



SUMOSACK

Ergonomic Pineapple Harvesting Basket

AR2020003880



Alternate views of SumoSack stainless steel harvesting basket for manual harvesting work



Existing pineapple rattan basket in the market

BRIEF TECHNOLOGY

This Research and Development (R&D) started since 2015 and has been developed to improve musculoskeletal diseases (MSD) among agricultural workers in the long run.

This technology specifically reduce discomfort and physiological workload of pineapple harvesters.

CURRENT ISSUES

Pineapple harvesting contributes to musculoskeletal diseases (MSD) among this agricultural sector. In Malaysia, pineapples are harvested manually using rattan baskets and workers carry cumulatively 500-600 kg of fruits per day.

Workers need to bend excessively and are exposed to awkward posture such as bending more than 45° , forceful exertion with repetitive lifting and lowering with twisted body posture and contact stress.

These are ergonomic risk factors as specified under Guidelines of Ergonomic Risk Assessment 2017 by Department of Occupational Safety and Health, Malaysia.

INVENTIVENESS & NOVELTY

SUMOSACK invention relates to an improved design of a basket which can be comfortably carried on the shoulders by workers and can be used to collect and transfer heavy units preferably fruits more preferably bigger fruits such as pineapples.

- SUMOSACK is light-weight (Aluminum or Stainless Steel version), is easy to maintain, tested for its solid structure.
- SUMOSACK has an opening to unload fruits in natural standing position.
- SUMOSACK has one-hand operating system to unlock opening door.
- SUMOSACK is fully adjustable to suit different antropometric measurements, has back support, straps on shoulders, hips and chest.

IMPACT OF THE PRODUCT

- SUMOSACK increase productivity and quality of life of workers
- SUMOSACK improve stability and comfort while using
- SUMOSACK improve the Safety and Health performance of workers
- SUMOSACK reduce Musculoskeletal Problems and Disability

USEFULNESS & APPLICATION

- As an alternative harvesting tool made using ergonomic principles and specifically supports the UNSDG8
- MyGAP certification - one element is safety and health of workers Malaysian Standard MS 1784:2005 Crop Commodities – Good Agricultural Practices (GAP). Pushing for plantation to encourage ergonomic safe work methods.
- Assist companies to comply with legal requirement as control measures by employer in the implementation of better work tools. This will encourage plantations owners to move to towards the use of ergonomic and safe tools.

PRODUCT READINESS

Product has been fabricated in local manufacturing company since early 2021. The product readiness is as follows:

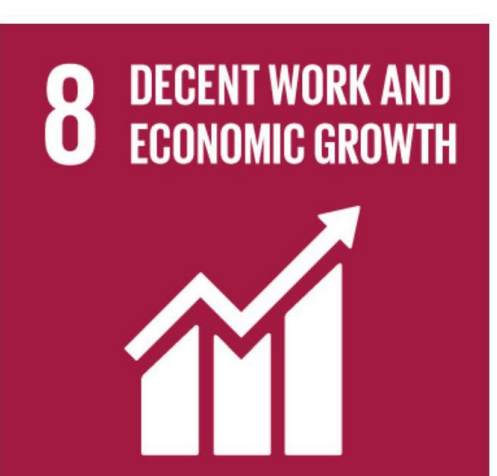
TRL 7-Demonstration of prototype

- Demonstrated in operational environment
- Ready for limited production decision

Up to **50 finished products** available on hand for demonstration.
- Updated June 2021.

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