

OPERATIONAL MANAGEMENT YIELD OPTIMISATION

BUSINESS SITUATION

During the start-up of the facility, standard recipes were used from a sister factory. Imposed extraction yields were far below the yields possible for soluble products. Extraction yields were not measured on a regular basis. Due to lack of consistency in operation, variations in quality occurred, further reducing the effective extraction yield. Off-spec product generated a huge loss, as this liquid product needed to be spray dried.

PROJECT SCOPE

Introduced the idea to work with the extraction yield as the main quality parameter. Convinced the technological staff and operators that this system would have benefits. Implemented an operator-controlled system for extraction yield control.

Phase 1: Measured routinely extraction throughout a production run. Established a database for quality monitoring.

- Convinced operational staff to routinely check on extraction yields. Provided Excel spreadsheet for input on data gathering, limiting the amount of extra work.
- Established continuous yield monitoring system forcing the operators to report off-spec situations.

Phase 2: Implemented an operator controlled extraction yield adjustment system.

- Established the band width for the extraction yield of each product.
- Determined early warning signals based on operator input and programmed these into the Excel reporting sheet.
- Determined possible adjustment steps by the operator in case of an early warning.
- Implemented complete operator controlled operational parameter adjustment system.

RETURN ON INVESTMENT

- Obtained direct operator involvement in the main quality aspect of the product (which is also one of the main cost reduction drivers).
- Increased extraction yields of most products by 0.5% per half year for a three year period consecutively.
- Reduced cost-price yearly based on raw material consumption. After 3 years the cost price was lower than the sister factory in Europe even though the utilisation was 60%.
- Increased quality level of product, reducing off-spec products and rework.

LOCATION

- United States of America

INDUSTRY

- Liquid Coffee Manufacturing

COST SAVINGS

- Saved annually US\$ 1-2mio on green coffee purchases due to yield improvement projects.