

## **Australian Technology set to rescue the Kangaroo Meat Industry**

The aftermath of Russia's abrupt withdrawal from kangaroo meat exports in July 2009 left the Australia game meat industry in turmoil. Things are looking good again for the industry after they were thrown a lifeline by closing a deal with China who is estimated to generate \$270 million a year in exports. But what has the industry been doing to survive stable exports in the future? We talk with owner of Rosedale Meats, Tony Guys.

Russia, who made up for some 70 percent kangaroo meat exports shook the game meat industry into turmoil when they chose to close the gates on roo meat exports. Job losses took place within the industry which provided around 500 full-time and 2000 part-time jobs, as well as up to \$40,000 a week that was being injected into regional economies from the booming regional industry.

Citing a variety quality issues about the kangaroo meat having a high bacteria count, parallels were drawn to the way kangaroo meat is stored onsite and triggered the industry too look at the way the animals are collected, preserved and delivered to world markets. We know that the industry is set to recover with China's investment, but little is known about what the industry is doing to improve quality control.

Rosedale Meats owner Tony Guys believes that an important aspect of carefully monitoring meat quality is the movement and operation of refrigerated container equipment needed to freeze the animal carcasses as soon as possible after their collection.

*"Most roo shooters use a standard 40 foot refrigerated shipping container that comes equipped with a diesel powered generator for the chilling system, which is best operated by a utility 3-phase power source where it is available. Unfortunately, in the remote areas where the refrigeration plants are most needed, there is usually no 3-phase power infrastructure available so shooters tend to use a diesel powered refrigeration system."*

Refrigeration systems for containers of this size are non-standard and expensive. Regardless, the smaller size and lower efficiency of single-phase refrigeration compressors means that they cannot cool the fresh meat quick enough to restrict bacteria growth, or keep up with the large refrigeration load in typical hot Australian climates. Further to this, it is around five times the cost of powering the same container from a direct connection to a 3-phase supply.

*"I had a lot of problems finding reliable solutions to keep kangaroo carcasses cool out in the bush with there being a high risk of ruining the meat for sale if it's not stored properly."* Single phase motors typically draw twice as much start-up current as similar sized 3-Phase motors and this limits the size of the motors that are permitted for use on remote power infrastructure. Conversely, by running the refrigerated containers solely on the diesel fuel, the increased operating costs bite deep into the profitability of the business.

Tony had been relying on a diesel fuelled freezer for maintaining the quality of his meat. Tony explained *"We were using a diesel powered refrigeration pump that cost in excess of \$500-\$700 per month to keep the meat cool."* By running his refrigeration only on diesel, the increased operating costs were significant. In addition to higher costs are the logistics and sheer inconvenience of continuously shuttling diesel fuel to these remote sites.

Guys sought to fix this problem by investing in 3-Phase power Converter technology developed here in Australia. This equipment takes an existing Single-phase supply and converts it into a stable 3-phase supply suitable for running the sensitive refrigeration systems. These converters do not generate any new energy, but get the most out of the existing infrastructure in a controlled way with low insertion losses. The Converters are designed for small machine shops and industrial applications where direct connection to 3-phase power is impossible or impractical. For Tony Guys, *"This investment has had a positive impact on the way I run my operation."*

In addition to many other supported industries, Phase Change Converters have assisted in reducing onsite costs for kangaroo meat companies, while helping to ensure the quality of meat consumed both locally and internationally. Further information about the converter systems can be viewed at [www.phasechanger.com](http://www.phasechanger.com).