The HEALTHGRAIN definition of ‘whole grain’

Acceptance in Europe and world-wide - update

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Due to very recent developments – new title:
The HEALTHGRAIN definitions of ‘whole grain’ and ‘whole grain foods’

Acceptance in Europe and world-wide - update

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HealthGrain Forum (www.healthgrain.org)

- Founded in May 2010 to continue promotion of science and communication for production and consumption of healthy cereal foods, as a follow-up of the EU HEALTHGRAIN project.
- Acting as the Nutrition and Health Task Force associated with ICC Supported (e.g. administration, website) by ICC Office
- Based in Europe - with members and links worldwide
- 47 Members from 19 countries; 29 academia/institutes, 18 companies
- A board + 3 task forces - Nutrition, Technology, Communication & Regulatory - to plan the activities, including 2 Workshops per year
- HEALTHGRAIN Definition of ’whole grain’ (2010) – increasingly accepted
- Healthgrain Forum definition of whole grain foods just published (2017)
- Membership (https://www.healthgrain.org/membership)
- Academia/ institutes and small companies: modest fees
- Major industries – larger fees
Content

➢ Introduction

➢ The HEALTHGRAIN whole grain definition
  focus: defining wholegrain flour/ raw materials

➢ One wholegrain definition in Europe and worldwide

➢ Defining whole grain food products -

➢ Final remarks
Wholegrain and health state of affairs

Dietary guidelines for grain products and worldwide:

➢ Based on many observational nutrition-health studies
  (> 100,000 consumers; followed > 20 years – diet can be correlated with health, disease and death)
➢ Wholegrain consumption widely recommended

However:

➢ Negative news about grains and health in social media
➢ Decreasing sales of grain-based products in ‘western’ world

What can help to reverse this trend?

➢ Inform and mobilize: policy makers, nutritionists, dietitians, communication experts
➢ Approval of Health claims – e.g. for (products with) wholegrain wheat flour
➢ INTERNATIONAL HARMONISATION OF DEFINITION OF WHOLE GRAIN CONTRIBUTES TO A STRONGER MESSAGE, LESS CONFUSION AND WILL FACILITATE THE APPROVAL OF HEALTH CLAIMS
Global new food & drink launches with “whole grain" claim by product category (from 2000 to 2010)

Adapted from data of the Whole Grains Council
The need for a comprehensive Whole Grain Definition

- Growing consumption of whole grain foods, also in countries without whole grain tradition. Bread, pasta, biscuits, breakfast cereals, rice

- Most countries: whole grain/meal not defined, or short definition, e.g.:
  "Whole grain foods include the entire germ, endosperm and bran. Grains subjected to processing such as milling and flaking are also included."

- More complete definitions: list of grains included and processes allowed. Not only a short statement, but key statements + full document
  - USA [1999 (basis) – 2006 (extension)] AACCI/FDA Definition
  - UK (2008) IGD Guideline
  - Denmark (2008 + recent updates/extensions)

- HEALTHGRAIN definition (2010)
  - Developed in the HEALTHGRAIN EU project (2005-2010) consortium (science+industry: nutritionists, regulators, technology experts – milling, baking….)
HEALTHGRAIN Whole Grain Definition

Full definition, see https://www.healthgrain.org/activities/whole_grain (2010, minor update 2013)
Publication in peer-reviewed journal : Food & Nutrition Research 2014, 58: 22100

Key statements
1) Whole grains shall consist of the intact, ground, cracked or flaked kernel after the removal of inedible parts such as the hull and husk. The principal anatomical components, the starchy endosperm, germ and bran, are present in the same relative proportions as they exist in the intact kernel. [same as AACC/FDA definition, 1999. Also: same grains, incl. pseudo-cereals, listed]

2) Small losses of components - i.e. less than 2% of the grain/10% of the bran - that occur through processing methods consistent with safety and quality are allowed
   [included: German and Swiss definitions (long ago), Denmark (Recently). Very widely accepted]
HEALTHGRAIN Definition
Other key statements

➢ Covers all current industrial processing practices – modern and traditional
   Since major observational studies (>> 100,000 consumers) associate wholegrain products convincingly with health benefits

➢ Recombination of germ, bran and white flour: allowed in- and outside flour mill
➢ The ratio’s should be similar as in the original grain – but germ and bran may come from other batches of the same grain type

➢ Processing according to Good Manufacturing Practices (GMP) required

➢ The Netherlands:
➢ certification of wholemeal wheat flour delivered to Dutch bakeries, accepted by all flour mills
   For ensuring sufficient bran (~15%) and germ (~3%) in the wholemeal flour
   System developed by NBC, Dutch Bakery Centre (Dr Flip van Straaten)
HEALTHGRAIN (HG) Definition of ‘whole grain’ (WG) Principles and implications

- **International harmonisation**: if possible similar to other important definitions
- Text 1st key statement similar to USA definition (USA does not include 2nd part)
- Includes list of grains allowed: cereals (Poaceae/Gramineae), pseudo-cereals
  - Same grains allowed as in USA and UK (IGD Guidance Note)
  - Pseudo-cereals (quinoa, amaranth, buckwheat) important for celiac persons
  - Cereals + pseudo-cereals = food category

- Overall aim of HEALTHGRAIN and Healthgrain Forum:
  - *Increase consumers’ intake of protective components in whole grains*
  - Definition should not impose barriers
  - Examples of barriers (of some proposed definitions) not agreed by Healthgrain
    - only allowance of stone-milling, and
    - Recombination germ, bran, white flour only allowed by flour millers
Recent developments (end 2016, 2017)
1) Europe

February 2017:
- International Association of Plant Bakeries – Accepts and promotes the HG WG definition as the THE definition for Europe
- Major call for endorsement (e.g. ICC mailing > 8,000)

May 2017 – FoodDrinkEurope (Association of all major companies and associations)
- Many members: wide support + proposals for small additions/changes
- Flour Millers Association: \textit{Flour millers and no others should be responsible for recombination}”

Wide agreement – also among ‘modern’flour millers:
- Exclusivity for millers is not in line with practices already widely applied
- Flexibility with recombination contributes to attractive products

How to implement in Europe/world-wide: as ICC + ISO Standard?  
(Note: in Germany the WG Definition is a DIN Standard)
Recent Global support
International WG Definition expert workshop, Brasilia, 27-28 April, 2017

Report by Cynthia Harriman (HGForum member Oldways Whole Grains Council)

Government organised workshop. Aim: get opinions on definitions for WG and WG Foods “....

Major support – from Brazilian and international experts for Healthgrain definition of WG
- Alicia de Francisco, AACCI Brasil,
- Martha Zavari de Miranda, EMBRAPA
- Beat Weilenmann, director Bühler S.A, (emphasis on cleaning of mycotoxins)
- Sonia Romani, technical director of ABIMAPI, pretty much gave Jan-Willem's Hamburg talk verbatim (in Portuguese) and promoted the WG Summit

The audience also was quite interested in the HGF Whole Grain Food definition. I think the interest was enhanced by the fact that the earlier WG definition was talked about as such a standard, well thought-out.”

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Developing a Standard Definition of a Whole Grain Food

Cynthia Harriman
Director of Food & Nutrition Strategies
The Oldways Whole Grains Council
Brasilia • April 2017
Oldways Whole Grains Council

- Part of U.S.-based non-profit nutrition education organization Oldways
- WGC was founded in 2003
- Supported by 402 manufacturing company “members” based in 22 countries
Definition of a Whole Grain Food

Why we need a standard definition

Comparison of three possible approaches

➢ Option 1: 8g/30g approach
➢ Option 2: HealthGrain Forum Definition
➢ Option 3: Three-level Labeling (Stamp)

The Oldways Whole Grains Council
Why a Standard Definition?

The Oldways Whole Grains Council
Option 1
8g of whole grain in 30g of food
A food providing at least 8g of whole grains per 30g (27g/100g) shall be recognized as a whole grain food.

- **December 2012** – Proposed by a “Roundtable” of a small group of researchers meeting in Chicago.
- **May 2013** – AACCI proposed the same approach, but called it a “characterization” not a definition.

  *[This] allows AACCI to continue to evaluate our position and make changes as more information on whole grains contribution to a healthy diet is developed.*” AACCI, February 2014

The Oldways Whole Grains Council
Major Limitations of 8g/30g

① **Excludes foods in 4 categories**
   - Foods naturally high in water weight
   - Foods sold in cooked “heat and serve” form
   - Mixed meals or dishes
   - Foods normally containing less than 27% grain

② **Includes some foods made mostly with refined grains**

③ **Puts moist foods at a disadvantage**
Excludes foods naturally high in water

Example:
Chicken Noodle Soup, made with whole grain noodles.

38g whole grain per 312g serving
Traces of rice starch are only refined grains

Contains just 3.8g/30g
(Would need 83g of whole grain to qualify)
Includes foods primarily refined grain

Example:
“Whole grain” crackers

8g whole grain per 30g serving
17g refined grain per 30g serving

Contains 2x more refined grain than whole grain
HealthGrain Forum
≥ 30% of weight; mostly whole grain

HealthGrain Forum is a not-for-profit pan-European consortium of academics and industry working with cereal foods

The Oldways Whole Grains Council
A whole-grain food is one where the product is made with ≥ 30% whole-grain ingredients on a dry-weight basis, and more whole-grain ingredients than refined-grain ingredients.

- This definition will be published soon in Advances in Nutrition.
- It also recommends that the definition only be applied to foods generally recognized as healthy (based on local regulatory criteria).
HGF Definition Advantages

① Includes foods with high water weight
   Because it’s based on dry weight, foods like soup, ready-to-serve oatmeal or rice, and breads are not at a disadvantage.

② Excludes foods made mostly with refined grains

③ Mixed meals (e.g. pizza’s) may qualify
   Although this can still be challenging – but possible

④ Many foods with low grain content still won’t qualify
   Especially if health criteria are present.
HealthGrain Forum Definition

For Consumers:
1. Includes a wide range of healthy foods that consumers enjoy, like soups and ready to eat grains.
2. Supports foods with added bran and germ.

For Manufacturers:
1. Because it’s based on dry weight, no food groups are at a disadvantage or eliminated.
2. Foods with added bran or germ are not penalized.

For Regulators:
1. Can be customized to allow for local definitions of “healthy”
Option 3
Three Level Labeling
100% … 50%+ … Some

The Oldways Whole Grains Council
# Three Level Labeling

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% Whole Grain Foods</td>
<td>For products where all the grain is whole grain. <strong>Considered “100% whole grain foods.”</strong></td>
</tr>
<tr>
<td>Whole Grain Foods</td>
<td>For products containing more whole grain than refined grain. <strong>Considered “whole grain foods.”</strong></td>
</tr>
<tr>
<td>Foods Contributing to Whole Grain Intake</td>
<td>For foods containing a significant amount of whole grains, but that may contain more refined grain than whole grain. <strong>Not considered whole grain foods, but can be labeled with whole grain content.</strong></td>
</tr>
</tbody>
</table>
The Whole Grain Stamp is one example of a three-level labeling system.

- Found on more than 11,000 products in 55 countries.
- Approved for use on 306 products in Brazil, starting in 2010.
Three Level Labeling

For Consumers:
1. Helps consumers “start on the bottom step of the ladder” then gradually and more easily transition to the fuller, nuttier taste of whole grains.
2. Allows consumers to compare products within food categories.

For Manufacturers:
1. Allows manufacturers to offer – and “get credit for” – a range of products as they gain experience in formulating with whole grains.
2. Encourages market competition leading to better and better products.

The Oldways Whole Grains Council
### 3 Options for Labeling Whole Grains

<table>
<thead>
<tr>
<th>Feature</th>
<th>Option 1 8g / 30g</th>
<th>Option 2 HealthGrain</th>
<th>Option 3 WG Stamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can be applied to all food categories; no penalty for water weight</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Allows consumers and manufacturers to start at low levels</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Takes consumers and manufacturers up “step by step”</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Supports the concept of “make at least half your grains whole”</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Prevents refined-grain foods from being called “whole grain foods”</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Recommends local criteria for “healthy” also be applied</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Allows for foods with added bran or germ</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Already widely used globally; a proven approach</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

The Oldways Whole Grains Council
Definitions of Wholegrain and WG Foods
Next steps

**Definition of whole grain**

Flour millers and whole grain – recombination:

Modern millers/ HGF members: “The world has changed – exclusivity for flour millers as the only ‘recombining actors’ is something of the past.”

HG Forum 2-step approach:

1) Get wide acceptance for current HG WG Definition
2) Thereafter: initiate actions for extension/ updating the Definition

And: Support for actions for implementing Good Manufacturing Practices for WG flours and products

**Definition of whole-grain foods**

Mid-July 2017: publication of HGForum paper in Advances in Nutrition

More info: see https://www.healthgrain.org/activities/whole_grain
Whole Grain Summit 2017 – Vienna, 13-15 November 2017

The 6th International Whole Grain Summit (WGS 2017), is the only international conference on whole grains, and will establish networks and define action plans that will stimulate increased consumption of whole grains and other healthy cereal ingredients.

The Summit will include discussions on science/technology, nutrition and health, business, marketing and regulatory perspectives leading to a concrete action plan for increasing whole grain consumption.

GET INSPIRED – DISCOVER OPPORTUNITIES
JOIN THE SUMMIT!

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THANK YOU FOR YOUR ATTENTION