

## Pioneering Orchardist Unveils Plan to Revitalize Ailing Apple Industry

Neal Carter unveils bold plan to transform apple farming with genome editing, AI & robotics to cut costs, boost sustainability & ensure industry viability.

MOSES LAKE, WA, UNITED STATES, May 15, 2025 /EINPresswire.com/ --Washington State orchardist Neal Carter, co-founder of Okanagan Specialty Fruits (OSF) and creator of the world's first nonbrowning apple, recently unveiled a bold plan to revitalize the U.S. apple industry



through the integration of genome editing, robotics and artificial intelligence.

Carter outlined his vision in a white paper, "Traits and Tech: Designing the Orchard of the

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Escalating labor costs are the primary challenge to the continued viability of the U.S. apple industry. A radical transformation is essential for the industry's survival." *Neal Carter, CEO and Co-Founder*  Future," which was recently released during an open house at the company's orchards and Moses Lake processing facility. As part of the full-day event, OSF also showcased its high-speed fruit slicing and packing operations, offered live demonstrations of AI and autonomous orchard tools and hosted two expert symposiums on agricultural innovation at Big Bend Community College.

"Escalating labor costs are the primary challenge to the continued viability of the U.S. apple industry," said Carter, noting that labor now represents more than 60% of total

production costs. "A radical transformation is essential for the industry's survival."

Carter, who pioneered the use of biotechnology in orchard crops, now wants to use genome editing to fundamentally change apple tree architecture. He has proposed altering apple's germplasm so that it produces its fruit at a single height, facilitating the nearly full automation of apple production and harvesting through robotics and AI. "These changes will significantly reduce production costs, support sustainable agricultural practices and ensure the industry's continued economic viability," Carter said. Projected savings of \$8,000 to \$10,000 per acre could be realized over current production costs of \$14,000 to \$16,000 per acre.

"Though the apple industry has continuously adapted over the past 40 years by adopting new horticultural approaches, such as increasing the density of tree plantings, employing various trellis structures, developing new dwarfing rootstocks it has maximized its ability to change the system through physical tools," Carter said. "Some of these practices are now actually working to exacerbate the challenges that are pushing smaller operations into the red."

"Improved genetics represent the industry's only real option to



implement a market-disrupting, game-changing system that can effectively reduce the high labor demands that are economically unsustainable," Carter said.

OSF has already demonstrated its biotechnology expertise by breeding a nonbrowning trait—achieved by silencing a gene that directs the oxidative browning process—into six varieties of Arctic<sup>®</sup> apples. OSF is among just a few companies globally with a bioengineered food product on the market. It is continuing to build on that innovation and expand its product line by using genome editing to add important traits like disease tolerance to its Arctic varieties.

Carter's vision for the farm of the future has global implications and is applicable to pears and other orchard crops. "Orchardists everywhere are facing similar challenges that demand bold and timely solutions," he said.

Carter, who has been described as a "disruptor" in the apple industry, was among the first to prioritize sustainability by introducing state of the art agronomic practices to his orchards, including data driven automated drip irrigation and overhead cooling systems use. He is also an early implementer of precision ag equipment to monitor and provide management data for all climatic, soil, pest and disease conditions, increasing on-farm efficiencies.

His vision for the farm of the future builds upon OSF's mission of using science and technology to reduce emissions and food waste, achieve greater operational efficiencies and expand consumer access to fresh fruit.

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About Okanagan Specialty Fruits<sup>®</sup>

Okanagan Specialty Fruits (OSF) is a world leader in tree fruit breeding and innovation, specializing in developing, cultivating, processing, and marketing novel tree fruit varieties through bioengineering, including genome editing. As a vertically integrated company, OSF is committed to advancing sustainable solutions that reduce food loss and waste while enhancing fruit consumption. Headquartered in Summerland, British Columbia, Canada, OSF was founded in 1996 and acquired by an affiliate of Third Security, LLC in 2019. Its flagship product, Arctic<sup>®</sup> apples, grown and processed in Washington, USA, offers a fresh-cut apple solution that stays orchard-fresh longer. OSF continues to push the boundaries of innovation with its latest venture, Endless Orchard Hard-Pressed Cider. For more information, visit <u>www.arcticapples.com</u>, <u>www.eocider.com</u>, or <u>www.okspecialtyfruits.com</u>.

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