Abstract

The production scheduling of a real-life multi-product, mixed batch and continuous food industrial facility is considered in this work. More specifically, the scheduling of canned fish production in a large-scale Spanish industry is studied in detail. The deployment of an efficient solution strategy is proposed to handle the computationally challenging scheduling problem. In particular, a Mixed-Integer Linear Programming (MILP) model is used, in parallel with a decomposition technique. The problem under consideration focuses on two important stages of the plant, the sterilization and the packaging. The proposed strategy takes into account the specific characteristics of the canned fish production facility resulting in interesting results. It should be noted that the same methodology can be used with appropriate modifications in other food process industries with similar production characteristics.

**Keywords**: production scheduling, multistage, food industry, mixed integer programming, decomposition