

ABC Rural

WORLD-FIRST COBOTIC TRIAL IN WESTERN AUSTRALIAN BEEF PLANT

By Louise FitzRoy

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A South West meat processor is the first beef plant in the world to trial cobotic equipment.

Often used in surgery, cobotic equipment involves the use of a parallel robot that makes much stronger and more precise movements to the user.

Harvey Beef expects to have up to eight installed and working on site in 18 months at a cost of \$50,000 each.

Meat and Livestock Australia commissioned American company Kinea Design to work on the project, which company president Michael Peshkin says looks like a mechanical arm.

"It's about two metres tall and has a working range of one metre left and right and about a metre forward and back. It's got a tall vertical column two metres long and an arm that extends out parallel to his own arm that he grips the handle of. It amplifies a person's force in certain directions by a factor of 10. If you pull with one kilogram of force downward, it'll pull 10 kilograms of force with you."

Mr Peshkin says within a month the company is hoping to have the Hook-Assist function working in a demonstration mode.

"Everytime we get skilled people working with this device we learn new things. For example the size of the handle, how much force they need and would like to exert, the length and curvature of the hook, making sure the device stays out of their way while they're working. By reducing the amount of force that you have to apply, it'll prevent ergonomic injuries that can occur with repetitive motions. I'd love to find out that when people have force amplification like this, it'll increase their speed and improve efficiency."

Innovation and risk manager at Harvey Beef, Michelle Chatfield, says installing cobotics will overcome the beef plant's main challenge of retaining employees by reducing stress, muscular strain and injury on workers in the boning room.

"A person can control the tool and has full control over the quality and speed of the task, but has no force which takes all the physical exertion out of the task. At present it's designed to take 100 kilograms, but we don't believe it needs to take that level for most jobs. If you're pulling 20 kilograms, it reduces that to an almost zero factor while the machine takes up the weight. We don't have female boners, but I could probably bone if I used this equipment."

Ms Chatfield says the investment will help to reduce the risk of workers compensation.

"Every dollar you put into injury prevention you expect to get a return. In the last two years they've automated lamb processing and it's fascinating to see unmanned robots bone out sections of carcasses. Robotics is something we're restricted to in the beef industry because in WA we service a large number of farmers and that can be from very big bulls to very small beef. So we see cobotics as a much better option to robotics. This is the only piece of equipment like this in the world."

In this report: Michael Peshkin, president of Kinea Design; Michelle Chatfield, innovation and risk manager, Harvey Beef

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