

# Waterless Lamb Frenching

Waterless Lamb Frenching Concept Trials – Curious  
Creations

Project Code  
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Prepared by  
Jack Hercus – Curious Creations Ltd

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## Project Description

The scope of this research project was to further develop and test the automated waterless lamb frenching prototype that was conceptualised by Curious Creations Ltd. An automated lamb frenching machine is highly desirable by the meat processing industry due to sustainability and safety issues with the two existing solutions of water frenching, and manually frenching.

## Project Content

The project consisted of the following stages:

- ◆ Detailed CAD design of the proposed prototype;
- ◆ Ordering and manufacturing the required components;
- ◆ Assembly of the Prototype;
- ◆ Production of microprocessor code to control the prototype;
- ◆ Testing and development of the prototype.

## Project Outcome

The prototype that was successfully designed and developed incorporated a continuous automated feed mechanism with a method of removing the intercostal meat from the rib bones of the lamb racks. The prototype demonstrated that this process has potential to be commercially viable with a maximum speed of 36s required to process a lamb rack, and a small relatively small footprint occupied by a single machine. The finish achieved on successful tests was of a similar quality to that achieved by water frenching, with none of the sustainability or reduction in shelf life issues encountered with the use of water.

## Benefit for Industry

In Australia, most processing facilities rely on operational staff with knives to undertake this activity. There are instances of Australian plants using the McLaren Stainless water frenching solution. Although this solution works well it is not suitable for all Australian locations due to the water usage, water source, and resulting trade waste additional load with the product (intercostals) and water being discharged to drain.

When manually frenching with knives, each 8-rib rack requires at least 21 knife actions (and up to 23), this activity results in up to 210,000 knife actions per operational staff member within a plant operating at 10 carcasses per minute. This task has both a WHS repetitive strain and knife laceration safety concern.

The prototype under development in this project has none of the draw backs from either of the existing solutions. It does not use any water, and eliminates the safety hazard associated with operational staff members manually frenching the lamb racks with knives.