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Bayesian Economic Cost Plans III. The Lot Mean Relative to a Quality Characteristic

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Abstract: A quality control manufacturing process is designed to produce certain types of components (i.e. mechanical, electrical or chemical). The process is defined to be under control if the fraction of the items manufactured that are defective is reasonably small. The fraction of items defective varies from lot to lot, which is the main assumption that we will use in the mathematical development of our reliability model. It is logical to assume in this case that the mean of the lot is a random variable and so is the fraction defective. A relationship between the two quantities is the subject of this paper.

Keywords: fraction defective, industrial process, Bayesian methods, statistics,
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