Economic Complete Inspection Plans for Grading Product Quality

Abstract

For situations where there are several markets with different profit/cost structures, economic complete inspection plans are developed for determining the market to ship the product to. Two complete inspection plans are considered; the plan based on the performance variable of interest, and the plan based on a variable which is correlated with the performance variable. Profit models are constructed which involve selling price, cost incurred by imperfect quality, and quality inspection cost. Methods of finding the optimal complete inspection plans are presented and numerical examples are given.