

2018

October

Water Footprint of FFB and CPO Production in Indonesia

GAN LIAN TIONG AND HENRY CAI

PT Musim Mas, K.L. Yus Sudarso Km. 7.8, Tanjung Mulia, Medan, Indonesia

The water footprint of palm oil production in twelve plantations and ten mills located in Sumatra and Kalimantan islands of Indonesia is calculated using the model developed by Hoekstra et al. in 2011. The amount of water consumed by oil palm from rain (Green water), from surface and groundwater (Blue water) and the amount of freshwater that is required to assimilate the load of pollutants (Grey water) are considered in this calculation.

The result shows that the water footprint of the palm fruit (FFB) and the palm oil (CPO) are composed of predominantly Green water with a very small Blue water component. Oil palm is mainly grown in the tropics with abundant rainfall and water resources and hence rarely practices irrigation. The Grey water component varies from one plantation to another and is associated with the amount of fertilisers applied.

The difference in water footprint between different locations is due to the different conditions such as yield, agronomic inputs, and rainfall. This study shows that FFB yield plays a pivotal role and can have significant impact on the water footprint. Impact from evapotranspiration on water footprint is also demonstrated. Locations with higher crop evapotranspiration value have higher water footprint.

Comparison with anecdotal reports on water footprint of palm oil produced in other countries and with temperate vegetable oils is also reported.

Keywords: *Water footprint, oil palm, Green water, Blue water, Grey water.*

