Biotechnology Innovation Organization

January 25, 2016

Division of Dockets Management (HFA-305)
Food and Drug Administration
5600 Fishers Lane, Rm. 1061
Rockville, MD 20852

Submitted Electronically via Federal eRulemaking Portal (http://www.regulations.gov)

Re: Food and Drug Administration Docket No. FDA-2015-D-4272; Food Labeling; Voluntary Labeling Indicating Whether Food Has or Has Not Been Derived From Genetically Engineered Atlantic Salmon; Draft Guidance for Industry.

Dear Sir/Madam:

The Biotechnology Innovation Organization (BIO) appreciates the opportunity to provide input on the U.S. Food and Drug Administration's (FDA) draft guidance for industry on voluntary labeling of food derived from genetically engineered and non-genetically engineered Atlantic salmon (*Salmo salar*). BIO is the world's largest biotechnology trade association, representing companies, academic institutions, state biotechnology centers and related organizations. BIO members use biotechnology at all stages of research and product development to further innovation in a variety of economic sectors including human health, agricultural production, food processing, industrial manufacturing, energy production and environmental management.

The tools of biotechnology, which include genetic engineering, are used by many BIO members to develop and produce a wide variety of food and feed products, additives, processing aids and related detection technologies. As a result, BIO has a strong interest in FDA's consistently applying the appropriate laws, regulations, and scientific principles to its requirements for food labels and labeling.

For over 20 years BIO and its members have supported FDA's science-based labeling requirements, which apply to all foods including those produced using genetic engineering. The principles, statutory language and legal interpretation underlying FDA's requirements are described in detail below, but in layman's terms, the requirements are as follows.

- FDA may require a label for a new food only if the food is materially different from its traditional counterpart in nutritional or safety attributes; in taste, appearance or smell; or in its preparation methods.
- No special label or labeling is required by FDA if a food is substantially equivalent to its non-labeled counterpart in terms of safety, nutrition, taste, appearance, smell, and preparation methods.

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- Food labels and other forms of food labeling[1] must be both truthful and not misleading. Both the presence and absence of information can be misleading.

BIO views the draft guidance on voluntary labeling of genetically engineered salmon as consistent with the principles and statutory requirements that guide the FDA's labeling regulations and policies for all food and feed.

Background: Relevant Statutory Framework

The Federal Food, Drug, and Cosmetic Act (FFDCA) provides the FDA with authority to regulate human food, animal feed and food additives, and it obligates food developers to ensure the foods they provide are safe[2] and labeled appropriately. With respect to labeling, section 403(a)(1) of the FFDCA[3] considers a food "misbranded" if its labels/labeling "is false or misleading in any particular," and Section 201(n) defines misleading labeling[4]. Food labels and labeling can be misleading in two ways: by falsely stating or implying certain attributes, or by failing to disclose facts that are "material."

The FDA has interpreted the scope of "materiality" with respect to food labeling to mean information about the food itself. Specifically, the agency has found information to be material and has required additional labeling when the absence of information may: (1) pose special health risks for some people[5]; (2) mislead the consumer in light of other statements made on the label/labeling[6]; or (3) lead a consumer to assume that a food, because of its similarity to another food, has nutritional, organoleptic (e.g., taste, smell, or texture), or functional characteristics of the food it resembles when, in fact, it does not[7].

Under the FFDCA, the FDA cannot compel food manufacturers to label their foods with information deemed immaterial. As FDA has recently explained, "consumer interest alone does not provide a sufficient basis to require labeling disclosing whether a food has been produced with or without the use of . . . genetic engineering. Absent a sufficient basis to require such labeling, the agency cannot compel food manufacturers to label their foods with information regarding whether such foods were produced through the use of genetic engineering . . . [C]ourts have repeatedly and correctly rejected the notion that consumer interest alone is sufficient to constitute a material fact under section 201(n) of the [FFDCA]. The [FFDCA] plainly does not require disclosure of the method of production without regard to its effect on the product."[8]

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[1] For FDA, "labeling" may extend to information beyond that included on containers or wrappers. For example, in certain circumstances, information that is disseminated over the internet meets FDA's definition of labeling in section 201(m).
[2] Under section 402(a)(l) of the FDCA [21 U.S.C. 342(a)(1)], a food is deemed adulterated, and thus unlawful, if it bears or contains deleterious substances that make the food injurious to health.
[3] 21 U.S.C. 343(a)(1)
[4] 21 U.S.C. 321(n)
[5] 21 CFR 101.17(d) and 21 CFR 589.2000(c)(1)(i)
[6] 21 CFR 101.13(j)
[7] 21 CFR 101.13(d)(1)
[8] Letter from FDA Associate Commissioner Leslie Kux (Nov. 19, 2015) denying Center for Food Safety citizen petition asking FDA to require labeling for genetically engineered foods and foods with genetically engineered ingredients (available at http://www.regulations.gov/#!documentDetail;D=FDA-2011-P-0723-0788)

Background: Genetic Engineering, Materiality and FDA-Required Labels

In its 1992 Policy[9] the FDA addressed the labeling of foods derived from new plant varieties, including those developed with genetic engineering. Because the agency was not aware of any information showing that genetically engineered foods differ from other foods in any meaningful or uniform way, or that, as a class, these foods present any different or greater safety concern than foods developed by traditional plant breeding techniques, the FDA concluded that the method used in developing a new plant variety (including genetic engineering) is generally not material information, within the meaning of Section 201(n). As such, food manufacturers would not be required to disclose information about the breeding methods used in developing the plant on the food's label or in other labeling-related materials. If, however, the food derived from any new plant variety differs from its traditional counterpart in ways that are material, that information must be disclosed on the food label.

In the United States, the FDA requires that all ingredients must be listed on the label, and when there is a meaningful difference in the safety, composition or nutrition of the crop from which they were derived, that difference is properly reflected on the label. For example, with respect to genetically engineered plants, FDA requires oil from a genetically engineered canola plant with a significantly different fatty acid profile than traditional canola oil to be indicated on the ingredients label.

The FDA's interpretation of its labeling authority with respect to foods derived from genetically engineered plants, as articulated in its 1992 Policy, was upheld by the United States District Court for the District of Columbia in *Alliance for Bio-Integrity v. Shalala*, 116 F. Supp. 2d 166, 170 (D.D.C. 2000).

Since publishing its 1992 policy on labeling of genetically engineered food, FDA has reviewed detailed scientific analyses of more than 150 genetically engineered plants[10] for intended and unintended changes in composition and nutrition, as well as the scientific literature. The November 2015 publication of FDA's guidance document on the voluntary labeling of food derived from genetically engineered plants confirms that the principles and assumptions that were fundamental to its 1992 policy remain valid today[11].

Consistent with its findings on food derived from genetically engineered plants, in 2009 FDA concluded that labeling of food from genetically engineered animals would be subject to the same requirements as food from non-genetically engineered animals, because the technique that was used to develop the animal would not be material information with respect to labeling[12]. However, as with plants, if food from a genetically engineered animal is significantly different from that of its non-genetically engineered counterpart in material ways, FDA requires that difference to be reflected on the requisite label describing the product's ingredients.

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[9] Statement of Policy: Foods Derived From New Plant Varieties; Notice *Federal Register*, Vol. 57, May 29, 1992, pp. 22984-23005.
[10] Inventory of FDA pre-market consultations available at http://www.accessdata.fda.gov/scripts/fdcc/?set=Biocon
[11] Guidance for Industry: *Voluntary Labeling Indicating Whether Foods Have or Have Not Been Derived from Genetically Engineered Plants* (2015), available at: www.fda.gov/foodguidances
[12] Guidance for Industry. Regulation of Genetically Engineered Animals Containing Heritable Recombinant DNA Constructs (2009). http://www.fda.gov/downloads/AnimalVeterinary/GuidanceComplianceEnforcement/GuidanceforIndustry/UCM113903.pdf

AquAdvantage® Salmon

On November 19, 2015, the FDA approved a new animal drug application (NADA) related to AquAdvantage® Salmon, a farm-raised, genetically engineered Atlantic salmon (*Salmo salar*) developed by AquaBounty Technologies, Inc. (ABT). This is the FDA's first approval of an NADA in support of a genetically engineered animal that will be used as food[13].

As part of the approval process, on 19-21 September 2010 FDA hosted two separate, but related, meetings to provide members of the public with an opportunity to observe and participate in the informational and deliberative processes of FDA staff and one of FDA's scientific advisory panels, the Veterinary Medical Advisory Committee (VMAC). At the first meeting, the VMAC and members of the public received extensive information on scientific and regulatory issues; the VMAC and FDA staff discussed the safety of the AquAdvantage® Salmon; and the public provided comments to the FDA[14]. At the second meeting, which focused on labeling, FDA staff explained the relevant legal principles for food labeling; solicited information from the public on the application of these principles to labeling food derived from AquAdvantage® Salmon; and opened a 60-day public comment period[15].

For the September 2010 VMAC meeting, the FDA provided committee members and the public with a briefing packet[16] that included 1) a summary of FDA's process for determining the food and environmental safety of the AquAdvantage® Salmon; 2) the data and information FDA staff evaluated as part of the application process; and 3) the agency's evaluations of food and environmental risks. As reported in the briefing packet for the VMAC meeting, in 2010 the FDA had concluded:

- "Food from AquAdvantage Salmon (triploid, monosex (all female) ABT salmon) is the same as food from other Atlantic salmon."
- "We have found no biologically relevant difference between food from ABT salmon and conventional Atlantic salmon based on the criteria evaluated."
- "No direct or indirect food consumption hazards were identified in AquAdvantage Salmon."

In addition, the FDA stated, "We therefore conclude the food from AquAdvantage Salmon (the triploid ABT salmon) that is the subject of this application is as safe as food from conventional Atlantic salmon, and that there is a reasonable certainty of no harm from the consumption of food from this animal. No animal feed consumption concerns were identified."[17]

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[13] Links to many documents associated with FDA's decisions on the AquAdvantage® Salmon are available at http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/GeneticEngineering/GeneticallyEngineeredAnimals/ucm280853.htm Specifically, the summary of AquaBounty Technology's Original New Animal Drug Application and FDA's approval letter are at http://www.fda.gov/downloads/AnimalVeterinary/DevelopmentApprovalProcess/GeneticEngineering/GeneticallyEngineeredAnimals/UCM466215.pdf and http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/GeneticEngineering/GeneticallyEngineeredAnimals/ucm466214.htm

[14] http://www.fda.gov/AdvisoryCommittees/Calendar/ucm223823.htm and http://www.fda.gov/AdvisoryCommittees/CommitteesMeetingMaterials/VeterinaryMedicineAdvisoryCommittee/ucm222635.htm

[15] http://www.fda.gov/Food/NewsEvents/ConstituentUpdates/ucm222601.htm

[16] http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/VeterinaryMedicineAdvisoryCommittee/UCM224762.pdf

[17] Id. at 62

The FDA also determined that these salmon meet the standard of identity for Atlantic salmon established by FDA's Reference Fish Encyclopedia[18], and noted no biologically relevant differences in either the gross composition (proximate analysis), or in any edible tissue component (e.g., amino acids, minerals, vitamins, fatty acids) between this salmon and a conventional salmon.[19] Finally, FDA found that triploid AquAdvantage® Salmon "pose no additional allergenic risk than control Atlantic salmon."[20]

Given the statements above, in 2010 FDA had concluded that food from AquAdvantage® Salmon is not materially different from food from other Atlantic salmon and, therefore, differential labeling of any sort is not needed, nor is it mandated by the FFDCA.

During the public comment period that followed the 19-21 September 2010 meetings, the FDA received over 300,000 comments, of which FDA determined 38 were substantive[21]. As is evident from the August 19, 2015 memo that is included in the docket,[22] in the intervening 5 years, the FDA learned of no new information that would lead it to contradict the findings it shared in September 2010. The findings in the August 19, 2015 are identical to those, quoted above, in the September 2010 VMAC briefing packets.

Summary

The FDA has concluded that food from triploid, monosex AquAdvantage® Salmon is the same as food from other farmed Atlantic salmon, with similar safety, allergenicity, nutritional levels, and organoleptic properties. FDA's conclusions on these issues support FDA's determination that differential labeling is not required for these food products.

FDA has determined previously that the mere fact that genetic engineering is part of a food product's development history is not a material fact that requires an on-food label or other forms of labeling. For many years BIO and its members have supported FDA's position, which reflects not only global scientific consensus but also longstanding U.S. food law.

BIO agrees with the FDA that, under the FFDCA, there is no legal or factual basis to require labeling for AquAdvantage® Salmon to indicate that genetic engineering was used in the development of these salmon. Use of our food safety laws to require special labeling for genetically engineered foods that are indistinguishable from traditional counterparts would mislead consumers by falsely implying material differences where none exist, and could easily mislead U.S. trading partners, as well. The mandatory addition of immaterial information on food product labels and labeling by the FDA would also risk diverting consumer attention from material and important food label information, such as nutritional or allergenicity information.

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[18] Id. at 61
[19] Id. at 61-62
[20] Id. at 106
[21] http://www.fda.gov/AnimalVeterinary/DevelopmentApprovalProcess/GeneticEngineering/GeneticallyEngineeredAnimals/ucm466221.htm
[22] http://www.regulations.gov/contentStreamer?documentId=FDA-2015-D-4272-0003&attachmentNumber=1&disposition=attachment&contentType=pdf

BIO supports any food company's right to voluntarily label a food product purely for marketing purposes or consumer interest, as long as the claims are not false or misleading for consumers, and can be properly substantiated. We appreciate that some producers want to label their food products as "non-genetically engineered". As FDA has explained, however, such labeling claims cannot be false or misleading, whether implicitly or explicitly, and must be accompanied by appropriate qualifying language where necessary.

For example, a label for Atlantic salmon cannot imply differential safety based on development methods. The FDA has determined that the AquAdvantage® Salmon is as safe for the consumer as traditionally-bred, farmed salmon. Any implication to the contrary would be false and misleading.

BIO appreciates the opportunity to provide input on this important issue.

Sincerely,

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