

Real detective work - traceability in the continuous process

Due to the traceability of events and processes in the foodstuffs industry, which customers are increasingly demanding, and to fulfil the verification obligation imposed by various laws and regulations, in particular as from 2005, there is a need for qualified product tracing. Product tracing is understood to be the clear assignment and documentation of all raw materials participating in an end product across all stages of the manufacturing process.

Within the scope of implementation, on the one hand all the customer's requirements and the legal regulations must be covered by the information and data gathered (qualified handling of complaints and recall campaigns). On the other hand, it is imperative that there should be a further operational benefit for the operator that clearly exceeds the scope of the required traceability (striking balances and material management).

Due to the complex structure of a mill, when it comes to traceability it is necessary to distinguish between tracing of delivered goods (packed or loaded loosely) and tracing of volumes that are still in the process.

Possible processes are considered and assessed. Two processes turn out to be particularly suitable for traceability in mills, namely the multi-dimensional layer model and horizontal order meshing. These processes, which supplement each other, are presented. An attempt will also be made to explain how all volumes in the process (continuous process) can be traced by using a production control system as the database with the aid of these processes. It becomes clear that all data is consistent in these processes. Reliable product tracing is ensured only with consistent, automated data acquisition.

One practical example describes the realisation of this process in a flour mill with an existing master control system. The following special requirements applied:

- Up to the cells for loose flour loading/small packing shop supply, it had to be possible to record material movements right back to the associated acceptance records and to retrieve this information at any time as a long-term archive.
- To avoid placing a burden on technical operation, integration into the existing master control system had to take place in parallel with the existing cell balancing and order processing.
- The product tracing screens had to be protected and accessible to authorised persons only.

By the consistent use of an integrated production control system and the implementation of automated, continuous product tracing, customers' and legal requirements can be met and an additional benefit can be achieved for operators.