

## **ABSTRACT**

*PT Perkebunan Nusantara is a company BUMN (Badan Usaha Milik Negara) engaged in plantation. One of PT PN VIII business activities includes processing / production of black tea. One parts of production in PTPN VIII, Ciater is Sorting. In the sorting area has bottleneck of part WIP. MLT average of 783,93 minutes and queue time in front of WC Tea Wind 1 484,76 minutes. This problem occurs because the Tea Wind 1 machine has the longest time and the largest processing load among other operations in the sorting area, resulting in manufacturing lead time longer to complete the order and result in queue time in front of WC Tea Wind 1. In achieving the objective of reduced MLT and delays in the manufacturing process in the sorting area, it is proposed that scheduling with drum buffer ropes is scheduling the drum being the control point in Tea Wind 1, while the other work centers follow the scheduling at Tea Wind 1. Meanwhile, to improve the performance in WC Tea Wind 1 is to provide buffer to protect the production rate by 10% from MLT. After using drum buffer rope, MLT proposed to be 615,54 minutes and queue time to 335,87 minutes. Level lateness on existing conditions 101 orders are late while the conditions proposed to 71 orders.*

**Keywords:** *drum buffer rope, manufacturing lead time, queue time, WIP*