

## ABSTRAK

PT Indofood CBP Sukses Makmur, Tbk. merupakan salah satu perusahaan yang bergerak pada industri olahan, untuk mendukung proses produksinya Departemen Quality Assurance melakukan berbagai macam pengujian kimia, salah satunya pengujian bilangan asam. Perencanaan kebutuhan bahan baku optimum dilakukan dengan menggunakan metode *material requirement planning* (MRP) dengan teknik *lot sizing*. Metode tersebut diawali dengan melakukan peramalan jumlah permintaan untuk periode selanjutnya. Peramalan ini dilakukan dengan menggunakan metode *moving average*, *weighted moving average*, dan *exponential smoothing* yang kemudian dievaluasi dengan kesalahan metode. Setelah mengetahui biaya pemesanan, biaya simpan, permintaan bulanan, *leadtime*, dan kapasitas penyimpanan gudang kemudian dilakukan perbandingan biaya perencanaan persediaan dengan menggunakan metode *lot for lot* (LFL), *economic order quantity* (EOQ), dan *period order quantity* (POQ). Metode EOQ memiliki total cost terendah sehingga metode ini merupakan metode terbaik untuk perencanaan bahan baku. Hal ini dapat menghemat biaya pemesanan petroleum benzene dan iso propanol sejumlah 66,74% dan 16,37%.

Kata kunci : Peramalan, persediaan, *material requirement planning*, *lot sizing*, *moving average*, *weighted moving average*, *exponential smoothing*, *lot for lot*, *economic order quantity*, dan *period order quantity*.

## ABSTRACT

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*PT Indofood CBP Sukses Makmur, Tbk. is one of the companies engaged in the food industry, to support the production process the Quality Assurance Department do a lot of various chemical tests for the product, one of which is acid value testing. The optimum raw material requirements planning is carried out using the material requirements planning (MRP) method with the lot sizing technique. The method begins by forecasting the number of requests for the next period. This forecasting is done by using the moving average, weighted moving average, and exponential smoothing methods which are then evaluated by method errors. After knowing the cost of ordering, saving costs, monthly demand, leadtime, and warehouse storage capacity, inventory planning costs are then made using the lot for lot (LFL), economic order quantity (EOQ), and period order quantity (POQ) methods. The EOQ method has the lowest total cost so this method is the best method for raw material planning. This method can save the ordering cost of petroleum benzene and iso propanol by 66,74% and 16,37%.*

**Keywords** : *Forecasting, inventory, material requirements planning, lot sizing, moving average, weighted moving average, exponential smoothing, lot for lot, economic order quantity, and period order quantity.*