

Solutions for sizers

Does this scenario apply to you? At JR's Orchards Ltd, Greytown apple packhouse John and Jamiee were troubled by their MacDonald's electronic sizer producing uneven results (see photo below). They had to employ extra staff to compensate for the irregular sizing of their apple crop.

The problem occurred with the mechanical workings of the sizer and the disadvantage of having inadequate diagnostic tests to show up where the fault lay.

Langdon Engineering Ltd and TASC Systems Ltd have together found a solution to make the operation more efficient, requiring less maintenance and with higher production.

The reason behind the problem is the MacDonald's sizer uses magnets at the drops.

These work in the opposite way to a conventional sizer. Instead of the outlet operating to allow fruit to drop, the outlet needs to operate to stop the fruit from dropping. Therefore if one piece of fruit needs to get to the far end of the sizer (e.g. drop 10), nine other drops prior to it need to be working correctly first.

Some of the factors that cause the drops to malfunction are; the magnet being set too high, the magnet not picking up the washer on the pin on the cup and the washers tightening up. The lack of a good diagnostics program in the MacDonald's sizer means that the operator is frequently stabbing in the dark to identify the problem.

The solution developed by Langdons and TASC is to use an old idea in a new

way. The magnets are removed and replaced using a Treeway's type gate system and utilising 24 volt DC solenoids with new pressings. The advantage of this system is that the gates are always shut. Therefore the cups stay up all the way to the end of the machine unless the control system opens the gate to allow for the fruit to drop, reducing the number of problem areas from say ten to one.

The existing computer is also replaced with a TASC Systems Ltd Sizer Controller System.

A further improvement in the speed and accuracy of sizing can be obtained by changing the load cell set up and the cups to three point weighing high speed cups.

If you also have a MacDonald's sizer that is not performing to your standards please ring either Phil at TASC Systems Ltd, Phone 06 878 6990 or Des at Langdon Engineering.

