

Fine Agglo Cornucopia

By Tata Coffee | Category: Implemented Innovations

Tata Coffee is a leading B2B instant coffee manufacturer. One of the key differentiators for sustainable competitive advantage is the ability to develop new products that balance quality and cost to the customer. The in-house blend development team, in partnership with market intelligence from key account managers, helped develop a breakthrough innovation product - Fine Agglo Cornucopia (FAC). This is a customised 4-in-1 (Coffee, Chicory, Barley and Maltodextrin) instant coffee product, which delighted the customer and helped Tata Coffee quickly capture significant business share.

The Context



The customer's requirement was to get an agglomerated instant coffee product of good quality and premium appearance with added health benefits at economy range. Premium quality typically demands premium price. But the FAC team at Tata Coffee proved otherwise with a differentiated product developed in an environment friendly manner, thus becoming a natural choice for customers.

The Innovation

A scenario plan was made to develop the new product by impregnating multi value added ingredients before the final instant coffee. Critical Path Analysis (CPA) briefly charted possible ways to develop an error-free running condition for the equipment and matching the final customer parameters. The team performed a PERT analysis to bring this product in the new product development cycle to produce premium quality at lesser cost through a mix of coffee, chicory, barley and maltodextrine. Despite several challenges, the production team was persistent in exploring the untapped potential of the plant. After a series of brainstorming sessions, several causes were identified and corrective actions were made to eliminate the weak links. Trials continued altering critical parameters like bed temperatures, chamber disc speed, supply steam pressure and reengineering the agglomeration nozzle. Finally, the team stabilised the product run.

TYPICAL AGGLOMERATED COFFEE



TCL'S FINE AGGLO CORNUCOPIA



Overcoming challenges

Challenge #1

The 4-ingredients - coffee, maltodextrin, barley and chicory had variant heat sensitivity and binding properties. If not properly homogenised in the process, it could result in product collapse at the spray drying stage leading to chamber jams, high losses and process rework. A dual stage, dual form homogenisation methodology was formulated as a solution in which the maltodextrin powder would be mixed by diluting the same at evaporator stage. Chicory and barley would be mixed at different stages in liquid form.

Challenge #2

The base powder of the innovative product is highly hygroscopic compared to the traditional agglomeration product. It is highly impossible to agglomerate the base coffee powder of the innovative product with a traditional agglomeration setup. The challenge was overcome by internally re-engineering the heart of agglomeration - the agglomeration nozzle.

Challenge #3 (Warehousing):

Because of the product's highly hygroscopic nature, there is a high potential of lump formation due to multistage storage. This is not at all acceptable at the customer end. As a solution, the traditional multistage packing process was replaced with the direct packing system.

Impact of the Innovation

Increase in Revenue

₹43.154 mn

Customer Reach
(in 4 months)

35 million
cups