

## 熱帯泥炭地のオイルパーム農園における二酸化炭素収支

## Carbon dioxide balance of an oil palm plantation on tropical peat

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Oil palm plantations have been expanding rapidly over recent decades especially in Indonesia and Malaysia, the two largest oil palm producers in the world. The greatest concern associated with such expansion is its environmental impact. Carbon rich tropical peat swamp forest is also not excluded from such expansion, because it is accessible for developers. Carbon dioxide (CO<sub>2</sub>) release through accelerated oxidative peat decomposition is one of the main environmental concerns in the land conversion from peat swamp forest into oil palm plantations, which were drained and compacted to increase yield. Changes in aboveground biomass also might significantly alter the CO<sub>2</sub> exchange dynamics of the ecosystems. Despite the possible significant changes in the CO<sub>2</sub> balance through the land conversion, there is still no study on the ecosystem-scale CO<sub>2</sub> balance of oil palm plantations established on tropical peat. Thus, we have monitored CO<sub>2</sub> flux above an oil palm plantation established on tropical peatland in Sarawak, Malaysia by the eddy covariance technique since 2011. We quantify the annual CO<sub>2</sub> balance of the oil palm plantation and compare it with that of a secondary peat swamp forest in the same region.

キーワード：CO<sub>2</sub>フラックス、渦相関法、熱帯泥炭林、森林伐採、排水

Keywords: CO<sub>2</sub> flux, Eddy covariance technique, Tropical peat swamp forest, Deforestation, Drainage