EPC/RFID ARRIVES!
NEW ZEALAND’S FIRST MAJOR ROLL-OUT

New Zealand’s first major commercial roll-out of radio frequency identification (RFID) on the Electronic Product Code (EPC) standard is well underway within the kiwifruit industry.

GS1 New Zealand, through its Supply Chain Enhancement Programme, has designed and, given close ongoing support to the implementation of a system that will enable EastPack to track and trace every pallet of kiwifruit throughout its extensive Bay of Plenty operations.

This is likely to be the first whole-of-operation application of EPC/RFID technology in the Asia-Pacific region. It is certainly an application designed and implemented specifically to meet the demands of a large-scale operation in the heart of New Zealand’s export sector.

Each year, EastPack sorts, packs, stores and forwards to export a significant share of the nation’s $1 billion-plus kiwifruit crop. This pack house and others must respond constantly to market orders from ZESPRI, and to their part to make it happen,” says EastPack Company Administrator Donna Smit. “For pack houses, the logistical issues can be nightmarish.”

In the EastPack cool stores, the pallets (each with up to 200 trays) are typically stacked in rows 1.2 long and two high. Pallets are moved in, around and out again as product is selected and accessed for exporting — and at Te Puke in the heart of the season, that can mean 24 forklifts at work during three shifts over each 24 hour period.

LOGISTICAL CHALLENGES

For Edgecumbe-based EastPack, export market signals hit the tightly-packed lanes of its 42 cool stores most days of the season. From late March, the company receives the freshly-picked kiwifruit for sorting, packing and temperature controlled storage in readiness for trucking to ships berthed at Tauranga. EastPack’s Te Puke pack house is the biggest such facility in the industry, expected to handle 9 million trays this season.

Fruit coming off the sorting lines is packed by type, size and harvest date on pallets before going into cool stores, sometimes for months on end. Through the season, the pack houses respond constantly to market orders from ZESPRI – orders that give 10 days’ notice of the next shipment but may repeatedly change in detail until just a few hours before product is due on the wharf. The fruit is owned by growers but in the custody of pack house operators until physically stowed on the ship, from which point ZESPRI takes ownership.

Incentives

Keeping both inventory records and pallet locations up to date is critical – but when the squeeze is on, the task becomes extremely difficult. “It really is a case of growing too fast for our existing systems and people,” says Mrs Smit.

For EastPack, there are obvious financial incentives in increasing efficiency in cool store operations: easy and quick retrieval of fruit to the exact specifications of each order means higher sales volume and lower wastage; fewer forklift movements mean less likelihood of fruit being “lost” within the store, and lower requirements for both energy and labour; less juggling of pallets means more stable temperature control, with less energy consumption and fruit spoilage.

In all, EastPack will be better positioned to fill the more urgent and lucrative orders coming through from ZESPRI, and to avoid the penalties that apply when pack houses inadvertently send the wrong kiwifruit to the wharf or, on rare occasions, leave empty spaces in departing ships.
Each pallet movement is tracked through ceiling-mounted markers (dot matrix bar codes) that identify each location in the cool store.

Ceiling-mounted markers, viewed from the forklift.

Pallets of green kiwifruit in cool storage, awaiting export.