

## SAS Case Study: Country Pure Foods at Ardmore Farms

### Overview

Country Pure Foods is a premier manufacturer of fruit and vegetable juices and frozen products for foodservice, retail and private label markets.

SAS designed a solution that not only restored the structural stability of the building, but provided additional pallet positions as well. SAS utilized every pallet flow option available to create a robust system to provide Country Pure Foods years of smooth operation while maintaining standards required for certification of the SQF Food Safety & Quality Code by the Global Food Safety Initiative (GFSI).

This solution was implemented in a working environment with minimal disruption to day to day operations.

### The Problem

South Atlantic Systems (SAS) was called upon to evaluate a rack repair opportunity in the freezer at Country Pure Foods at Ardmore Farms, a citrus bottling plant in Deland, Florida. After an initial visit, the issue was more complex than simple rack repair. The extent of the damage not only limited the available, usable pallet positions but created a dangerous work environment.

The building was a rack supported, slave pallet flow system with 1,240 positions. The facility was originally designed to process 6 million cases per year. In 2008, over 20 million cases were produced. Wear and tear from this increase in volume, in conjunction with taller and heavier pallets exceeding the design specifications of the original system, left the system in a state of disrepair.

The original system was designed around the use of slave pallets. A slave pallet system compensates for pallets in poor condition and for the pitch of the rails to be shallower than when the pallet itself is placed directly on the rails. Since there was no flexibility to increase the height of the overall system, SAS engineers had to be very precise when determining the pitch to provide the separation required to accommodate the taller pallets. Compounding the issue of pitch was adjusting beam levels throughout the entire lane to maintain correct pitch. This was difficult as SAS was integrating existing and new beams. SAS engineers successfully designed a solution to maintain exact pitch throughout each lane.

### The Solution

The SAS approach was to install the most robust system available. All rack uprights and beams on the charge and discharge end of each lane were replaced with a

heavier duty product. Columns size was increased from 3" x 1 5/8" to a 3" x 3" with a 60" backer. Structural beams replaced roll form beams. This allowed the pallet flow rails to be recessed inside the beam, as opposed to sitting on top, so that only the rollers were exposed.

Pallet flow lanes included 3 rails of 2-wheel product. An aluminum impact section was utilized on both ends of each lane to reduce wheel damage.

SAS increased the storage capacity by re-profiling a portion of the building, moving from two-high storage to three-high storage, gaining 240 pallet positions. Additional pallet positions were gained as the condition of the old system was so poor that many lanes were not available for use and many lanes had significant 'honey combing' not allowing lanes to become full.

### Challenges

The challenges associated with this project included, replacing uprights in a rack supported building, replacing all flow rails and the majority of support beams in a working environment at below freezing temperatures, and adjusting to a new pitch while maintaining enough room to accommodate taller pallets. This work had to be done without disrupting the operation.

A rack supported structure, especially one of this age, presents difficulty in ensuring that the roof remains fully supported while replacing the column support members. Special care had to be taken to ensure that the installation of new uprights did not compromise the integrity of the roof structure.

This project had to be installed in a working environment. This demanded that open lines of communication had to be established between SAS and Country Pure Foods. Great care was taken to minimize the burden to the operation yet maintain a steady flow of available lanes to keep the installation crews moving.

### The Results

The end result was a fully operational, heavy-duty pallet flow system that increased not only the structural stability of the freezer but the amount of storage available to Country Pure Foods. The new system is more robust and includes every possible option for a pallet flow system. It should provide Country Pure Foods years of safe operation.