. Public Health England: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/742750/Eatwell\\_Guide\\_booklet\\_2018v4.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/742750/Eatwell_Guide_booklet_2018v4.pdf)

[2] EAT-Lancet Commission. (2019). *Healthy Diets from Sustainable Food Systems*.

[3] Agriculture and Horticulture Development Board. (2018). *The rise of plant-based food products and the implications for meat and dairy*. Agriculture and Horticulture Development Board: [https://projectblue.blob.core.windows.net/media/Default/Consumer%20and%20Retail%20Insight%20Images/PDF%20articles/ConsumerInsights%20WEB\\_1653\\_180725.pdf](https://projectblue.blob.core.windows.net/media/Default/Consumer%20and%20Retail%20Insight%20Images/PDF%20articles/ConsumerInsights%20WEB_1653_180725.pdf)

[4] Codex Alimentarius' Class Names and the International Numbering System for Food Additives (CXG 36-1989)

[5] Codex Alimentarius – General Guidelines on Claims (CAC/GL 1-1979)

[6] Codex Alimentarius – 26th Edition Procedural Manual of the Codex Alimentarius Commission

[7] Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002; laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety

[8] Codex Alimentarius – General Standard for the Labelling of Pre-packaged Foods (CXS 1-1985)

[9] Codex Alimentarius – General Principles for the addition of essential nutrients to foods (CAC/GL 9-1987)



# British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

## About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards-based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

## Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at [bsigroup.com/standards](http://bsigroup.com/standards) or contacting our Customer Services team or Knowledge Centre.

## Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at [bsigroup.com/shop](http://bsigroup.com/shop), where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

## Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to [bsigroup.com/subscriptions](http://bsigroup.com/subscriptions).

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

**PLUS** is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit [bsigroup.com/shop](http://bsigroup.com/shop).

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email [cservices@bsigroup.com](mailto:cservices@bsigroup.com).

## Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

## Copyright

All the data, software and documentation set out in all British Standards and other BSI publications are the property of and copyrighted by BSI, or some person or entity that owns copyright in the information used (such as the international standardization bodies) and has formally licensed such information to BSI for commercial publication and use. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI. Details and advice can be obtained from the Copyright & Licensing Department.

## Useful Contacts:

### Customer Relations

Tel: +44 345 086 9001

Email: [cservices@bsigroup.com](mailto:cservices@bsigroup.com)

### Subscription Support

Tel: +44 345 086 9001

Email: [subscription.support@bsigroup.com](mailto:subscription.support@bsigroup.com)

### Knowledge Centre

Tel: +44 20 8996 7004

Email: [knowledgecentre@bsigroup.com](mailto:knowledgecentre@bsigroup.com)

### Copyright & Licensing

Tel: +44 20 8996 7070

Email: [copyright@bsigroup.com](mailto:copyright@bsigroup.com)



BSI, 389 Chiswick High Road  
London W4 4AL  
United Kingdom  
[www.bsigroup.com](http://www.bsigroup.com)

