

Arctic Apples

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Arctic Apples are varieties of apples that contain a nonbrowning trait introduced through biotechnology^{[1][2]} developed through a process of genetic engineering and precision breeding by Okanagan Specialty Fruits Inc. (OSF).^[3]

To achieve the nonbrowning trait in these apples, gene silencing is used to turn down the expression of polyphenol oxidase (PPO), thus preventing the fruit from browning.^[4] Golden Delicious and Granny Smith apples are the first varieties chosen for this modification, though any apple variety can be transformed in this way.^[5] Nonbrowning apples are suggested to have a number of supply chain benefits, including reducing food waste, freshcut applications and consumer convenience.^[6]

Canadian & U.S. approval review

These apples, like all foods produced through biotechnology, must be approved by the Animal and Plant Health Inspection Service (APHIS), of the United States Department of Agriculture (USDA), before they can be sold to consumers in the United States. In Canada, the Canadian Food Inspection Agency (CFIA) and Health Canada are responsible for approval. These varieties are being reviewed in both countries in 2012, and no trees can be commercially sold until approval occurs.^[7] If approved they will be the first genetically engineered apple brought to market in North America.^{[8][9]}

Arctic Apples received a large amount of media attention when the CFIA posted OSF's submission^[10] for Canadian approval on their website (May 2, 2012) asking for public comments.^[11] The USDA also posted OSF's 163-page petition^[12] for U.S. approval, asking for comments.^[13] This re-ignited media attention, beginning with a New York Times article titled "That Fresh Look, Genetically Buffed"^[14] and continuing on with stories from many other outlets.^[15] If approved, it has been estimated that Arctic Apples will first arrive in North American grocery stores by 2014/15.^[16]

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