

CASE STUDY:

Sran Family Orchards Uses APEX 85 System to Process Organic Raw Almonds

Farming in the Central Valley of California since the 1950s, Sran Family Orchards is one of the largest organic almond processors in the world. Sran's installation of Ziel's APEX 85 system is TERP (Technical Expert Review Panel) approved per Almond Board of California's standards!

Ziel's solutions exemplify technological innovations that can help food processors meet the new Food Safety Modernization Act (FSMA) regulatory standards adopted in 2011 while also ensuring that foods such as the organic almonds produced at Sran Family Orchards stay as close to their natural state as possible, providing a product that is desirable, safe, and wholesome for consumers while meeting all FSMA requirements.

Other common pasteurization techniques use chemicals, which can be harmful and also prevent almonds from retaining the organic designation.

Ziel's APEX 85 system is the best solution for Sran Family Orchards because no chemicals are added during this radio-frequency based pasteurization process and the almonds can be labeled as USDA-certified organic.

"It's pretty exciting to be one of the first almond processors in the country, if not in the world, to use this technology, especially since we're so heavily into organic almonds," said Dimitri Istomin, Vice President of Operations at Sran Family Orchards. "It's a huge bonus to us to be able to point to this new technology that Ziel developed in partnership

with the Sran family specifically for this product. We're moving forward with new technology, instead of just sticking with what everyone else has been using for dozens of years. We can offer organic almonds using a versatile, reliable, economical, and chemical-free pasteurization process designed to meet the discerning, and ever-changing, expectations of our customers."

While TERP validates the pasteurization, processors are also interested in meeting consumer demands for raw, natural, and organic almonds that taste great and have a pleasing texture that remains unchanged by the pasteurization process. The Ziel technology allows Sran Family Orchards to accomplish all these goals by creating a process that allows Sran to offer almonds that are as close to raw or natural as possible to their customers.

With processing costs as low as \$0.02 per pound, the Ziel system offers an attractive processing option because they can achieve greater margins. This commercially available technology offers robustness in processing, consistency in taste and texture of the product, green production methods, and cost effectiveness, all while meeting the regulations set by FSMA.

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—Dimitri Istomin,
Vice President of Operations at Sran Family Orchards

TERP validation of the APEX 85 process at Sran Family Orchards in Kerman, California showed that the system could achieve a minimum 4 log kill, meaning that it could maintain a suitable temperature across the entire process of almond pasteurization and reduce the level of dangerous pathogens by 10,000-fold. The system achieves this without adverse effects to the sensory and quality

characteristics of the product, such as flavor, color, and texture. Using technology developed at the University of California, Davis, Ziel's systems offer an efficient, versatile, reliable, and economical process that can significantly reduce microorganisms in a variety of foods, including yeast, molds and bacteria.

Sran Family Orchards processes organic and conventional almonds in California's Central Valley. Mr. Sran, along with his three sons Lakhy Singh Sran, Sukhy Singh Sran and Savdep Singh Sran and longtime employees, have been a part of the almond industry for the past 10 years after taking over the family business started in the 1950s.

