

ABSTRACT

XYZ Cooperative is one of the cooperatives in Way Kanan Regency, Lampung Province which is engaged in rubber plantations. XYZ Cooperative has a warehouse to store various types of fertilizers and agricultural tools that will be distributed to its partners. The first problem is the arrangement of products that are still carried out randomly and follow the availability of empty space in the warehouse. This causes difficulties in managing the storage of goods. The activity of arranging goods in the warehouse is still manual. Unstructured placement of goods makes it difficult for workers to access products quickly and accurately, especially during the process of picking and delivering goods. This adds to the workload of workers, especially when it comes to picking up products from tall and unaffordable piles. In product structuring, workers cannot stack products in one place until they reach 10 to 15 direct stacks. The worker had difficulty reaching this height. Workers must first make a multi-storey staircase from the pile of products. This is done by workers so that workers can reach high piles. However, this resulted in several fertilizer products being damaged. Picking up products in the warehouse is also carried out based on the affordability of workers, This has the potential to result in products that have been stored for longer not being picked up and distributed immediately, thereby increasing the risk of damage and deterioration in product quality. Then, there are products that are damaged due to placement directly on the floor. This happens because the arrangement of goods is carried out with *block storage*, so that the products at the end of the warehouse are covered by a pile of products outside. Warehouses that are not equipped with facilities such as *pallets* or shelves cause products to be susceptible to moisture, which has an impact on the damage of goods. In the XYZ cooperative warehouse, there is a significant wide difference. The area of easily accessible storage area is 53.25 m², this area only reaches 30% of the total storage area. Then, the area that is difficult to access is 124.75 m², this area reaches 70% of the total storage area. Based on this data, there is a considerable difference, which is 40%.

This study uses *the dedicated storage method* to regulate the placement of goods in the warehouse. *Dedicated storage* is a storage *layout* method that provides a dedicated area to store each type of product. Each product has a fixed location that

does not change, which makes the process of storing and picking up goods easier and faster. The design of *the pallet racking system* is also needed as a reference in making *the proposed layout*. The *proposed layout* design is used as a solution to limited product access in the warehouse. *The initial layout* has a percentage of easily accessible storage area of only 30% combined with the total storage area. *The proposed layout* has a percentage of the storage area that can be accessed by 100% or it can be said that the entire storage area has access, in the *proposed layout*, all products can be accessed by workers because there are no other products covered.

Keywords: Racking System, Dedicated Storage, Warehouse, XYZ Cooperative,