

WATER FOOTPRINT FOR THE PRODUCTION OF FRESH FRUIT BUNCH (FFB)

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Water is essential for the survival of every living thing and must be used in a sustainable manner. In many regions, human well-being and ecosystem health are being seriously affected by changes in the global water cycle, caused largely by human activities. Although freshwater is a local resource, water scarcity is the leading threat for global water crisis. To address this major environmental concern, water footprint (WF) was introduced to standardise analytical tools for freshwater use at the regional and global scale. WF is an important concept to analyse the link between human consumption and the appropriation of the globe's freshwater. When applied at a product level, the WF provides an inventory of water consumption throughout a

product life cycle (the virtual water content). The WF for a crop-based product is defined as the volume of freshwater used for production at the place where it was actually produced. Water use in crops includes both the blue water resources in irrigated agriculture (diverted water) and the green water resources (soil moisture from infiltrated rainfall) in rain-fed agriculture. It accounts for the direct and indirect water used during the entire life cycle of the product, process or activity, encompassing extraction and processing raw materials, manufacturing, transportation and distribution, use, reuse, maintenance, recycling and final disposal. This WF is part of the recently completed cradle-to-gate WF study of the Malaysian oil palm industry from nursery to palm oil mill which was conducted by MPOB.



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METHODOLOGY

- The study was conducted following the Water Footprint Network (WFN) and the ISO standards 14046:2014.
- This WF is part of the recently completed cradle-to-gate WF study of the Malaysian oil palm industry starting from oil palm nursery to oil palm plantation up till the palm oil mill which was conducted by MPOB.

OBJECTIVES

- To quantify the WF of fresh fruit bunch (FFB) production.
- To identify the hotspots where the most amount of (direct and indirect) water is consumed in the supply chain for the production of FFB.
- To evaluate opportunities and suggest mitigation measures to reduce the WF of FFB production.
- To contribute to the sustainable development of the oil palm industry by identifying and addressing environmental hotspots related to water.

THE BENEFITS

- Compliance to sustainability criteria and regulations related to trade of goods.
- WF is a recognised tool for gaining credibility on sustainable claims.
- Able to identify the areas that are contributing to the environmental impact, which can be overcome by better utilisation of energy,

water and materials, which will benefit the industry and to enable the industry to remain competitive in the global market.

TYPES OF SERVICE OFFERED

- Setting of system boundary and functional unit for the study at the oil palm plantation.
- Collection of inventory data at the plantation to produce a Life Cycle Inventory (LCI).
- Calculation of WF for the production of FFB.
- Interpretation of WF results and suggestions of mitigation measures.
- Capacity building – a training/short course on water foot printing using the Life Cycle Analysis (LCA) consisting of lectures and case studies.

SERVICES

Services offered in Peninsular Malaysia, Sabah and Sarawak.

INDICATIVE COST

Depends on the type and extend of services required and subject to change. Estimation cost for gate-to-gate study is RM 15 000.

THE CLIENTS

Stakeholders – include the oil palm industry, scientific community, academics and government agencies.

For more information, kindly contact:

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