

Case Study: Reducing syrup waste in soft drinks manufacture saves £117,000 a year

The British Beer and Pub Association (BBPA) and British Soft Drinks Association (BSDA) worked in collaboration with Britvic Soft Drinks and Carlsberg (UK) on a joint project to reduce the amount of ingredient and product waste being sent to sewer and to land injection in the brewing and soft drinks industries: 'Project Shandy'. This involved measuring waste arising and identifying hotspots for action. For Britvic, the key focus was reducing syrup waste.

As a result of waste reduction workshops at Britvic, the company identified that improvements in operator awareness could lead to significant savings in ingredient waste, in particular syrup. By improving Standard Operating Procedures and providing support to operators in the syrup preparation area to achieve 'Right First Time', Britvic achieved the following savings:

- 156 tonnes of syrup saved from effluent per year (780m³ waste product equivalent)
- £117,000 per year due to reduction in syrup waste
- £1,400 per year water and effluent cost savings.



Summary

Actions

Results

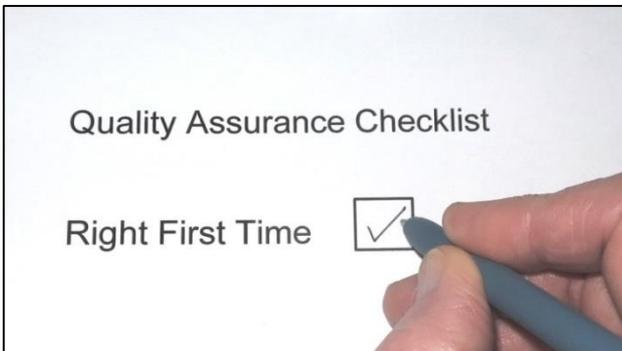
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The Problem

At Britvic's Rugby site, five production lines are supplied with syrup from a central syrup preparation area, in order to make up the appropriate soft drink. Each batch of syrup is checked for acidity, sugar content, etc., before being used for production. If the syrup is not to specification, additions are made to correct it.

If the syrup has been modified, the proportion of water added to make product may be different. The non-standard batch must be treated as a different product, with an additional unscheduled cleaning process before the next syrup batch.

Each unscheduled cleaning process results in an average waste of 200 litres of syrup from the tank, pipes, and filler to effluent each time.



Actions to achieve Right First Time (RFT) batches

- Monitoring sheets were created to track performance
- Methods used to prepare Pepsi syrups were reviewed with PepsiCo
- Standard Operating Procedures (SOPs) were reviewed with manufacturing to ensure they were complete, unambiguous, easy to follow and up-to-date
- Best Practice was discussed and agreed with other Britvic factories, and incorporated into SOPs
- Current employees were trained in use of the new SOPs
- Training for new employees was revised, based on SOPs and a "buddy" system
- A system to regularly review and update SOPs and maintain operator skill levels was introduced
- Operators are now trained to specialise in three roles, so that they have the skills to cover for absent colleagues
- Continued monitoring tracks the achievement of RFT batches.

Actions

Results

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Summary

Results

Significant savings were achieved by avoiding loss of ingredients and reducing syrup waste to effluent at the Rugby factory. Further savings will be achieved as this project is implemented in other factories.

Tonnes of syrup waste eliminated	156 tonnes
Waste product equivalent eliminated from effluent	780m ³ per year
Value of syrup waste prevention	£117,000 per year
Carbon savings per year	1,170 tonnes CO ₂ e
Water and effluent savings	£1,400 per year
Capital investment required	NIL

Improve your resource efficiency and reduce cost

- Read how a simple solution allowed [Carlsberg \(UK\)](#) to reduce product loss to effluent by 475 tonnes and save £175K a year.
- Understand the methodology used to tackle waste and check whether you are missing any opportunities in the [guidance and checklists](#) for waste prevention in brewing and soft drinks manufacture.

Syrup batches	Target	Before	After
% Right First Time	95%	79%	97%

"Britvic recognise that waste represents a cost and are committed to reducing its generation wherever possible. We operate a system of continuous improvement in all manufacturing sites. This project demonstrates the importance of providing clear and comprehensive information to operators to enable them to prepare syrup batches accurately. We were able to achieve a significant cost saving and minimise syrup waste from preparation without any capital investment."

Alison Rothnie, Sustainability Manager, Britvic Soft Drinks

WRAP's vision is a world where resources are used sustainably. It works in partnership with governments, businesses, trade bodies, local authorities, communities and individuals looking for practical advice to improve resource efficiency that delivers both economic and environmental benefits.

Our mission is to accelerate the move to a sustainable resource-efficient economy through:

- re-inventing how we design, produce and sell products,
- re-thinking how we use and consume products, and
- re-defining what is possible through recycling and re-use.

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