



## EXPLANATORY REMARKS TO THE DEFINITION OF WHOLE GRAIN AS FOOD INGREDIENT

This definition refers to whole grain as a raw material and a food ingredient. The definition is generic and does not include quantitative criteria relevant for a single grain. Such criteria are available in existing standards and specifications. The term kernel is used for many widely consumed grains, such as wheat, maize, rice, barley and rye. Other commonly used terms include seed, berry, groats and grain. Additional terms, both in English and other languages may be used as well. The anatomical components referred to in the definition are:

- The bran fraction including the pericarp (outer and inner pericarp), the seed coat and the aleurone layer of the cereal grain.
- The germ fraction.
- The endosperm fraction including starchy endosperm.

Ad 1. The Poaceae (also called Gramineae) family includes all kinds of edible and other grasses. A wide range of edible ones, called cereal grains, is listed in definitions (e.g. AACCI and Healthgrain) and by the Whole Grains Council (see <https://wholegrainscouncil.org/whole-grains-101/whole-grains-z>) together with the pseudo-cereals listed in Annex 1. The global definition allows addition of newly developed species of cereal grains, such as Triticum, when they are accepted by the relevant authoritative body as grain for human consumption.

Following existing definitions and dietary guidelines of whole grain worldwide, pulses and legumes are not included.

Ad 2. Most grains need to be processed before consumption, which may include cleaning (removal of stones, stems, etc.), removing inedible parts (e.g., hull/husk), dry (e.g., milling) and wet (e.g., malting, sprouting, fermenting) processing to make nutrients more available and improve palatability, and stabilizing (e.g., toasting germ and rice bran) to inactivate enzymes that reduce storage stability. Therefore, in addition to the “ground, cracked, flaked” mentioned in the AACCI and Healthgrain definition, “otherwise processed” is included. Issues related to further processing such as baking and extrusion for preparing food products are outside the scope of the definition of whole grain as a food ingredient.

Ad 2b. In most commonly applied milling processes endosperm, bran and germ are separated for later recombination. For most whole grains and flours that require a long shelf life, the germ and bran fraction are heat stabilized, followed by recombination with the endosperm of a batch of grain that entered the plant later. In many large flour milling plants, a wide range of varieties of the same grain are processed.

Ad 2c. Consistent with good standards of manufacturing practices, small, generally unavoidable losses resulting from removal of the hull/husk, milling, or processing (e.g., minimally processed bulgur and nixtamalized maize), as well as minimal removal of outer layers are acceptable. Allowable limits for the percentage removed should be evidence-based, be kept to a minimum, may depend on the specific grain type or variety, and on local regulations or constraints (e.g., in some jurisdictions 2% is the maximum loss allowed for wheat).

Ad 2d The Global Working Group acknowledged that current practices in grain processing include methods such as sprouting and fermentation and agreed with the text of item 2d – the AACCI statement for malted and sprouted grains (2008), with addition of ‘fermented’, since processing increasingly includes fermentation of grains, flours, or a fraction (e.g. bran, where bakeries apply long partial pre-fermentations before reconstitution to a whole grain dough for ‘standard’ fermentation).

The Global Working Group also agreed with the recommendation by the Healthgrain Forum (2017) that processing should not result in a >10 % reduction in the dietary fibre content (as an indicator of the amount of beneficial components within the whole grain).



## **Status of the Definition**

This global definition of Whole Grain was developed by a Global Working Group with experts from academia, government agencies and industry, formed as a follow-up of the 6<sup>th</sup> International Whole Grain Summit, Vienna 13-15 November 2017. The Group considered widely accepted definitions and new developments. In its meeting in London, October 21<sup>st</sup>, 2018 the Group agreed on the outline of the definition. In its meeting in Vienna, April 24<sup>th</sup>, 2019 the Group agreed, after considering comments received after wide circulation of the definition, on the current version and presented this to the Global Whole Grain Initiative Group.

As a next step AACCI, ICC, Healthgrain Forum and other organisations involved in the Global Whole Grain Initiative are planning to widely circulate this definition, collect and consider comments, thereafter, officially adopt the final version and invite related organisations to endorse the definition as well. After this wide endorsement a petition to Codex requesting its adoption is envisaged.

In addition to developing this generic definition the Working Group will collect and assess existing standards and specifications for wheat and other specific grain species and will recommend improvements.

A specific whole grain ingredient definition, chosen by a national or other jurisdiction or regulatory body (as is the case with the Codex Definition of dietary fibre and other global definitions), should meet the requirements of the global definition; however, the definition for certain regions or jurisdictions may have additional stipulations.