

**Szymon Lara, Amalia Tsiami, Philippa Ryan, Peter Cross**

1 London Geller College of Hospitality and Tourism, University of West London, St Mary's Road, Ealing, London W5 5RF, UK

2 Royal Botanic Gardens, Kew, Richmond, London, TW9 3AE

**Title:**

***Defining Crop Terminology, Crucial in Tackling Food & Nutrition Insecurity***

## **Introduction**

The interest in new, innovative food products, diets and ingredients is constantly growing worldwide. Food technology experts are challenged with inventing new ways of product reformulation, usually appealing to the current food trends, such as 'veganism', 'clean label' and 'free from'. Modern consumers are more health conscious than ever before, trying to navigate through a store to find the new 'health conscious' and 'clean' food options.

From the food industry's perspective, complete understanding of consumers' feelings and needs is dependent upon clear communication through a common language. The communication most often occurs via physical objects, like the product packaging, and the contents within - in line with the linguistic theory of "Signifier and Signified". This theory perfectly shows how words with a positive connotation such as *vegan* or *organic*, present a mental image of 'healthy', 'good' products which can be linked to a 'happy', 'healthy' and 'wealthy' lifestyle & ideology. The complexity of the information embodied in the verbal capsule is alive and difficult to quantify. Products that inhibit one or more of the characteristics are usually sold under collective trademarks where official certifications play a crucial role.

**Subheading:** Finite Definitions, a Subjective Approach

In the modern world, terminology is key, especially when looking at company marketing strategies - what will attract the potential buyer. Governments and Businesses are guilty of assigning finite and strict meanings to symbols and terminologies used across the food industry. A contemporary example is the previously mentioned term *vegan*, there are current laws which specify what a product can be composed of, to be legally advertised as vegan. However, the understanding of vegan and veganism is constantly evolving and exists frivolously. Therefore, certain vegan products might not be perceived as such by some individuals or organisations from the vegan community. Problems with product classification increase with the amplified use of terms like; *traditional*, *artisan* and *heritage* or when contextualising more specific terminology at the ingredient level like *orphan*, *heirloom*, and *landrace*.

***"It is not the finished product that is Artisan but the value-adding process of production"***

There are numerous terminologies used to describe the goods in the bakery sector. Artisan for example, is defined as 'denoting or relating to goods produced on a small scale using traditional methods', has positive connotations to the consumer, therefore it is becoming the preferred choice across the niche market. Products named Artisan are often made of less popular flour types and grades, baked into more unregular shapes and are sold 'unpacked', unsliced with short shelf-life trends, making these products unique. Furthermore,

the information encapsulated in the term Artisan also constitutes the production method of the product, where 'hand-making' usually over a longer period of time, compared to non-artisan breads is perceived as value adding. A similar term: 'Rustic', is also common in the baked goods sector and the historical meaning of both seems to be somewhat homogenous. A finite definition for the terms Artisan or Rustic is non-existent, quantifying trials and assumptions can be made but must rely on the occurrence frequency in the current socially accepted standard form of *the language*. Therefore, the definition is likely to be short-lived and highly subjective to current public discourse, which creates gimmick like marketing tendencies.

### **Subheading:** Psychological Connections Determine the Meaning of the Word

Traditional is an overarching term that encompasses other, more narrow sets of terminologies for food crops such as *heirloom*, *heritage*, *orphan* and *landrace*. These are frequently used across the UK & USA by the seed saving organisations, allotment holders, garden centres and in seed selling, including some supermarkets. *Ancient Grain* on the other hand, is more common in Europe and has very little precise meaning – as the grain species are no more or less ancient than the ones commonly used for baking and equivalent to the above terminologies, as the status is only determined by lack of 'high-input species breeding' and consumer's emotional attachment.

*Traditional & Ancient* food products are often recognised by consumers for psychological connections and sensory characteristics linked to regional and ethnic identity. Reaching out to existing literature for definitions, it can be seen that "In order to be traditional, a product must be linked to a territory, and it must also be part of a set of traditions, which will necessarily ensure its continuity over time". Across the European market, 'traditional food' has been defined by the Italian Ministry of Agriculture as "Products whose methods of processing, storage and ripening are consolidated with time according to uniform and constant local use" and the definition is still used to an extent across the European Union.

### **Subheading:** Orphan & Landrace Crops are Underutilised & Neglected by the Industry

Globally and in the UK, diets are based on varieties of a narrow range of crop-species bred in agri-research and many other crop species, and these are often called 'orphan', referring to their comparatively uncommercial status, smaller scale use for food, or that they are not widely known. Often, orphan crops are associated with their regions of origin or where they have been long grown within local food-systems and "lack formal crop improvement". These are typically still grown as 'landrace crops'. Landraces are varieties that have developed over time through being cultivated by generations of farmers, and that have adapted to local environments and cultural selection. These are also often termed more broadly as traditional or "farmers' varieties", and these wider terms can encompass landraces as well as those cultivars bred by farmers that have wider geographic distributions. Orphan and landrace varieties can be part of genetically diverse populations and can be viewed as evolving entities that are still adapting to local environments, farmer selection, and in some cases, exposure to genetic diversity of wild relatives. These crops are generally less known, underutilised, or less researched and are often termed 'orphan', 'minor', 'neglected and underutilised', reflecting their non-commercial status in major agriculture, that they are little studied and may have development potential. In contrast, modern cultivars, are expected to be maintained true to type according to Union for the Protection of New Varieties of Plants (UPOV) rules.

From a food business and consumer's perspective, the term 'heritage' has a strong affiliation with tradition and ethnic authenticity, where attention and recognition for cultural identity is patronised by locals and tourists. The literature outlines three main 'heritage dimensions': "legacy, people and place". Heritage food, including the core ingredient originating from a heritage classed plant is often substituted by the term 'traditional', simultaneously linked to a specific geographical location. A significant proportion of literature indicates towards a hidden meaning of heritage, where it is closely associated with the aspects of agrobiodiversity and food & nutrition security. To contrast of the above, the term heirloom is used heavily across North America and more rarely in Europe. Definitions for heirloom & heritage are far more quantifiable with strong indication towards plant variety introduction across mid-twentieth century and the development of these crops in laboratory contexts rather than by farmers in fields. Nevertheless, the time barrier remains arbitrary, and farmers tend to use different time margins.

## **Conclusions**

Traditional food products and the ingredients embodied within constitute a crucial element of human history and culture. This includes cultural identity and ethnicity, local and family traditions as well as entire cultural shifts like the organic movement. Furthermore, the growth in interest towards traditional plants and foods results in protection of indigenous areas and depopulation. In Europe, these plants and food products contribute towards sustainability, resilience and biodiversity. These factors have a massive impact on local as well as national and continental food and nutrition security, specifically by their unique genetic characteristics which are scarce in modern cultivars. The sensory and rheological characteristics of the ingredients go to pair with cultural trends and when utilised by food manufacturers, can be used effectively in marketing strategies where the positive implications on plant health could be used as unique selling points. Currently, orphan crops are being selected to develop as *modern crops* to ignite diversification of global food supply chains and heal the insecurity within. Diversifying the pool of ingredients and application of one of the definitions; 'traditional cultivar', 'heirloom' or 'heritage' in ingredient search has the potential to result in development of new innovative products with strong USPs. It is therefore strongly recommended for the practitioners from across the food industry to stay updated on the use of food related terminologies to maintain full understanding of the evolution and of the needs of the modern consumer.

## **Footnote:**

The Signifier and Signified theory defined:

Linguistic sign is defined as the 'mental unit consisting of two faces, which cannot be separated: a concept and an acoustic unit'. In the sign the *signifier* is the acoustic image, the sounds or the letters used to denote what we are talking about. Whilst, the abstract mental concept, *signified* is an idea or thing in our mind that is produced when we hear or read the *signifier*.

## **References:**

- Di Benedetto, S., (2018), Cultural Heritage, Food Diversity and International Law. In *Food Diversity Between Rights, Duties and Autonomies* (pp. 419-438). Springer, Cham.
- Hall, C.M., (2015), Heirloom products in heritage places: Farmers' markets, local food and food diversity. In *Heritage Cuisines* (pp. 100-115). Routledge.
- Jordan, J.A., (2007), The heirloom tomato as cultural object: Investigating taste and space. *Sociologia Ruralis*, 47(1), pp.20-41.
- Jordana, J., (2000), Traditional foods: challenges facing the European food industry. *Food Research International*, 33(3-4), pp.147-152.
- Mabhaudhi, T., Chimonyo, V.G., Chibarabada, T.P. and Modi, A.T., (2017), Developing a roadmap for improving neglected and underutilized crops: A case study of South Africa. *Frontiers in plant science*, 8, p.2143.
- McCleary, S. and Moran, C., (2019), Heritage food security in a changing climate. *Fourth World Journal*, 18(1), pp.37-47.
- Padulosi, S., Amaya, K., Jäger, M., Gotor, E., Rojas, W. and Valdivia, R., (2014). A holistic approach to enhance the use of neglected and underutilized species: the case of Andean grains in Bolivia and Peru. *Sustainability*, 6(3), pp.1283-1312.
- Saussure, F., (1966), *Course in general linguistics, etc.* New York: McGraw-Hill Book Co., p.66.
- Vanhonacker, F., Lengard, V., Hersleth, M. and Verbeke, W., (2010), Profiling European traditional food consumers. *British food journal*.
- Villa, T. C. C., Maxted, N., Scholten, M. and Ford-Lloyd, B., (2005), "Defining and identifying crop landraces," *Plant Genetic Resources*, Cambridge University Press, 3(3), pp. 373–384.

**Logos:**



**For more information:**

- Szymon Lara is a PhD researcher at the University of West London & Royal Botanic Gardens, Kew. His specialised interest is to increase the food & nutrition security levels through diversification of the supply chain with forgotten edibles.

Email: [Szymon.Lara@uwl.ac.uk](mailto:Szymon.Lara@uwl.ac.uk) or [S.Lara@kew.org](mailto:S.Lara@kew.org)

- Dr Amalia Tsiami is an Associate Professor in Food Science at the University of West London St. Mary's Road, Ealing. London W5RF, United Kingdom

Tel: +44 (0)20 82094422

Email: [Amalia.Tsiami@uwl.ac.uk](mailto:Amalia.Tsiami@uwl.ac.uk)

- Dr Philippa Ryan is a research fellow at Royal Botanic Gardens, Kew.  
Email: [P.Ryan@kew.org](mailto:P.Ryan@kew.org)

- Mr Peter Cross is a Senior Lecturer in Nutrition at the University of West London.

Email: [Peter.Cross@uwl.ac.uk](mailto:Peter.Cross@uwl.ac.uk)