

RECP Best Practice Catalogue

Reduce and reuse of blancher water

Developed within the framework of MED TEST II



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



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Best Practice - Reduce and reuse of blancher water

SECTOR:	Food & Beverage
SUBSECTOR:	Processing and preserving of fruit and vegetables
PRODUCTS	Frozen, semi-fried fries
CATEGORY	Process control or modification
APPLICABILITY	Process
COMPANY NAME	--
COMPANY SIZE	Large

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Description of the problem **(Base scenario):**

Process flow diagram of the company illustrated that raw potatoes pass through de-stoner and pre-washer to remove any dust or sand particles before peeling, then the peeling process is conducted to remove the potato skin, followed by the slicer. Sliced potato strips pass through the blancher to be washed as well as to remove the starch (reduce the sugar level). Both the pre-washer and the blancher were running with continuous supply of fresh water, in a once through system.

Description of the solution

Investigations from the company team revealed that the process needs intermittent water supply to the blancher rather than continuous supply. This intermittent water can be achieved through a timer (solenoid) valve. Moreover, the water leaving the blancher satisfied the minimum limits for the pre-washer water, thus can be utilized in replacement to the fresh water.

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Economic Benefits

Saving will be around 5% of the baseline water consumption (over 50% of the blancher water consumption, 100% of the pre-washer water baseline). This is equivalent to water reduction of 19,000m³/year from the blancher, and 18,000m³/year from the pre-washer.

The economic value of the savings is equivalent to 10,545 Euros/year

Environmental Benefits

Reduction of 19,000+18,000 = 37,000 m³/year of water supply (5% of the baseline).
Elimination of 37,000 m³/year of wastewater generation which will eventually reduce the hydraulic load on the final End-of-Pipe.

Health and safety impact

Not applicable

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Capital investments & financial indicators	No cost reported. The implementation was done by the company maintenance team. Payback is immediate
Suppliers	Company internal team
Other aspects	The measure was identified and implemented by the company internal team following the TEST approach of identification of the focus area, and developing a water balance flowsheet
Implementation	The company implemented this measure, and the reported savings are real (validated) saving figures.
Replicability sectors	The same concept can be replicated in <ul style="list-style-type: none">• Fruit and vegetable processing
Aspects to investigate for replicability	Water balance Minimum water quality needed for each step Real water quantity needed for each step
Useful resources	