

RECP Best Practice Catalogue

Reorganising production program

Developed within the framework of MED TEST II



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION



The SwitchMed Programme is
funded by the European Union

Best Practice - Reorganising production program

SECTOR:	Food & Beverage
SUBSECTOR:	Manufacture of dairy products
PRODUCTS	Milk; fermented milk (L'ben); Milk curd (Raïb); Cherbet; Milk cream; Camembert cheese; Cream cheese; Camembert cream; Butter.
CATEGORY	Process control or modification
APPLICABILITY	Process

COMPANY SIZE	147
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Description of the problem (Base scenario):

The company is forced to constantly modify its production, all within the same day; switching from one product to another in response to the fluctuation of market demand and to avoid stocking.

In addition, different products such as packaged pasteurised milk (LPC); Raw cow's milk, fermented milk (L'ben), and milk curd (Raïb) are processed through the same equipment which requires CIP (Clean in Place) when going from fermented products to other products. CIPs result in milk losses each time during clearings; chemicals, water and energy, as well as increased effluent enter into waste water.

Description of the Solution

This improvement measure consists of reorganising the daily production as follows:

- The production program always starts with the "whitest" product: first the LPC obtained from the milk powders then the skim milk obtained from the raw cow's milk then the L'BEN or the RAÏB, without CIP between the products.

- This program is applied at the pasteuriser and conditioner stages.

This program will avoid at least one CIP from conditioners and pasteurisers daily



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Economic Benefits

Eliminating one CIP for conditioners and for the pasteuriser each day enables:

- Saving losses in the clearings of 10,830 litres of milk/year, which is a financial savings of 1,885 €/year
- A water savings of 1,083 m³/year, or 450 €/year
- An NaOH savings of 3,610 kg/year, or 2,165 €/year
- An HNO₃ savings of 2,707 kg/year, or 1,750 €/year

This is a total savings of more than 6,250 €/year

In addition, the measurement allows an energy savings (unquantified) and a gain in productivity of more than 8.3% by reducing the time required for the CIPs.

Environmental Benefits

A reduction of milk losses during the clearings of 10,830 litres/year
Water consumption reduction of 1,083 m³/year
NaOH consumption reduction of 3,610 kg/year and 2,707 kg/year reduction in HNO₃ consumption
Reduction in energy consumption and GHG emissions (unquantified)
Reduction in volume of wastewater and effluent by 2,383 kg of O₂ (COD)/year

Health and safety impact

Positive impact because of less handling of dangerous chemicals

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Capital investments & financial indicators	Cost: no investment Return on investment: non applicable
Suppliers	Not applicable
Other aspects	No technical barriers, except for cold storage of L'BEN and RAiB extended by an additional 12 hours.
Implementation	



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