

Packing dates in the UAE: Ishida shakes off the challenges

The fruit of the date palm represents an interesting handling challenge for food packers. At Emirates Dates, packing has been successfully automated using an Ishida multihead weigher with a powerful vibratory system, helping to almost triple production.

Emirates Dates has been packing and processing a large variety of dates from its own plantations in Al Ain and Ras Al Kaimah since 1989. Now one of the leaders in the field, it continually seeks ways of increasing throughput and yield.

When the company decided to upgrade one of its manual packing operations it chose Ishida, as a recognised expert in the weighing of 'difficult' products. They were also looking for experience in project management to ensure that the entire installation would go smoothly.

Clumping and clinging

The most obvious challenge in the automated weighing of dates is stickiness. There is a tendency of the individual fruit to adhere to one another and to the surfaces they encounter during handling.

If clumps form, these will effectively increase the size of the pieces being weighed and impair accuracy, as well as potentially obstructing the flow of product. Product sticking to the surfaces of weigh hoppers can of course also reduce accuracy. Indeed such adhesions can cause obstructions practically anywhere in the weigher.

Putting date stickiness in perspective

Nowadays, however, far stickier products than dates are being weighed successfully at speed on multihead weighers. Ishida manufactures linear multihead weighers where the product is moved along by belts, such as the Fresh Food Weigher. It also produces screwfeeder weighers,



in which powerful spiral screws provide enough propulsion to keep even sticky fresh meat moving. Tests using Emirates Dates products soon convinced the Ishida team that a circular multihead weigher with a really effective vibratory system on board could handle all the challenges.

Good vibrations

An R-Series 14-head weigher was installed at Emirates Dates. The R-214 benefits from Ishida's PWM (Pulse Width Modulation) technology, which gives a predictable, controllable level of vibration powerful enough to disrupt most product-to-product adhesions.

At the same time, the challenge of product sticking to the weigher has been overcome by coating the contact surfaces with Teflon.

As a result, the system is filling 500g and 1kg packs at 40 per minute.

Project management

Ishida also provided a bucket elevator and cross head feeder to supply the new weigher, as well as a custom-designed filling system to take product from the weigher and deposit it into the pockets of a thermoformer. The filling system can service either 2x2 or 3x2 pack layouts.

Successful automation

The new system has almost tripled production from 7 tonnes to 20 tonnes. This has been achieved with less than a quarter of the workforce previously needed.

As evidence of the accuracy of the Ishida weigher, with its advanced combination calculation hardware and software and its 5-stage digital filtration system, product giveaway has been cut to less than 1%.

This greatly increases the yield of fully weight-compliant packs obtained from a given amount of product.

Hygiene has of course benefited from automation, but the Ishida equipment makes cleanliness particularly simple to maintain, with its easy-wash design and the fact that no tools are needed when removing the contact parts.

"We have been delighted with the performance of the Ishida weigher," comments Udaysingh Sawant of Emirates Dates.

"We carried out extensive tests prior to purchasing the weigher, which proved that it provided the best solution for handling dates and it has continued to perform accurately and reliably. It is very easy to use and we have been very pleased with the service and support offered by Ishida."



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