

## **Metal Detection Case Study: Keeping the Nuts Safe**

Keeping their Grower Partners happy and profitable is a key focus at Paramount Farms, Inc.. Paramount, the world's largest pistachio processor, likes to pride itself on being first and foremost a grower organization. Grower profitability is the #1 priority. To maintain that focus, Paramount has built one of the most modern and efficient processing facilities in their industry.

Their plant and farm operation, based in Lost Hills, California, is designed to meet specific corporate goals. These include processing their partners' pistachios at the optimal time while maximizing quality and grower profitability, efficient truck turn times (3 hour average) and 24-hour pack-out information available after truck delivery.

This philosophy has worked as more than half of California's pistachio growers have chosen to partner with Paramount Farms. However, Paramount, which also is one of the world's largest suppliers of almonds, is always looking at how they can improve. They grow, harvest, package, distribute, and export from multiple facilities. Paramount's engineering and quality managers are always looking for ways to increase production to meet growing consumer demand, while exceeding the industry standard in food safety.

Since 2001, Paramount has partnered with Bunting® Magnetics Co., based in Newton, Kansas, to provide the most current, accurate, consistent, and trouble free metal detection technology and equipment available. This critical equipment provides final inspection before product is packaged.

"The need to eliminate metal as well as foreign objects is critical," stated Bobby Castanon, Packaging Technician for Paramount Farms. "We needed to detect this as close to the entrance of the package as possible."

The metal detection equipment is used at two vital points in the processing flow; inspection after weighing on the scales and prior to packaging. They are used in conjunction with bagging machines as well as for boxes and large bags.

Paramount has put Metron CR 05 and LCR metal detection machines, which are one-piece collar-style detectors, at the beginning of the processing flow on their gravity or vacuum/pressure conveying lines. Both these products allow Paramount to satisfy their inspection levels to meet ISO 9001 and HACCP standards.

"In-Line metal detectors were needed and it was important that we were able to detect as small as 1.5 FE, 2.0 Non-Fe and 2.5 S.S," Castanon said. "It was also important that it is operator friendly and would work in our environment. We needed low maintenance machines that would be easily repairable for quicker up-time."

Overall, Paramount has incorporated over a dozen Bunting® metal detectors into their facility as part of the inspection protocol. The Quicktron 03 "R" is a "cowbell" gravity unit which gives Paramount extreme sensitivity with precise reject components to maintain minimal loss of good product. Any reject event is quickly examined by Paramount's Quality Control team to find the contamination and determine its origin, if possible.

"I have been completely satisfied with the performance and reliability of the Bunting® products", Castanon said. "They are used to stop the machine as well as cowbell reject to keep our machines running."

Paramount, who retails its products under the Wonderful and Sunkist labels, processes its two products in a number of ways. Various flavors or forms can be added such as honey, sugar, salt,

cinnamon, roasted, raw or sliced. Within these different processing areas, moisture content can also vary. So, it is crucial that the metal detectors are all food grade and made of stainless steel construction as well as designed for harsh environments. The heavy duty diverter is wear resistant against abrasive products.

“Our epoxy filled search head and special construction of the control cabinet make it impossible for water to penetrate,” stated Rod Henricks, Bunting® Product Manager for Metal Detection. “It prevents the threat of water penetrating the search head from high pressure wash-down effectively eliminating moisture or sweat accumulating while the unit is not in use. The solid head helps to stabilize and eliminate noise interference.”

The metal detectors need to be able to quickly adjust and compensate for any product effect. While each product is learned and stored in the controls by code, the operator for Paramount can easily select the current product and ensure compliance. Various colored test sticks are used hourly and randomly to check metal detector calibration.

Paramount has found other features which have been beneficial such as the ease of cleaning of the reject mechanics, and lack of maintenance of electronics. Also, the automatic product learning, basic sensitivity adjustments and the built-in memory cards which are available on the main control board make it user-friendly for operators to store and save data for safekeeping. Finally, Paramount has found the touch panel displays make navigation simple with only a four-level navigation which is password protected for security purposes.

“For us, we pay attention to detail. Our quality assurance program is committed to virtually eliminating foreign material,” Castanon said. “We are the only nut supplier in the United States to receive ISO 9001 certification and have a deeply rooted commitment to total customer satisfaction. These metal detectors help us maintain that commitment.”