

Nippon Beef plant reaches new ground with amazing new technology

While many countries are still debating animal identification and trace-back, Australia has led the world in establishing such a system for cattle and sheep.

By Graeme Goodsir

At the advance cutting edge of such new technology, one beef slaughter plant, Oakey Abattoir in the state of Queensland, has installed a unique system that records every possible detail of a bovine animal's origin. This includes carcass anatomy and handling, through all stages of slaughter, cutting, boning, trimming, packaging and delivery.

Oakey Abattoir

The name was originally given to a modest, mixed slaughter plant started between 1956 and 1958 by Fred Keong, a hard-working independent gentleman. Keong slaughtered cattle and sheep using a so-called "bed-dressing" system, with carcasses lowered onto floor-based cradle frames to be skinned.

Keong chose to build his abattoir in a small town called Oakey, located 155 km directly west from the state capital of Brisbane, situated in Australia's richest farm country, a large tableland region called the "Darling Downs." His wife



Lorna helped in the early years in all stages of the work system, and stories were told of how their first baby slept on a comfortable sheepskin hammock set up beside the kill floor within easy reach for whenever attention was needed.

Even after the plant changed hands twice in the 1980s, first to a group of accountants from city of Melbourne, and then in 1987, when it was bought and modernized by Nippon Meat Packers Australia Pty. Ltd., the name remained.

Nippon Meat

Nippon Meat Packers Australia is a subsidiary of the giant Nippon Meat group in Japan. Nippon Meat is currently the No. 3 meat packer in Australia by volume size, following US-owned AMH

group (No. 1) and Australian-family owned Teys Brothers/Consolidated Meat group. Nippon had earlier been No. 2, before the Teys-Consolidated merger occurred.

The Marel Group, headquartered in Iceland, has become world-famous for its computerized, high-tech innovations in streamlining meat and food processing operations. Company staff research and create new technologies. They innovate and design systems to suit varying needs of clients in manufacturing/processing business operations. From portion/yield controls to measurement of de-boning flow-lines, and other varied forms of production measurement/analysis/identification, their techniques are renowned.



Installing the MPS system

In conjunction with Nippon Meat, the Marel branch in Brisbane installed a complete meat flowline processing system in the Oakey Abattoir boning room, the first in Australia. This system, called Marel Packing Solutions (MPS), includes computer screens at individual work stations of every boner and trimmer (who work opposite each other), with the computer giving directions for a specific muscle cut and trimming procedures in that day's production plan. After their respective knife-work is finished, workers put each muscle piece onto a conveyor belt, with all identification details having been recorded within the computer system. No trays or boxes are involved until a later stage when packers record weights and fill cartons according to specified orders.

Oakey Abattoir adheres to boning beef by quarters, so quarters come into the boning room, where a scanner notes ID and directs each quarter to one of four boning lines. This comes from the management belief that workers benefit by

not working on beef sides, which involves excessive amount of horizontal arm swings.

Marel's MPS production software controls the entire process. Within the Oakey Abattoir boning room, the system records traceability of every piece of meat back to an individual animal and farm origin, as well as using bar codes to identify which workers handled each piece of meat. Boning room supervisors are able to watch discreetly how each worker performs, and to encourage improvement where faulty or slow work occurs.

Benefits of the system

- Computer trace-back capabilities (at any stage of the market chain worldwide) can link any meat material to carcass/animal ID and farm origin. This could become critically important should crises occur.
- There has been reduced trim loss from sub-primal cuts since system began.
- Another benefit was that Marel supplied disposable coats (made from innovative blue-paper material), reducing contamination.
- One of the primary benefits is derived from tracking individual performances of workers along the production line. It was explained that not a single worker had been dismissed to-date for unsatisfactory performance, but rather incentives had helped many workers to measure and improve their own productivity.

Other business factors

Oakey Abattoir is a major employer in the Darling Downs area. The Abattoir has a total of 630 employees. Company policy places importance on employee welfare, with the result that the work force is stable, with a very small turnover rate. There has also been improved



worker productivity by allowing some employee attrition (e.g., not replacing some retiring or departing workers at certain times).

This plant, which is approved for exports to the EU, as well as to US-related markets, kills 1,008 cattle daily, in two slaughter shifts and one boning room shift. Four to five hundred cattle per week are used for EU orders, with a high proportion of other cattle filling orders to Japan for high-quality table beef (approximately 70%) and others for North America (20%) and Korea (8%).

Procurement of cattle for daily kills was said to average near 70% from the company's own large feedlot some 160 km south-west, and another 20% from other independently-owned feedlots, and the balance of 10% from various grass-fed farm sources. Feeding periods for high-quality cattle varied from 160 to 300 days. The growth of commercial feedlots in Australia, which can now accommodate in total over a million cattle at any one time, has proved an effective counter to periodic drought problems that limit consistent grass feed availability in many parts of Australia.

Overall, Nippon and its customers seem to be very pleased with the Marel system. Cost-benefit factors were said to be a win-win situation for both the company and employees in a broad context. The meat union is reportedly also amenable to all of these systems. **MI**