Comments on Okanagan Specialty Fruits Inc.; Availability of Petition for Determination of Nonregulated Status for Arctic™ Apple Events GD743 and GS784

USDA Docket ID: APHIS-2012-0025

December 9, 2013

To whom it may concern,

We are a group of legal scholars and practicing attorneys who have studied U.S. agriculture policy and the regulation of biotechnology products for many years. We write today to urge USDA/APHIS to promptly deregulate the genetically engineered (GE) Arctic Apple transformation events GD743 and GS784 (Docket # APHIS-2012-0025). The Arctic Apple is a safe, nutritious, and economically beneficial product.

If deregulated by USDA/APHIS, these genetically engineered apples will benefit consumers and the U.S. economy by reducing food deterioration, discoloration and waste at the producer, processor, retailer and consumer level. Food waste is a significant economic and environmental problem in the United States, generating millions of tons of solid waste that must be disposed and billions of dollars in economic loss. Although, by itself, the Arctic Apple would represent only a very small contribution to the country's overall efforts to reduce food waste, the non-browning trait it incorporates could contribute significantly to reducing post-harvest loss in the U.S. apple industry. Were this or similar traits to be subsequently approved for use in other fruits and vegetables, the resulting increase in economic productivity, decline in consumer prices, and improvements in food system sustainability could prove enormous.

In addition, the reduced browning of cut apples could eliminate a processing step at the packager and retailer level (the use of anti-browning agents including, but not limited to lemon juice), while also expanding the uses and promoting consumption of fresh cut apples as a healthy and nutritious snack food. Nor should the cosmetic benefits of a non-browning apple be underestimated. Children, for example, and even many adults, are encouraged to increase their consumption of fresh fruits and vegetables for dietary reasons. Yet many consumers are turned off by the unappealing appearance and flavor of bruised whole apples or discolored apple slices. Simply improving the cosmetic appeal of apples should be expected to have an important positive impact on the dietary choices of millions of American consumers.

Several of the comments submitted to this docket claim, without justification, that deregulation of the Arctic Apple would jeopardize the marketability of non-genetically engineered apples because of the risk of unintentional cross pollination. However, any risk of commingling via pollen drift to conventional and organic apple trees is minimal given existing production practices. And, even if pollen from Arctic Apple trees were to drift to non-engineered trees, the fruit born by those trees would be functionally unaffected because the edible fruit tissue of an apple is derived solely from the maternal tree. Consequently, consumers that might eat such a hybrid apple fruit would not be exposed to the transgenes or transgenic material. Of course, assessments of Arctic Apple trees and fruit show there are no meaningful health or environmental safety differences between the GD743 and GS784 events and non-engineered apples.

While fruit slices, juice, baby foods or apple sauce are products frequently consumed by vulnerable populations, including children and babies, there is no reason to believe that these populations would be at increased risk for any adverse health effects. The safety and nutritional impacts of genetic engineering have been studied extensively for more than three decades. Dozens of the most respected scientific organizations, including the U.S. National Academies of Science, the American Medical Association, and the United Nation's Food and Agriculture Organization have concluded that the process of genetic engineering gives rise to no new or unique risks compared to those associated with conventional plant breeding.

In addition, while many commercially available genetically engineered food crops have been modified to produce a novel protein not present in the parent plants, the chimeric PPO suppression transgene introduced into the Arctic Apple produces no novel proteins or other substances. The sole effect of the transgene is to inhibit expression of endogenous genes that cause fruit browning. Thus, all available information indicates that Arctic Apples are every bit as safe and nutritious as their conventional counterparts.

Extensive analysis of the Arctic Apple's agronomic performance also indicates that trees perform in the field just as non-engineered apple trees do. In 13 field trials over 11 years, test plants maintained and observed by independent horticultural consultants were found to perform no differently than controls in a broad range of agronomic and ecological measures. There is no evidence that the Arctic Apple poses any plant pest risk or is in any other way potentially injurious to American agriculture or to the natural environment. These findings alone justify a USDA/APHIS decision to deregulate the product.

Notwithstanding the overwhelming evidence of the Arctic Apple's consumer and environmental safety, certain consumers may still wish to purchase only non-engineered fruit. Currently, consumers have a choice of thousands of affirmatively labeled non-genetically engineered or "GE-Free" products throughout the United States, amply supplying the demand for foods made without the use of ingredients developed with molecular biotechnologies. However, developers of the Arctic Apple intend to sell the products with specific brand labeling identifying the non-browning trait and with accompanying point-of-sale literature and in-store demonstrations that would alert consumers to the specialty nature of the product. This voluntary labeling would serve as yet another point of differentiation, which consumers wishing to avoid GE ingredients may use to make alternative purchases. In addition, there are a number of retailers who will segregate (or not stock) these labeled products in order to best serve their own customers. Ultimately, standard market processes will be more than capable of helping retailers and consumers distinguish the Arctic Apple from more conventionally bred fruit.

We also advise USDA/APHIS to disregard the inflammatory comments filed by interest groups that claim the mere commercial availability of the Arctic Apple will have a "negative impact" on farmers growing organic and non-GE apples due to loss of organic certification or verified non-GE status. Such claims have been made by Friends of the Earth, the U.S. Apple Association, Northwest Horticultural Council (which represents Washington apple growers, who grow over 60% of the apples in the U.S.), British Columbia Fruit Growers Association and other apple grower groups. But, as USDA/APHIS surely knows, there is no significant risk of such impacts.

Under the USDA's National Organic Program rules, unintentional cross pollination of an organic crop by a genetically engineered one does not jeopardize the organic crop's certification, so long as the organic grower has followed an approved organic production plan. Regardless, as we have seen with genetically engineered crop species commercialized to date, growers who take relatively simple coexistence measures can preserve the identify of non-GE varieties with a high degree of fidelity.

Additionally, apple blossoms are insect pollinated; wind pollination is a minimal risk, which should make identity preservation of non-GE apples comparatively easier than certain other crop species. Growers with good business sense will also use pollination contracts and, where necessary, voluntary grower districts and cooperatives to eliminate some potential problems. A wide variety of free or low-cost resources are available to aid growers in designing coexistence strategies and drafting pollinator contracts that detail grower and beekeeper responsibilities. (See, e.g., NC Apple Production Manual,

http://www.ces.ncsu.edu/depts/hort/consumer/agpubs/ag-415.pdf; Endres, A.B. 2005. "Revising Seed Purity Laws to Account for the Adventitious Presence of Genetically Modified Varieties: A First Step Towards Coexistence." Journal of Food & Law Policy 1(1): 131-163.) Nevertheless, as we mentioned above, in the rare cases in which pollen from Arctic Apple trees were to reach non-GE trees, the fruit born by those trees would be functionally unaffected because the edible fruit tissue of an apple is derived solely from the maternal tree. Ultimately, it is extraordinarily unlikely that the introduction of the Arctic Apple could, in any meaningful way, affect organic and conventional apple orchards or cause valuable export markets to reject U.S. grown apples.

We would urge that you review (if you have not already done so) the *World Apple Report* article on the "real risk" of biotech foods in their July 2013 issue. This report seeks to calm the overreaction to safety concerns and suggests a comparison of biotech crops to other perceived risks and quantifies the likelihood of exposure to safety concerns and potential severity. The perceived risks of biotech apples and similar foods, are largely imaginary and overstated. (See, "GMOs and Real Risk", *The World Apple Report*, (July 2013) http://www.arcticapples.com/sites/default/files/the_world_apple_report_-_gmos_and_real_risk_-_july_2013.pdf.)

Again, we urge USDA/APHIS to approve this product in a timely manner. It poses no unmanageable economic, health or environmental risk to apple growers, the food industry or consumers.

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