

Innovation allows Cornish company to meet rising demands

Demand for high quality true Cornish clotted cream in the retail sector has soared in recent years, to meet the rising demand one of the United Kingdom's most well-known independent creameries, A.E Roddas, decided to improve on their current production zone in the creamery. Roddas has invested in three full production lines from Codeology in its factory in the heart of Cornwall.

Traditionally the production process had up to four staff per line, grouped around lazy susans packing boxes and trays. Due to the angled faces of the trays these were also being hand labelled prior to production with labels which had been printed on site but off-line. With the Codeology production lines packing, labelling and palletising now only takes two people per line. This has allowed an increase in production, now with a throughput of over eighty products a minute and a full pallet in less than twenty-five minutes, whilst reducing the labour requirement by more than fifty percent at peak production times.

Each of the three production lines at A E Roddas has slightly different functions and, as such, presented unique difficulties for the design team.

Line one is used exclusively for round pots of cream in two sizes. The main focus for this line was improving the efficiency of the tray packing and removing the need to pre-label the trays. To achieve the packing efficiency the lazy susan was removed and the pots were instead raised on to a high level conveyor, the uniform presentation at a comfortable height allows a single operator to pack the trays at over eighty products a minute. With a second conveyor under the packing conveyor the full trays are simply pushed away and this is where an innovative design has allowed on-line labelling of the trays. Rather than a complicated system which alters the labeller Codeology devised a simple method of adjusting the conveyor angle instead, producing accurate, level labels with simple and quick setup. A second operator is responsible for palletising, maintaining the supply of empty trays and monitoring the rest of the line for issues.



Line two was possibly the most challenging of the lines for the Codeology team, as with line one there are round pots which are packed in to trays but there are also rectangular, 1lb tubs, which are boxed. The dual function of this second line meant the design, in addition to the improvements achieved on line one, needed to address the issues of hand taping, pre assembling and pre-labelling of boxes. When producing the round pots line two runs the same way as line one, the differences become apparent when production switches to the 1lb tubs. There is limited space in the packing hall at A E Roddas which means rearranging the line to put a case sealer immediately after the packing table wasn't possible, to solve this issue an adjustable top guide is used between the packing conveyors and a removable top guide is placed over the labelling conveyor. Having levelled the labelling conveyor these top guides ensure the top flaps of the case remain closed during labelling and removes the need for a bulky and expensive case sealer further down the line. With both of these arrangements the line only requires two operators, one packing and one palletising, maintaining the supply of empty boxes or trays and monitoring the rest of the line for issues.



Line three appeared far more straightforward as there are only larger tubs, 1lb and 2lb, on this line which are boxed. The difficulties with line three were caused by a lack of space and the need for 1lb tubs to be diverted on to an existing conveyor when these were sleeved. All the tubs on line three are date coded and Codeology installed a short conveyor, after the existing metal checker, to serve as

both a coding conveyor and when required a diverter. Unlike lines one and two there wasn't space to arrange the line across the packing area and this meant the packing, sealing and labelling had to be completed in the shortest distance possible. By running parallel to the existing equipment, bringing the tubs back towards the high risk wall on the packing conveyor, Codeology effectively reduced the line length by nearly two metres. In spite of this reduction the end of line would still have been in the middle of the pallet route without a second piece of innovation from the design team.

Codeology decided to attempt to integrate the case sealer and print and apply labeller which would reduce the length required for these two processes from around 2.3m to 1.1m. This was so successful that the p110 and p111 hybrids have now become standard Codeology equipment. Line three has a lower throughput than lines one and two, only 15-20 products a minute, and remains a two person line however the labelling and assembling of the cases prior to production, along with the offline label printing, have been removed making this line 20-30% more efficient.



With the installation of the new packing lines A E Roddas are now able to meet the increased demand for Cornish clotted cream but have also retained the capacity to cope with this demand continuing to grow. The factory currently runs with either a single shift or, at busier times, a double shift, which means that this investment will keep A E Roddas ahead of the public demand for years to come.