Fact sheet – Reuse of water in Tripe processing

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Introduction
Beef tripe processing is commonly a two-step process using centrifuges in series wherein; the tripe is scalded and blanched with significant amounts of warm/hot water in the first centrifuge; and then refined in a second centrifuge by hot water and steam. An estimated 50% of the water used in tripe processing could be saved by a single reuse of the water from the refining centrifuge, thereby removing the need for raw water in the first step of the process. In order to test this, AMPC developed a project entitled ‘A.ENV.0137 Tripe Wash Water Reuse’ involving a trial at a large beef plant to assess the merit of the proposed water saving innovation.

Project Description
AMPC commissioned the development of a custom fit recycling unit that would return thermostatically controlled hot water from the refining process to the scalding process in a single recycle operation, as shown in Figure 1.

Each of the incumbent two centrifuge steps typically used 1.2 kL of water per cycle and processed 12-15 tripe per cycle. Therefore in the 600 cattle/day operation, each of these process steps used 48 kL of water, which could amount to 24,000kL per annum in water savings if reused once per cycle.

Outcomes
The trial was unsuccessful because the water flow adjustments made to the tripe processing room prior to the trial meant that there was an insufficient water to enable the correct functioning of the water recycling unit and process the tripe to meet quality standards. It was considered impractical to redesign the system.

Analyses were conducted on the quality of refiner waste water. The total load of bacteria and suspended solids was found to be very low.

Despite the negative outcome from this trial, the model is considered valid. The model relates not only to beef tripe processing, but tripe processing at small stock establishments.

A copy of the final project report can be found in the ‘reports library’ on the AMPC website, or by contacting the AMPC office on T:02 8908 5500 or E:info@ampc.com.au.

Figure 1: Water recycling in Tripe and Omasum processing