New Aleurone Definition Approved

Bill Atwell

Aleurone is a distinct component of grains that has gained interest due to its nutritional benefits. Aleurone is not, however, a “whole grain” and hence has not been used extensively in the formulation of grain-based products where whole grain claims are desired. Subsequently, the general population has not realized to any significant extent the nutritional benefits of aleurone.

Recently, the AACC International Aleurone Task Force, the scientific review committee—charged with developing an aleurone definition using sound science as a guide and specifying the composition, processing, and benefits of aleurone—proposed a preliminary definition of aleurone for review by the full AACC Intl. membership and the global scientific community.

Feedback on the proposed definition was collected and reviewed, and based on these recent comments, the definition was amended by the AACC Intl. Aleurone Task Force. The AACC Intl. Board of Directors has reviewed and approved this final definition. The definition’s approval was a required step if governmental agencies are to change or create regulations that would facilitate wider use of aleurone in grain-based product formulations.

The following definition was developed by the task force and has been approved:

“Cereal aleurone tissue comprises the outermost layer(s) of the endosperm in cereal grains, and surrounds 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 starting with the bran, followed by further extraction processes. Microscopic evaluation reveals that aleurone cells are morphologically distinct from other grain tissues because they contain a high concentration of niacin bodies. Each aleurone cell is enclosed within a fibrous cell wall that is thicker than endosperm cell walls and that 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.”

Moving forward, the AACC Intl. Aleurone Task Force will work to determine which government bodies they will work with to disseminate this new definition.

Bill 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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