

## Mitigating Weather Damage & Saving Crops: Smart Yields at 5,500 Feet in Colorado

Edward Tuft founded Leroux Creek Foods more than 30 years ago in Western Colorado, in what today spans nearly 500 acres of certified organic orchards in the heart of the snow-capped Rocky Mountains. He's no stranger to the early- and late-season frosts that can cost growers here millions in losses of high-value crops such as apples, cherries, peaches and plums.

A pioneer in flavored apple sauce products, Leroux Creek Foods processes and packages millions of pounds of apples each year for Leroux Creek and private-label snacks and baby foods. The company has up to 70 employees throughout its operations.

In this area around Hotchkiss, Colo., orchards start at nearly 5,500 feet in elevation, with nearby growers producing crops up to 7,600 feet.

“A spring frost can kill the blossoms and make it hard to compete with orchards in mellow climates, such as Washington State,” Edward said. “I had been looking for an effective, affordable crop monitoring system for nearly a decade when I found Smart Yields.”



### Situation

Apple, cherry, peach and plum growers in high-altitude areas of Colorado face early- and late-season frosts that kill these high-value crops.



### Solution

Smart Yields wireless monitoring stations alert farmers to issues in real time, allowing them to activate heating systems in the most critical areas.

Edward recently implemented Smart Yields tagging technology and remote monitoring stations powered by Sigfox – a leading wide-area, low-power connectivity solution – to wirelessly track variable conditions such as humidity and temperature throughout his highest-value crops. This system reports temperature in real time at various altitudes, which is critical due to inversion.

Farmers can then activate heating and fan systems to regulate conditions. During a late-season frost in 2017, the system saved his Honeycrisp crop, worth hundreds of thousands of dollars.

“It can cost \$500 an acre to heat an orchard through frost season, so this system, which I can easily monitor in one platform on my mobile devices, reduces my expenses by allowing me to operate more efficiently,” Edward said.

Harrison Topp, director of membership at the Rocky Mountain Farmers Union, said members are eager to test the grower-centric technology on their crops. Smart Yields is deploying monitoring systems at Colorado orchards ranging from 10 acres to 500 acres, and will soon cover several thousand acres.

While growers have used various temperature-monitoring technologies for decades – ranging from marginally effective hardware-store sensors to Wi-Fi systems, an added value in Smart Yields technology is detailed data collection, which allows farms to work together to improve overall operations.

“The region becomes the data set,” Harrison said. “Regardless of the size of the farm, this helps us understand these conditions on a larger scale.”

**“When Smart Yields technology is used in coordination with other farmers, it ceases to be solely about what is important at your farm, and it shows you what is important about conditions across many farms.”**

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Harrison Topp,  
Director of Membership  
at the Rocky Mountain  
Farmers Union;  
grower of peaches,  
plums, cherries  
and apples



## Impact

By comparing annual anonymized data, Smart Yields produces analytics that help farmers better predict their yield, reduce risk and save resources.