



## UK Baking Industry Code of Practice for the Labelling of Sourdough Bread and Rolls

### **Background:**

The recent revival in the market for sourdough bakery products shows little signs of abating and new product developments using sourdough technology and ingredients are also on the increase. This has given rise to the development of a wide range of raw materials and ingredients designed to help bakers of all types and sizes as they strive to meet the demands of their customers.

These circumstances have thrown up a particular challenge in the context of the labelling of such products so that the consumer is not misled by a product descriptor or ingredients declaration. Although sourdough has been a major contributor to bread quality for many centuries, it is not at all certain that the majority of the UK bread-buying public are aware of what 'sourdough' is, how it is produced, or what its typical characteristics should be.

In the interests of the consumer, and to protect the integrity of the term 'Sourdough' as a product descriptor, ABIM feels that it would be helpful to develop a Code of Practice for sourdough labelling that will clarify the term and prevent misinformation when it is applied to products in the UK bakery market.

### **What is SOURDOUGH?**

**'Sourdough is both a technique and a microbial system' 1. (E.J Pyler, L.A. Gorton; Baking Science and Technology, 4<sup>th</sup> Ed. Vol 1, Ch. 2; pub. Sosland 2008)**

**'Sourdough is "a mixture of wheat and/or rye flour and water, possibly with added salt, fermented by spontaneous (from flour and environment) lactic acid bacteria and yeasts which determine its acidifying and leavening capability. These activities are obtained and optimized through consecutive refreshments (or re-buildings, replenishments, backslopping)" 2 (A. Corsetti, Handbook on Sourdough Technology Ch. 4, Ed. Gobetti & Gänzle; pub. Springer 2013)**

**"Sourdough" is a mixture of flour and water fermented with lactic acid bacteria (LAB) and yeast, is the basis for sourdough bread production'. 3 (A. Diowksz, W Ambroziak, Bakery Products: Science and Technology, Ch 20; Ed. Y.H. Hui; pub. Blackwell 2006)**

**'Sourdough is an ingredient containing cereal components (often also other formula ingredients), liquids, and active microorganisms (Lactic acid bacteria and yeast). When employed, sourdough generates acidity continuously without a complete interruption of microbial activity at any time. Indigenous flour microorganisms can also be activated**

**during this process. In addition to microbial and enzymatic reactions, changes in physical dough properties take place.’ 4 (Ibid)**

Sourdough is both a bread making process and an ingredient. It is the name given to a mixture of cereal flour and water that has been allowed to spontaneously ferment: the fermentation activity being caused by lactobacillus bacteria and yeast that are naturally present in the flour and/or culture medium and the environment. This fermentation is encouraged and sustained by regulating the fermentation conditions and making further additions of flour and water at regular intervals, so that a stabilised culture of lactobacillus is created within the fermenting dough. It is the expression of lactic and acetic acids by the fermenting culture that give the sourdough its characteristic flavour, aroma and rheological properties. The bacteria also produce a small amount of carbon dioxide during fermentation that contributes to the leavening function in the finished product. Sourdough fermentation may also be initiated by inoculating the flour and water mixture with a starter culture.

Sourdough may be used as the sole leavening agent to create bread products that have distinctive characteristics, including:

- A crust characterised in appearance by the presence of very small fermentation blisters
- A crumb texture that is open, with irregular shaped holes and waxy appearance
- A crumb texture that is relatively firm to the touch
- A highly fermented aroma with distinctively acidic notes

In addition to the production of characteristic breads, sourdough has other very useful applications in the manufacture of baked goods, where these characteristics are either not important or may even be undesirable. For example, the addition of sourdough can improve the laminating properties of pastry for the production of Viennoiserie (croissant, Danish Pastries, etc.). It can also improve the texture and enhance the flavour of enriched breads such as Brioche and Panettone. Sourdough can also be used to lengthen the mould-free shelf life of some products due to its inherent acidity.

#### **Producing sourdough:**

The main raw materials for producing a sourdough are flour and water, with the optional addition of a culture: the further key element is time. From a production point of view a baker also has to consider the space required for fermentation of the sourdough; and the necessary critical controls in order to ensure that it remains viable, stable and uncontaminated. In addition, a certain degree of skill in dough production and handling is required for successful sourdough bread manufacture; particularly when the baker chooses to adopt a ‘traditional’ method that precludes the use of yeast, fats, dough conditioners or improvers.

Where space and skills are lacking, bakers have recourse to an increasing number of ingredients and raw materials that help to simplify the process; allowing them to offer bread products that include an element of sourdough to their customers. However, it is important that some differentiation should be made between methods of production so that due recognition may be given to the skilled craftsman, and that the integrity of the term ‘sourdough’ may be maintained as a product descriptor.

It is in the context of the wide range of applications and available ingredients that this Code of Practice for labelling is being proposed.

### **Regulations and codes of practice in other countries:**

According to the most recent (2014) information paper issued by FEDIMA (Federation of the European Union Manufacturers and Suppliers of Ingredients to the Bakery, Confectionery and Patisserie Industries), few European countries have existing regulations or Codes of Practice relating to the composition of sourdough ([www.fedima.org](http://www.fedima.org) ref: Fedima/14/060 'Information Paper on Sourdough in Europe'). Fedima also states the position of its members regarding the use of the term 'sourdough' as follows:

"Fedima members agree on using the denomination "sourdough", or the local name as set out in the annex 1, only for products to which no additional additives, e.g. acids, bases and their salts, have been added to artificially adapt the acidity. This is to properly inform customers and consumers". FEDIMA members also agree to comply with any local regulations or Codes of Practice of the countries into which they may sell their products.

One of the clearest and most often cited Sourdough regulations is the French Décret Pain 93-1074 of 13<sup>th</sup> September 1993 in which the constituent parts of a sourdough starter are specified along with the necessary levels of acidity it must contain. Furthermore, adding bread yeast (*Saccharomyces cerevisiae*) is allowed when the dough reaches its last phase of kneading, to a maximum amount of 0.2% relative to the weight of flour used up to this point.

There are, as yet, no regulations or Codes of Practice in the UK that govern the nature, production and labelling of sourdough products in the UK market. A unique opportunity exists for the industry itself to agree on terms and definitions that are mutually beneficial to producers and consumers alike, thus militating against potentially misleading labelling information whilst preserving the integrity of the definition of 'sourdough' and 'Sourdough bread' and the methods by which they are produced.

To that end, this proposal suggests the following definitions and terms for labelling purposes:

### **Ingredient definitions for the purposes of labelling:**

**Sourdough:** a mixture of water and flour milled from cereals or pseudo cereals; to which salt may or may not be added; which has been allowed to spontaneously ferment due to the metabolic activity of the naturally occurring bacteria and yeast contained within these raw materials and containing a live and active culture of those micro-organisms; or fermented by means of inoculation with a starter culture.

**Starter culture:** a live colony of lactic acid bacteria and yeasts usually found in sourdough

**Inactive/deactivated/devitalised sourdough:** liquid or dry sourdough in which the micro biotic culture is no longer live or active so that it can no longer be used for leavening purposes.

### **Suggested definitions for labelling and marketing purposes:**

Marketing terms must not mislead the consumer as to the true nature of the product. Unless the product meets the Sourdough definition below, marketing terms should be restricted to describing the sourdough ingredient and should not imply that the product has been made using a sourdough process.

**‘Sourdough (product name)’:** a product in which live/active sourdough is used as the principle leavening agent; which may be made with the addition of a maximum of 0.2% compressed bakers’ yeast, or the equivalent level of cream or dried yeast, as calculated on the total flour weight of the final dough. Additives or flavourings in the final dough must not be used with the exception of the mandatory flour additives required by, and/or the flour treatment agents permitted by, the UK Bread and Flour Regulations 1998.

Marketing terms may describe both the process and the typical sensory characteristics achieved, such as crumb structure and flavour.

**(Product name): with sourdough’:** a product made with live/active sourdough, and/or inactive/deactivated/devitalised sourdough, where commercial bakers’ yeast has been used as the principle leavening agent in the final dough and which may also contain permitted additives. The product may NOT contain additives which are added specifically to impart a sourdough type acidity, flavour or aroma to the finished product (e.g. acids or their salts).

Marketing terms may only describe the flavour characteristics imparted by the sourdough and should not imply that the product has been made using a traditional sourdough process.

**‘Sourdough flavoured (product name)’:** a product made with live and/or inactive sourdough, in which additives or flavourings that impart sourdough type acidity, flavour or aroma to the finished product have also been used (e.g. acids or their salts); and which contains bakers’ yeast and other permitted additives.

Marketing terms should not imply that the bread characteristics have been achieved without the use of additives.

## Example: Bloomer loaf

### “Sourdough bloomer:”

Purpose of definition: to indicate that the bread has been made using a sourdough process; i.e. with long fermentation, and principally leavened by the action of the sourdough. The sourdough used **must** be live/active to provide the leavening activity necessary to raise the dough. The addition of yeast is optional but is restricted to ensure that the bread has been leavened through a long fermentation process.

- Must be made with live/active sourdough as the **PRINCIPLE leavening agent**
- **The final dough must NOT contain more than 0.2% of ‘commercial’ compressed bakers’ yeast; or the equivalent level of cream, liquid, dried or frozen yeast; calculated on the total flour weight contained in the final dough.**
- The product must NOT contain inactive/deactivated/devitalised sourdough.
- The final dough must NOT contain chemical leavening agents.
- The final dough must NOT contain any additives; with the exception of those flour additives and treatment agents that are required by, **or permitted in** the UK Bread and Flour Regulations 1998.
- The final dough must NOT contain any ingredient designed to specifically add/enhance the sourdough flavour of the bread
- The final dough must NOT contain artificial preservatives/flavourings

Possible label descriptors for marketing include:

- Traditional Sourdough Bloomer
- Made using long fermentation process
- Made using traditional sourdough method
- ‘No added yeast’ may only be used when the product has been leavened **SOLELY** by the activity of the sourdough and no commercial bakers’ yeast has been added
- No artificial preservatives/flavourings

### “Bloomer with sourdough”

Purpose of definition: to indicate that sourdough has been used in the process for flavouring and/or rheological benefit rather than leavening purposes. The sourdough in this case may be live/active, and/or inactive/deactivated/devitalised

- The final dough **MAY** contain inactive/deactivated/devitalised sourdough, whether liquid or dry
- The final dough **MAY** additionally contain live/active sourdough
- The final dough **MAY** contain additional ‘commercial’ bakers’ yeast, whether cream, compressed, dried or frozen.
- The final dough **MAY** contain permitted additives/preservatives
- The final dough **MAY NOT** contain natural organic acids from fermentation, or their salts, that are specifically added to enhance the sourdough flavour of the product

Suggested label descriptors for marketing include:

- “Made with sourdough”

DISALLOWED:

- “Sourdough Bloomer”
- “Made using traditional sourdough method”
- “No additives/preservatives”: unless this is actually the case

### **“Sourdough flavoured bloomer”**

Purpose of definition: to indicate that the flavour of the bread has been enhanced by the use of organic acids or salts that have been specifically added for that purpose, or by the use of a natural/synthetic sourdough flavouring

- The final dough MAY or MAY NOT contain sourdough, whether active/live or deactivated
- The final dough MAY contain added baker’s yeast
- The final dough MAY contain chemical leavening agents
- The final dough MAY contain permitted additives/preservatives
- The final dough MAY contain organic acids or their salts, whether naturally derived from fermentation or otherwise, that are specifically added for the purpose of enhancing the sourdough flavour of the product
- The final dough MAY contain a natural/synthetic flavouring.

Suggested label descriptor for marketing include:

- “sourdough flavoured”
- “sourdough flavour” if NO sourdough is used in the recipe and the flavour comes only from organic acids or their salt and/or flavourings
- “Includes sourdough” may be used ONLY if this is actually the case

DISALLOWED:

- “Sourdough bloomer”
- “Made using traditional sourdough method”
- “Made with added sourdough”
- “No additives/preservatives”
- “With added sourdough”
- “Contains sourdough”