

Aleurone Definition Ready for Membership Review

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Many AACC International members are interested in aleurone. It is a distinct component of grains that has gained interest due to its nutritional benefits. However, aleurone is not a “whole grain”; hence, it has not been used extensively in the formulation of grain-based products in which whole grain claims are desired. Subsequently, the general population has not realized to any significant extent the nutritional benefits of aleurone. The approval of a definition for aleurone is a required step if governmental agencies are to change or create regulations that would facilitate the wider use of aleurone in grain-based product formulations.

On behalf of the members of the AACC Intl. Aleurone Task Force, I would like to submit the following aleurone definition for review and comment by the AACC Intl. membership. As stated in our charge from the Board of Directors, the task force has worked “as a scientific review committee to develop an aleurone definition using sound science as a guide.” As also stated in our charge, our next step is to acquire further input from the general membership and global scientific community to refine the following definition:

“Cereal aleurone tissue comprises the outermost layer(s) of the endosperm in cereal grains and surrounds the grain over the starchy endosperm and part of the embryo. Cereal aleurone tissue is separated from the germ and starchy endosperm by standard milling practices, starting with the grain kernel or the bran, followed by further extraction processes. Microscopic evaluation reveals it is morphologically distinct from other grain tissues because it contains a high concentration of niacin bodies within fibrous cell walls that are thicker than endosperm cell walls and is composed mainly of arabinoxylans and beta glucans in various ratios. Isolated aleurone tissue should contain low levels of starch and pericarp and represents a major portion of the grain’s physiologically beneficial substances for human nutrition.”

The Aleurone Task Force is a diverse group of well-respected members of the grain science community. Members include: Gary Fulcher (University of Manitoba), Valérie Lullien-Pellerin (INRA), Len Marquart (Grains for Health Foundation), Elaine Meloan (AIB), Louise Slade (Food Polymer Science Consultancy), Joanne Slavin (University of Minnesota), Jessica Wellnitz (Cargill), and Walter Von Reding (Buhler). Susan Kohn represents the AACC Intl. staff, outstandingly helping to coordinate our efforts. We have comprehensively reviewed the literature pertaining to aleurone and rigorously debated what the critical elements of the definition should be (i.e., a basic description of the material, generic processing information not tied to a specific technology, a description of purity, a measurement, and an implied health benefit). We also debated at length how these elements should be represented in the definition. We met by

conference call many times and discussed individual member’s input at length. During the intervals between the meetings, members worked to refine the preliminary definitions proposed, thus continuously improving them until we achieved consensus with the definition above.

We have worked diligently to develop this definition and feel it meets the requirements stated in our charge. We look forward to hearing your reaction and have created a website, available at www.aaccnet.org/definitions/aleurone.asp, where you can comment on the proposed definition through May 31, 2010. At that time, all comments will be considered by the Aleurone Task Force prior to a final definition being sent to the AACC Intl. Board of Directors for final approval.

William A. Atwell has 31 years of experience in the food industry. He is currently employed as a research fellow and the technical leader of the bakery category in Cargill’s Global Food Technology Group. As an active member of AACC Intl., Atwell has served as president, director, Carbohydrate Division chair, Northwest Section chair, and Foundation Board chair, and currently serves as Scientific Advisory Panel chair and chair of the Aleurone Task Force. Atwell can be reached at Bill_Atwell@cargill.com.



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