

Precision dairy technology

Walkover weigh scale systems

Fact sheet:

What is the technology?

Walkover weighing technology is commercially available in several Australian livestock industries, including dairy. Walkover weigh scales are designed to sit in the exit race of a dairy and weigh cows as they leave the dairy after each milking.

How does it work?

Walkover weigh scale systems can replace manual weighing and recording.

Walkover weigh scale systems feature a weigh platform on top of load cells and a reader that can recognise an electronic ID tag in a cow's ear or around her neck. The scales provide a liveweight for the cow each time she passes over the scales and logs this data in the dairy's computer system. Proprietary computer software is often supplied with the equipment.

What data does it provide?

The scales provide an estimate of the liveweight of the animal each time it walks over the platform. For milking cows, liveweight can be recorded twice a day when the cow exits the dairy after each milking. A sensible liveweight may not be recorded every time the cow walks over the platform. Accurate liveweights are usually achieved at least 50 per cent of the time and this is usually sufficient for most situations. The system provides a graph of body weight changes for each cow and a trend line for each cow can be established.

How can you use this information?

Individual weights can be tracked along with overall herd averages to monitor liveweight changes in the herd during lactation. This data can help with feeding strategies for individual cows or groups of cows. Daily liveweight records can also be useful to track changes in the physiological status of animals to better detect the onset of illness.

The system can often be set up to automatically download liveweight information into the dairy's computer system. This should be discussed with the scales supplier to ensure that it is compatible with any existing dairy management software used on the farm. For some farmers, daily liveweight information may provide limited additional value than less frequent liveweight measurements.

Potential issues

If you are considering the purchase of a walkover weigh scale system, factors other than price should also be taken into account, including:

- the robustness of the unit. The unit is often in a wet and dirty area and may be liable to rust and breakdown
- the proportion of cows weighed each time. Many units may fail to provide accurate weights of all cows that pass through the system, for example if more than one cow is standing on the scales at the same time or a cow only has two or three feet on the scales
- the degree of technical support, including delivery and installation times
- the ease of getting access to the recorded liveweights
- the compatibility of the weigh software with other herd recording software. It is essential that the scales be linked to the dairy's computer system to provide easy access to data.

Suppliers and cost

Walkover weigh scale systems cost about \$12,000 to \$15,000. Several companies supply the platform, load cells and associated software, including:

- The Gallagher Dairy Scale XDS5000: a customised system specifically for dairy sheds and fit into a shed race exit.
www.gallagher.com.au/DairyScale-diagram.aspx
- AfiWeigh: an AfiMilk module that automatically determines the cows' body weight and stores it in the AfiMilk database.
afimilk.com/products/cows/sensors/afiweigh-automated-scales
- Tru-Test: a range of weigh scales that may be suitable for walkover systems on dairy farms.
www.livestock.tru-test.com/en-au/weighing

Further information

More detailed information on the use of walkover scales is available on the Dairy Australia website and in the following publications:

Dickinson, R. A., Morton, J. M., Beggs, D. S., Anderson, G. A., Pyman, M. F., Mansell, P. D., and Blackwood, C. B. (2013). "An automated walk-over weighing system as a tool for measuring liveweight change in lactating dairy cows". *Journal of Dairy Science* 96, 4477-4486.

Ren, J., Buch, N. L. and Spahr, S. L. (1990). "An automated weighing system for dairy cows". *American Society of Agricultural Engineers Meeting, Columbus, Ohio, June, 24-27, 1990.*

If you want a copy of any of these publications, they can be obtained through the link "request article" from the DA library webpage.

www.dairyaustralia.com.au/Industry-information/library.aspx



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